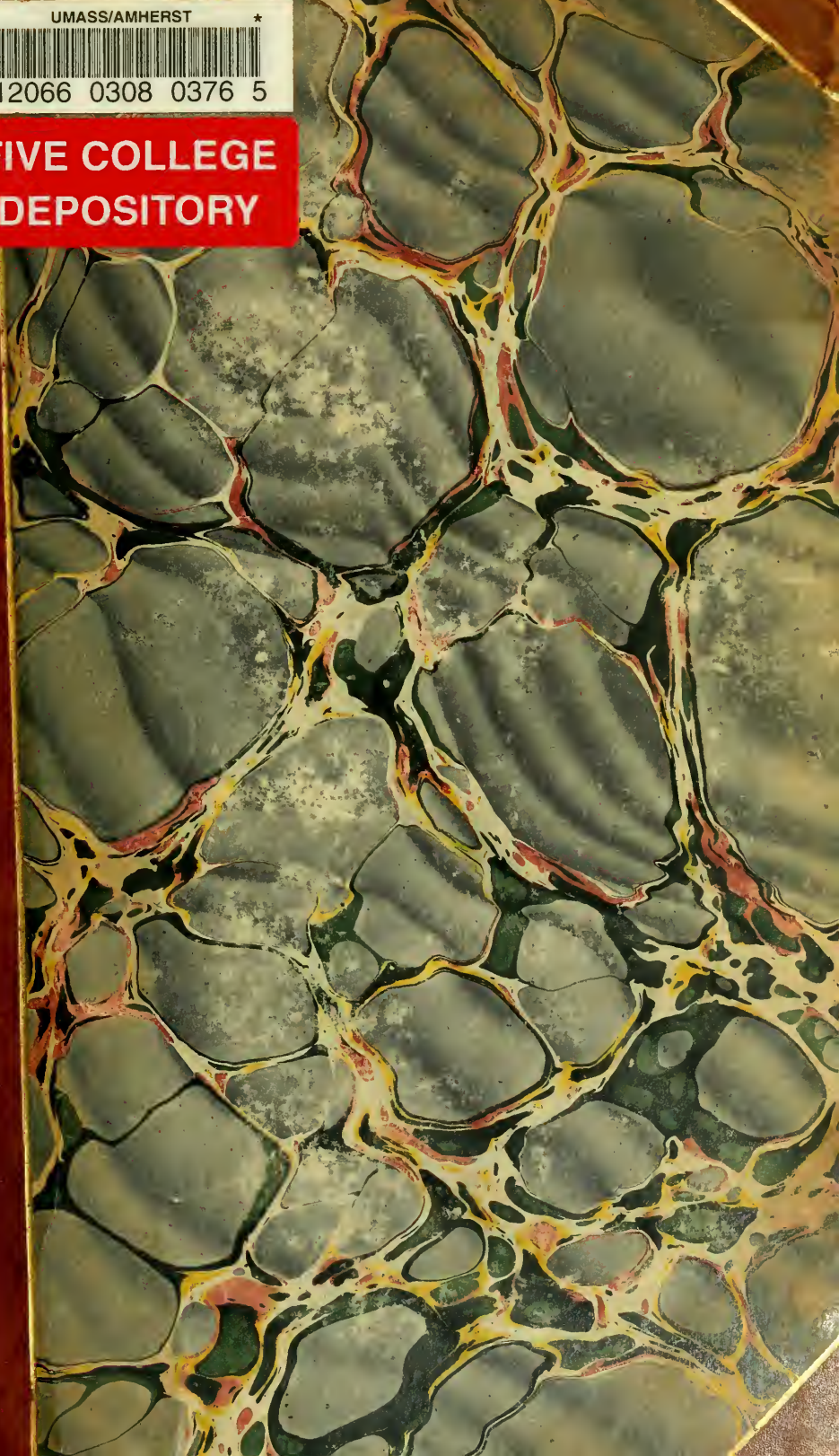


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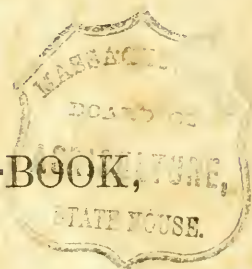




THE
FARMERS' CABINET,

AND

AMERICAN HERD-BOOK,



DEVOTED TO

AGRICULTURE, HORTICULTURE,

AND

RURAL AND DOMESTIC AFFAIRS.

Upon Agriculture, the foundation of individual happiness and national prosperity must rely for support.—*Clinton.*

Vol. VI.—August, 1841, to July, 1842.

PHILADELPHIA:
PUBLISHED BY KIMBER & SHARPLESS,
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.....
1842.

For

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THE FARMERS' CABINET, AND AMERICAN HERD-BOOK,

DEVOTED TO

AGRICULTURE, HORTICULTURE, AND RURAL AND DOMESTIC AFFAIRS.

"The Productions of the Earth will always be in proportion to the culture bestowed upon it."

Vol. VI.—No. 1.]

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For the Farmers' Cabinet.

"Farming is not what 'tis cracked up to be."

MR. EDITOR, — During a late sojourn at Wilmington, Delaware, I paid a visit to the whaling company's ship *Ceres*, then under repair for a three years' voyage, and was struck with the enormous expense incurred in such a *rebuilding* as was then in progress, which, as I was given to understand, added to the victualling of the ship for the voyage, would not amount to less than \$25,000. Now, I could not but contrast this amount of outlay, in a speculation proverbially hazardous and long extended, with what is generally expended upon that of farming, where, only as many hundreds would be considered a sum by far too large to be entrusted to such a concern. In whaling, no return is calculated upon in less than three years, and even should it prove a fortunate voyage, the wear and tear and consequent expense of repair during the voyage, and particularly after return, must reduce the profits exceedingly,* while the chances of loss, with the attending vexation, hardship, trial, labour and deprivation, are sufficient to chill the heart-blood of every one who is not amphibious in his mind and habits.

Now, in farming, how different the employment as well as the probable results! In the same space of time will be realized three full returns for capital expended, besides many others of shorter dates; the whole of the operations peculiarly under the eye of the proprietor, and comparatively independent of outward circumstances; for while the sailor is compelled to be up, and bearding the elements in their roughest garb, and in the dark-

* It is said, after 6 years of uniform success until the last year, when one of their ships was lost, and under the most careful management, the Wilmington Whaling Company have not been able to make a single dividend upon their stock.

est and most tempestuous nights, the farmer shrugs his shoulders and retires to his peaceful bed or fireside, there to await in calm and safety the return of brighter skies and less inclement seasons. And in the event of unfruitful years, what other employment is there which is viewed with such consideration? a few weeks of drought or superabundance of rain, being sure to raise the markets for grain and meat, while even butter and eggs are not thought of too small importance to feel an elevation commensurate with the evil. And while the ill-fortune of a particular ship might be ruinous to herself, the success of others of the same character being so great as to make up for all deficiency in the market, the farmer is pretty sure to experience only neighbours' fare, and the drought which dries up his crops, or the rain which deluges his land, is taking care that his neighbours come in for their share also, thus bringing things to an equilibrium: and, besides all this, being "forewarned" he might become "fore-armed;" every thing being clear above-board.

But it is said, farming, even when well-conducted, leaves but little profit at the end of the year. Now it is to the *end of the year* that I look for the real profits of farming, for while extensive mercantile establishments are counting upon large returns and enormous profits arising from fortunate speculations, often indeed, by the time the ends of the year meet, there is but little in the shape of real gain remaining, after all the costs of prosecuting such a business have been defrayed, those occurring in the shape of extravagant rents, heavy commissions, frightful discounts, large amount of wages, and expensive *appearances*—then come extra rents for private dwellings, cost of collecting bills abroad, failure of expected remittances, bills renewed indefinitely, and division of profits with partners; and it is often, indeed, that the anticipated profit of 25 per cent. is reduced to less than a quarter of that sum; reminding me of the man who, on hearing his neighbour calculating upon large profits, advised him to halve it, quarter it, and divide it by nine, if he did not wish to be deceived.

But I do not think that the farmer goes the right way to work when he sits down to count his profits; for, in the first place, he

ought to debit himself with the value of every article which he has withdrawn from the farm in the shape of meat, drink and clothing, for himself and family; rent, the keep of indoor servants and horses for pleasure, in which every farmer sometimes indulges—and all these things he must put at the *market-price*, or what he would have to pay for them were he to purchase as a tradesman—eggs at 20 cents a dozen, milk at 6 cents a quart, cabbages 4 and 6 cents apiece, and cucumbers, apples, &c., at their real value, not permitting himself to indulge even in a pair of chickens, without charging for them; then, at the *end of the year*, let him take an account of his stock, the annual increase in value of which must be great, and calculate the permanent improvements which have been made upon his property; and if he is such an one as he ought to be, and has subscribed for and read the agricultural periodicals of the day, I should not fear to show up the state of his affairs by the side of many, whose *returns*—as they are called—from business, have been many times greater than his, but which have at length ceased to *return* at all, having taken to themselves wings and flown away: while the advantage of doing business for ready money must not be omitted on the farmers' side; the value of which, if he happen not to know, any tradesman can inform him of.

I know, at the present time, two merchants in partnership, who have as fine a business as could be desired, with every facility for conducting it with success; and yet, at the *end of the year* their profits are not by any means equal to what might have been expected, their expenses—commencing with the rental of a store at \$1500 a year—being absolutely enormous: their greatest anxiety, however, arises from the uncertainty which their experience at the *end of the year*—so much of their property being in the hands of others, and scattered to the four quarters of the globe: and it is at that particular season, when they envy the man who, in the midst of his snug business of farming, can sit down quietly and count his possessions, with a certainty that *they* can never know, and when 5 per cent. profit in reality, would be of far more intrinsic value than 25 in anticipation. All things considered, therefore, I by no means admit that “Farming is not what 'tis cracked up to be.” A MERCHANT.

August 3, 1841.

EARLY rising and going to the plough, or on a journey at three or four o'clock in the morning in the summer; stop at ten, and begin again at three or four o'clock in the afternoon until night, is the best mode of working for man and beast.

Cause of Inferior Stock.

SOME farmers sell or slaughter their best stock of cows, ewes, or sows, and thus destroy all hope of improvement at a blow. Does a heifer show a disposition to fatten easily?—she is encouraged by feed until fat, and is then sold or eaten, while her fellows, of the breed of Pharaoh's lean kine, are kept for milk or rearing calves, because they are not and cannot become fit for the butcher. Has a farmer a sow pig that becomes fat with the feed on which the rest of his swine are starving?—he gives her over to the knife, and propagates from *land shads* and *corn-cribs*. Has he a fine, round, bright-eyed ewe?—she will be fat about the time his half-filled pork-barrels are empty, and she is stripped of her fine skin and fair proportions, simply because she is worth the trouble of killing, and thus many of our farmers perpetuate a breed of animals that are a disgrace to the country: they seem uneasy while they possess an animal that will draw the attention of their neighbours or the butcher; and woe be to it, if it put on a better appearance than its fellows! From that time its doom is sealed.

To improve the breed of animals, it is by no means necessary to incur a great expense in the purchase of crack stock from distant parts: if the farmer will take his horse and ride across the country some fine day, and view the live stock of his neighbours, he will soon perceive that there are abundance of means of bettering his circumstances by a cross or exchange at but little cost, and he by this means is improving his judgment by comparison, and hoarding up experience for a future day that will be of more value to him than the expense of many such pleasurable excursions; and improvement once begun and persisted in for a short time, will produce such a correspondent *improvement* in the mind and circumstances of the farmer as will insure its continuation and richly reward all his labour and outlay. It is only to try it.—*Selected.*

Constitution of Society.

SOCIETY, like nature, knows no vacuum—every place is filled; every man has his home and also his duties, which belong to him and to no one else. Wherever man is planted, his situation points out, perhaps *creates* his proper business—a stream here, a sea there; an earth in one spot, a mineral in another; a species of wood in this district, a plant in that, yields resources to industry, and determines the nature of man's employment; while one connexion grows out of another, and new social relations give birth to new sentiments, new labours, and new duties.—*Aspland.*

To the Editor of the Farmers' Cabinet.

Rust.

SIR,—As this is the season when the hopes and fears of the husbandman are alternately raised and depressed—a period when much solicitude is evinced for the maturation of his winter crops: and as, by some visible though positively unknown agents, his labours have been blighted for several seasons past to a very alarming extent, by what is called Rust, Fungus, Mildew, Blight, &c., a few remarks and observations on the supposed cause and nature of this pest, may not at the present prove inadmissible. Much has been said and written already upon this subject, but without arriving at any definite conclusions by those who have given their views thereon. The subject is one of incalculable importance to the farmers of this country, and it is to be regretted, that so little is known of the physical laws governing the development of this annual pest. Opinions as various as the colours of the rainbow have been advanced, touching the immediate cause of rust, and its prevention; yet time and experience—the true judges of this matter—have convinced us, of the incorrectness of those opinions. There is so little positively known, relative to the cause, organization, functions, &c., of this tribe of fungi (the more informed looking upon rust at the present day as a parasitical fungus), that assertions are at best but mere conjecture, and must be received with due allowance, unless based upon physiological facts.

In taking a survey of this subject, my remarks will extend to the several opinions that have recently been started, wherein much ingenuity and eloquence have been displayed. Starting with the position, that rust is a diseased state of the plant, an excrescence formed by the rupture of the circulating vessels, and is produced by a too rapid growth in the early part of the season, occurring in those soils abounding in animal and vegetable manures—it will only be necessary to observe, that, if this be the immediate cause, we should annually have rust, throughout our fields. Further, that it cannot be excrescences, or concrete juices, exuded in consequence of overgrowth, caused by the fermentation of manures, is evident from the fact, that in the summer of eighteen hundred and forty, when blight was so extensive through many sections of the country, the prairie lands, where no manures have been applied within the recollection of man—though cultivated for years—and the sandy soils of New Jersey, many of which are so sterile as to grow a miserable crop of rye, on which no manures were applied, each shared the pestilential influence. Within the com-

pass of my observation or knowledge, there was scarce a single exception; the rich loam, the stiff tenacious clay, or the sandy and porous soil, however rich in manures, or poor and uncultivated, blight spread its withering influence over all. There is no doubt that lands in the finest state of cultivation, where a superabundance of manures have been applied, may have contributed in a measure toward the development of fungi; yet that it is or was the *immediate* cause of the extensive formation of rust, the past season, wants further confirmation. If the doctrine of fortuitous formation be based upon this principle, and the agency of air, heat, and moisture, be accessory thereto, then there should have been no uniformity in its natural characters: such was not the case: we observe on old compost as well as new, mushrooms of different species and qualities growing side by side, after an evening or morning shower. If then it has this dependence, blight should occur yearly, in those grain-fields that have been and are highly charged with manures. Facts and experience run counter to the theory, although it may be found annually in low and moist situations: yet, like all other dormant seeds, they require a peculiar action of the seasons for their germination. Witness the growth of white clover, thistle, &c.

The opinion recently advanced by Col. Smith, is, so far as I know, new; yet, like so many other theories whose exterior at first appears plausible, will not bear the analysis of time and experience, for both are equally against it. That it may exercise a proportionate influence in bringing about the remote cause, I shall not stop to inquire; but it certainly wants the sanction of more convincing proofs, to give it validity. So far, this position may have evidence, that in ordinary seasons when rust is first discernible, it is in low, moist situations, where, if there be any grass at all, it is found in such places: but these cases are too insignificant to affect the well-established principle; rust visits those grain-fields that have no grasses sown among them: the practice of our farmers is, to seed their corn-fields with winter grain, in the month of September, before the corn comes off; but after the grain comes off the summer following, to fallow the stubble, by seeding with grain again and grass seeds—timothy in the autumn—clover, the spring coming. Now, blight or rust occurs in as great a degree in those grain-fields that have had no such grasses sown preceding fallow, as it does in those fields that have grass seed sown upon them. If the Col.'s opinion be correct, why is it that those grain-fields that have no grass upon them are not exempted, and vice versâ. Rust never was so prevalent as during the past year, within my re-

collection, on wheat, rye and oats; and for years, our most enterprising, industrious and wealthy farmers, have adopted the system of seeding with grass on summer fallow, with no apprehension of blight from such a practice. The isolated facts brought forward by Col. S., may be explained by pathological principles; yet nevertheless, are too few to merit much notice, where they are borne down by such a voluminous array of cases as can be brought against them. By what principle can the fact be explained—certainly not by that of Col. S.—where rye and wheat, standing in the same field, the latter sown at the same time, or even later, and manured with compost and lime, the former with none; the first blighted two weeks before the wheat; and at the time of blight on the rye, not a vestige discoverable upon the wheat, yet sporadic stalks of rye, standing among the wheat, affected at the same time! Such was the case, and the rye had no grass seed sown among it. Another field was similarly injured; but in this instance the rye was sown on a fallow with grass seed, and limed. The comparative yield was as three to one, the maximum being in favour of the rye that grass seed was sown among: the timothy being, throughout the whole field, very large. This is a case in point, and occurred in my own farming.

The idea of barberry causing blight, is too ridiculous for notice; yet, as a popular error, it has had, in its day, many zealous advocates in England.

The more plausible doctrine, and one which has many supporters, is, that blight is a fortuitous production, occasioned by certain actions of heat, moisture, air, &c., upon plants injured. That these agents caused blight by a specific and peculiar action of themselves, occurring at stated periods, without the intervention of pre-existing sporules, is, to say the least, problematical; and does not give a satisfactory nor philosophical reason why a partiality is manifested toward wheat and rye, whose functions and growth are so similar to other grains. If these agents are positively necessary, and rust be not an organized body, why should there not be other diseased forms manifest, than that of blight, whose appearance and characters in its formation obey certain immutable laws? Ergot, smut, mildew, &c., are diseased appearances (using the common phraseology) of grain, that show different symptoms. The characters of these several diseases are not the same, yet causes modified by the same circumstances, "et cæteris paribus," would invariably produce the same effects. To talk about rust, "which is but the outward sign of the disease that preys on the vitals within," is sheer verbosity: with as much plausibility

and much more ingenuity, you might say it is tuberculous, affecting the lungs of the grain, for it first makes its appearance upon the leaves, the acknowledged organ of oxygenization and carbonization. Perhaps it may be caused by sudden transitions of heat and cold—hence consumption; then these outward signs are evidences of tuberculous disease preying upon the vitals within—the lungs. I do not wish to ridicule Mr. Gowen's opinion, for I entertain sentiments of much respect for his views on other points, by which he has enlightened the readers of the Cabinet; but I must declaim against his "stew-pans, or the shells that hold the milk;" "reservoirs or condensers that have ceased to send off from the fountain that keeps bubbling up and flowing on," &c. Perhaps of all the agents necessary for the formation of rust, no one exercises such decided and essential effects as caloric; and by inference, we may suppose it holds the balance of power in vegetable physiology as it does in the animal—for Broussais observes in one of his propositions, "Caloric, whatever may be its nature, is the first and most important of all stimulants, and if it cease to animate the economy, others lose their influence over it." Again: "Caloric brings into play the unknown power which constructs the organs. This power forms them from nutritive materials, and conducts the fluids into their interstices." Here we have, by this agent alone, organs endowed with vitality, with power to fulfil the functions governing the economy, and which of itself is sufficient to explain the vital existence of fungi.

Rust is of fungous growth, and exists to a considerable extent. Under varying and peculiar circumstances, fungus is found, but possessing different characters, among decaying masses of animal and vegetable manures, on the bark or trunks of decayed trees, as well as shrubs; on grain, grasses, &c., &c. When existing on living bodies, it is called parasitical, and approaches in many of its habits to the numerous tribes of lichens that generally subsist upon air. The mildew affecting the gooseberry, rose, &c., is a parasitical fungus, and so extensive is this tribe, that at the present day botanists enumerate between four and five thousand distinct species. Its classification may be found in the natural arrangement of Jussieu, called *Uredo* linearis. Its generic name signifies *blasting*, from the Latin *uredo*.

The conclusions at which I have arrived, concerning blight injuring our grain-fields, are: First—that it is a parasitical fungus. Second—that certain conditions of earth, heat, moisture, &c., are absolutely necessary for its development under any circumstances. Third—that it is reproduced by sporules, and

not fortuitously. Fourth—that among all the agents obviously manifest in its creation, electricity plays a decided and prominent part. Fifth—that grasses have no influence in its formation, for this reason—there is often no blight in those wheat or rye fields where grass abounds. Sixth—that its existence depends not upon foggy or damp mornings, nor heavy dew.

In conclusion, it is the action of natural and physical agents, controlled by the power of an invisible hand; that beneficent wisdom that directs and controls all things, whose laws are immutable and unchanging, and who exhibits a spiritual existence in the smallest and most insignificant object; who can create or destroy; an Almighty Spirit, pervading the vast and incomprehensible universe of things. We may devise these things, but, alas! our imagination is too limited to form an accurate conception of them, and science, with her mighty penetration, leaves us still in the dark.

I have been led to make the above remarks, from a perusal of the last Cabinet, wherein much is said concerning blight. I had no intention of preparing an article for your columns, still, if you think that what I have said will be any advantage to the community, I have no objection to your publishing it; if not, you will confer a favour by disposing of it according to the rules of *rejected candidates*.

Very respectfully, yours, &c.,

J. N. KEELER.

Mulberry Farm, July 10th, 1841.

To the Editor of the Farmers' Cabinet.

Wood Oil.

SIR,—In the 7th volume of the Transactions of the Agricultural and Horticultural Society of India, there is an extremely interesting account of a species of tree growing in the Tenasserim Provinces, which, by tapping somewhat after the manner practised upon the maple-trees in our country, yields an oil or balsam of most peculiar properties; the whole statement is so concise and satisfactory, that I must copy it for insertion in your pages.

“Some parts of the Tenasserim Provinces are covered with wood-oil trees, which attain an immense size; they grow without branches to the height of 60 or 70 feet, with a circumference of from 6 to 12 feet; the wood is very light and considered inferior, but charcoal made from it is the best adapted for the manufacture of gunpowder. To obtain the oil, a notch is cut into the tree not far from the ground, a receptacle like a basin is then formed, where a fire is kept up until the circulation of the sap is directed by this artificial irritation towards that part, after which the

liquid begins to ooze out, and continues to run for several weeks, if the charred part is scraped away, and a new wound is inflicted. The almost incredible quantity which is thus obtained from a single tree in this way, amounts to thirty or even forty gallons; many thousands of the finest trees are available for the purpose, and hitherto totally unused. The value of this substance has never yet been properly appreciated; it is used by the natives, on account of its high inflammability, mixed with dry putrid wood wrapped in palm leaves, as torches, and is the common substitute for oil or candles used as light by all classes of the Burmans; but besides this main purpose, it is used as medicine in rheumatic diseases, and a preservative against the ternus or white ant, for which purpose it is smeared over the posts of their houses. In Calcutta it is used for the purpose of painting ships, which is truly wasteful, considering its great value for other purposes. Having chemically the greatest affinity to turpentine, it can be used for the same purposes for which the fine lac varnish by oil of turpentine is employed. When purified, it resembles the finest varnishes, which when laid upon paintings covers them with a transparent fine coating which never turns yellow, and dries quickly. There is also another most important application of this substance, in the formation of oil cloth, tarpaulings, &c., and it has been declared by naval men, who have made the experiment, that the cloth, respecting durability, is preferable to the patent *anti-mildew* canvass made in and exported from England.”

On perusing this very interesting volume, I find that the Society have received packages of seeds and plants from this country, which have reached their destination in security by being placed in glazed boxes: would it not be possible to obtain by the same means specimens of the above most valuable plant? it would in all probability flourish in some of our southern states and form a noble addition to our national resources. Is there not something novel in the mode adopted to extract this oil from the tree by directing the flow of the sap by “artificial irritation” by means of fire, towards the notch cut into the tree?—and would not the same process be applicable in the operation of tapping the sugar-maple? Will those of your readers who have the means of making the experiment, put it to the test?

JOHN GERRY.

York County.

IN Persia, they take birds with a hand-net, first disguising themselves with the skin of an animal, with the horns on the top of the head.

For the Farmers' Cabinet.

Bakewell and Merino Sheep.

MR. EDITOR,—In John Lawrence's valuable Treatise on Cattle, there is a highly interesting account of a cross between the pure Merinos and the Bakewell breed of sheep, which appears worthy our serious regard. It is now pretty generally conceded that the grand secret in crossing is to commence with dam the best; and amongst breeders in Europe, more care is observed in the selection of the male, as to form and constitution, than to size; indeed a preference is given for a small male rather than a large one, compared with the size of the female. Amongst the breeders of pure Devon cattle, but little regard is had to the size of the bull, his points and purity of blood are the objects for which they seek, in rearing large oxen; always choosing, as a matter of the first importance, a cow of large size and capacity for breeding.

At page 591 of Lawrence's Treatise, it is said (quoted from Thompson) "Mr. Hose, a considerable grazier at Melton Mowbray, has crossed several of his Bakewell or Dishley ewes with a Merino ram, with decisive success: I lately requested this gentleman to send me a few fleeces of the wool, which I put into the hands of Mr. Hawksley, inquiring what was the present value of such wool? His answer was, 'We will give eighteen pence per pound for two thousand packages to-morrow, and take one hundred packages weekly, by contract, at the same price, for seven years, certain.' Now this price is nearly twice as much as can at present be obtained for pure Bakewell wool, and these sheep produce little more than the Merino-Dishleys, for although the Merino shortens the staple, he thickens the pile, so that every fleece is nearly double in value. The loss that we are to look for then, is in the carcass, and this is infinitely less than will at first be supposed; it seems indeed to be now very generally agreed, that in sheep, the sire operates principally on the fleece and the dam on the carcass, which is illustrated by Mr. Hose's Merino-Dishleys, they being superior in form to any that I ever saw with Spanish blood in their veins, and having lost little, if any, in size. Many Bakewell breeders have their whole wool of one, two, and three years on hand, whereas Mr. Hawksley's note seems clearly to prove, that one cross with the pure Merino would make their wool immediately saleable, at a great advance of price, for seven years to come, while no deterioration would have taken place in the carcass." Lawrence adds: "The loss of size in the Merino-Dishley cross is a natural result, perfectly independent of the idea of deterioration; and as to the flesh, nothing can

be better calculated than a Spanish mixture to remove the natural insipidity of Bakewell mutton."

On the subject of the deterioration of the wool by crossing, and the impossibility of preserving its fineness out of Spain, Lawrence says: "I lately exposed the following patterns of cloths to one who ought to be as capable a judge of cloth as any man in England, and who was formerly convinced of the utter impossibility of growing fine wool in this country. No. 1, given me by *himself* two years since, as the finest pattern of cloth London could produce, and made from imported Spanish wool. No. 2, *Lord Somerville's cloth, manufactured, I believe, in 1806. No. 3, a late and very beautiful pattern of Dr. Parry's Merino-Ryland cloth. The judge instantly threw aside No. 1, as totally unworthy to stand in competition! giving the preference to Dr. Parry's specimen: but on a final examination declared that he thought Lord Somerville's pattern somewhat the finest and the fabric most substantial, the other wearing the face of a beautiful lady's cloth, in appearance like those made of Saxon wool."

Now, cannot we apply the above account of a most interesting experiment to our advantage? It is supposed by some in this country that the wool is deteriorated by crossing, the fleece being neither decidedly fine or coarse, and the staple of different lengths,—neither combing or clothing—but here is proof positive, and only one among hundreds, that this is not the fact, and that a great profit is to be derived from a judicious cross with the small Merino ram on the large Dishley ewe. With regard to the flavour of the Merino mutton, Lawrence says: "I have never heard any man complain of the quality of Spanish mutton *but he who never tasted it.*"

J. L.

Reasons for Supplying Cattle with Water in their Yards.

IF water cannot be obtained by cattle without going out of the yard, they will many times suffer exceedingly for the want of it, rather than go for it in very bad weather. If good fresh water can be had by them without going out of the yard, they will drink very much oftener than in the other case, especially in cold weather. The oldest and strongest cattle will generally go first to water; and when they have drunk, and are returning, they will meet the young cattle in the narrow snow path, and of course will drive them back; in which case the youngest and feeblest of the herd will have much trouble and vexation in obtaining water at all.

* Lord Somerville's cloth was made from pure Merino, grown in England.

When cattle go to a spring to drink, especially if the snow is deep, there will generally be great difficulty in reaching the water on account of the bank of snow and ice, without stepping into it, which cattle are loth to do if they can help it; many watering places are so steep, that cattle are compelled to go down on their knees before they can reach it, and even then, they obtain it with the greatest difficulty. The cattle on many farms are obliged to travel from one-fourth to half a mile for water, and when they arrive at the spot, it is often only to be obtained by them through a hole cut in the ice, perhaps from a foot to eighteen inches in thickness. The amount of manure which is dropped and lost on such occasions is very considerable, and much of it is washed down by the rains into the hole at which they are doomed to drink, where it forms a coffee-coloured beverage, awful to behold. Every good farmer will esteem this a matter of no light importance, considering that all the manure ought to be saved, and calculating that the food of *cattle* might as properly be wasted as the food of *plants*. It has been thought that the exercise of going to water at a considerable distance, is advantageous in preventing the hoof-ail in cattle; but it is much more likely that this disorder often arises from the filth in wet weather, and freezing of the feet in very severe weather, to which they are exposed in their walks to the spring. If cattle are kept in well-sheltered yards with sheds for their protection, with uninterrupted access to good water, plenty of salt and warm beds of dry straw, it would not be too much to promise that they will remain free from the hoof-ail and every other "ail" of which we have so much complaint. There is a strong prejudice against wells for the supply of water in cattle yards, and there is a much stronger prejudice against the labour of pumping the water for them; but to an industrious man, the "prejudice" of a desire to furnish his cattle with a clean and wholesome *beverage*, cool in the summer and warm in the winter, will be stronger than either.—*Selected.*

For the Farmers' Cabinet.

Choice Rules in Stock-Breeding.

MR. EDITOR,—In perusing a very interesting work, entitled "Observations on Domestic Animals," by Cline, the great anatomist, I have been struck with the strong and rational mode in which he treats the subject, and cannot but think your readers will feel equal interest in the examination of a system which, in my opinion, carries with it conviction; conceiving that the greatest advantages would accrue from an application of the science which he promulgates. The work has

been published more than thirty years, and we are led to wonder that the principles, laid down by one of the first men of the age, have hitherto made so slow a progress amongst the breeders of live stock: with me, there is no question that Bakewell's success was founded upon the philosophy of this system, and were it carried out, the greatest benefits and most perfect results would no doubt follow its adoption in every country. I have long thought that the universal practice of selecting the largest males for the purpose of crossing our breeds of domestic animals, without regard to the size and form of the female, or the nature of the food with which the stock is to be supplied and the improved breed supported, was altogether wrong; but had no idea of the irrationality of the custom, until I saw it pointed out in the above work, from which I proceed, with your permission, to make a few extracts for publication in the pages of the Cabinet for our future guidance. Mr. Cline observes:

"Although the form of domestic animals has been greatly improved by selecting with care those possessed of the best shape for breeding, yet the *theory* of improvement has not been so well understood, that rules could be laid down for directing the practice in every case; and although the *external* form has been much studied and the proportions well ascertained, these are but indications of *internal* structure,—the principles of improving it must, therefore, be founded on a knowledge of the structure and use of the *internal* parts; and of these, the *lungs* are of the first importance; it is on their size and soundness that the strength and health of an animal principally depend, the power of converting food into nourishment being in proportion to their size, an animal with large lungs being capable of converting a given quantity of food into more nourishment than one with smaller lungs, and therefore having a greater aptitude to fatten. The external indications of the size of the lungs are, the form and size of the chest, but a *deep* chest is not capacious, unless it be proportionally broad.

"The *pelvis* is the cavity formed by the junction of the haunch-bones with the bone of the rump, and it is essential that this cavity should be large and capacious; its size is indicated by the width of the hips and the breadth of the twist—which is the junction of the thighs—the breadth of the loins being always in proportion to that of the chest and pelvis. The head should be small; the length of the neck in proportion to the height of the animal; the muscles and tendons large, the strength of the animal depending more on the muscles or tendons than on the bones: many animals with large bones are still weak, and those that are imperfectly nourished dur

ing their growth, have their bones often disproportionately large. A compact, round-made body, a deep, full chest, a broad loin, full flank and straight back, a small head and clean chaps, with fine tapering neck, limbs and bones not coarse and large, a soft but not thick skin, with soft and fine hair, are amongst the chief marks of a good kind.

“It has been generally supposed, that the breed of animals is improved by the largest males: this opinion has done considerable mischief, and probably would have done more, if it had not been counteracted by the desire of selecting animals of the best form and proportions, which are rarely to be met with in those of the *largest* size; experience has proved that crossing has only succeeded, in an eminent degree, in those instances in which the females were larger than in the usual proportion of females to males, and that it has generally failed when the males were disproportionately large. If a well-formed large buck be put to small ewes, the lambs will not be so well shaped as their parent; but if a good *small* buck be put to larger ewes, the lambs will be of an improved form: the improvement depends on this principle, that the power of the female to supply her offspring with nourishment, is in proportion to her size and to the power of nourishing herself from the excellence of her constitution. The size of the fœtus is generally in proportion to that of the female parent, and therefore, when she is disproportionately small, the quantity of *nourishment* is disproportionately small, and her offspring has all the *disproportions* of a starveling: but when the female, from her size and good constitution, is more adequate to the nourishment of a fœtus of a male smaller than herself, the growth will be proportionately larger; the larger female has also a greater quantity of milk, and her offspring is more abundantly supplied with nourishment after birth. To produce the most perfectly-formed animal, abundant nourishment is necessary from the earliest period of its existence, until its growth is complete.

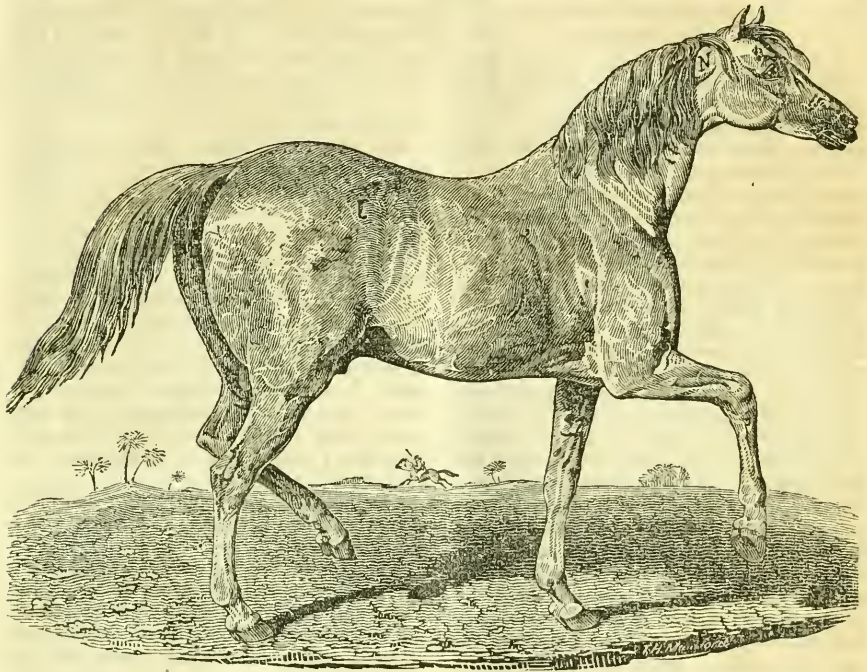
“To obtain animals with large lungs, *crossing* is the most expeditious method, because well-formed females may be selected from a variety of a large size, to be put to a well-formed male that is rather smaller;—by such a mode of crossing, the lungs and heart become larger in consequence of a peculiarity in the circulation of the fœtus, which causes a larger proportion of the blood, under such circumstances, to be distributed to the lungs than to other parts of the body, and as the shape and size of the chest depend upon that of the lungs, hence arises the remarkably large chest, which is produced by crossing with females that are larger than the males:

but this practice must be limited, for it may be carried to such an extent that the bulk of the body might be so disproportioned to the size of the limbs, as to prevent the animal from moving with sufficient facility, so that, where activity is required, this practice must not be extended so far as in those which are intended for the food of man. The kinds of animals selected for cross-breeding ought never to be of *very* different habits and sizes, for, notwithstanding the confessed advantages derived from cross-breeding, yet, great or sudden changes are highly improper, that having often been found injurious to the health and character of the stock: the use of bucks of the pure Dishley or Bakewell stock has, with several coarse flocks of sheep, been attended with no sensible advantage, owing to this cause, the characters and habits of the breeds being so widely dissimilar. Whenever, then, cross-breeding is attempted, care ought always to be taken to do it gradually, and to rear the progeny in a proper manner; and when the matching is conducted progressively, and with due attention to the diversity of habit in the animals, it succeeds well; the chief art being, to begin gradually at first, and in process of time, as the blood of one family is diminished, that of the other will be increased, till improvement to the degree wished for be attained by gradual approximation.

“The great improvement of the breed of horses in England arose from crossing with those diminutive stallions, Barbs and Arabians; and the introduction of Flemish mares was the source of improvement in the larger breed of cart-horses; the form of the swine has also been greatly improved by crossing with the small Chinese boar: but when it became the fashion in London to drive large bay horses in carriages, the farmers in Yorkshire put their mares to much larger horses than usual, and thus did infinite mischief to their breed, by producing a race of small-chested, long-legged, large-boned, worthless animals; and a similar project was adopted in Normandy, for the purpose of enlarging their breed of horses, by the use of the Holstein stallion, by which the best breed of horses in France would have been spoiled, had not the farmers discovered their mistake in time, by observing the offspring much inferior in form, to that produced by their own horses.”

A SUBSCRIBER.

How small a portion of our information can be derived from our own experience! Amongst the most *practical*, the cheapest, and by far the largest portion of knowledge, must be derived from the information afforded by the experience of others.



THE WELLESLEY ARABIAN.

THROUGH the kindness of a friend, we are enabled to present to our readers the portrait of the noblest horse that was ever imported into England. His amazing strength and great weight of carcass unfitted him for the turf, but this very circumstance rendered him doubly valuable for more useful purposes. His portrait, originally from the life, is by MARSHALL, engraved in the line manner by SCORR, the best animal engraver of his day; and from this chef-d'œuvre of the arts, the present engraving has been made expressly for our work, and of the exact original size.

The author of that grand work, "The correct delineation of the Horse," remarks: "The present writer having seen this fine horse, can vouch for the truth of Mr. Marshall's drawing. This horse, in figure bearing considerable resemblance to the larger war-horse of Europe, although possessing the delicate skin and various other attributes of the South-eastern courser, it may be conjectured was the produce of some country bordering upon Arabia, where, as in England, the Arabian or Barbary horse in process of time acquires an increase of size and fullness of form, together with considerable expansion of the hoofs; this being, no doubt, the effect of lower and more moist grounds and more succulent food than can be found in the deserts, where the dryness and purity of the air and soil compress the animal body, impart a superior firmness and elasticity to the tendons and fibrous system, allowing greater powers in a smaller compass of substance, and exalting the tone and vigour of the animal spirits. Thus, horses are chosen from the *deserts* for their fleetness and courage, and those from the *mountainous regions* are preferred as coursers.

"The Arabians have always been breeders of horses for sale, but can scarcely be induced to part with their mares at any price. No people on earth can come into competition with them for their solicitude and care in respect to the pedigrees of their horses; it exceeds even that, in the same case, bestowed upon monarchs and royal families! The performance of the marriage ceremony between an Arabian horse and mare of noble blood, must be first of all publicly announced, that the necessary witnesses—men of the highest rank in the country—may be present to attest the fact; and the same ceremony is repeated at the birth of the foal; and there are numbers of undoubtedly authentic pedigrees upwards of 500 years old. And nowhere is the horse treated with such consideration, or, as it might be termed, *fellow-feeling* as in Arabia, and as a consequence, no horse equals the Arabian in kindness and affection to human nature and the approach to rationality. The Arab, his wife and children, his mare and foal, repose together under the same roof and on the same bed, the foal often resting upon the bosom of the wife, and the children sleeping on the neck and body of the mare, without the least apprehension that the gentle creature will do injury to her charge! The Arab never beats his horse, but discourses and reasons with him, allowing him an equal share with himself of the necessaries of life; and the result demonstrates the rationality of the system."

For the Farmers' Cabinet.

Shade Trees.

Quotation from June No., Farmers' Cabinet.—"The beautiful shade trees before your dwellings, which shield you from the heat of summer, and shed an air of fragrance and beauty around the spot on which they stand, and your fruit trees from which you have so often regaled yourselves, WERE PLANTED BY OTHER HANDS."

SIR,—I controvert that point. I do so, because it is wrong in principle and fact. "The religion of the ancient Persians required its followers to plant useful trees." I would that we had such a religion here, and as I hope to live to see the proposed National American Society of Agriculture flourish, I hope to live to see *that* one of its tenets, and morally obligatory upon all the members. The only *religious obligation* now which will prompt the mass of the people to ornament their grounds with trees, is *self-interest*. How many can you find, willing to plant them for posterity? I am constrained to think that facts indicate but a small proportion. How many would plant them, if they could be persuaded that they would live to love and enjoy the cooling and refreshing pleasure of the tree that would grow from the seed planted by their own hands?—Thousands.

But the false sentiment of the above quoted sentence deters them. Correct, then, that false impression. Assert, what is a fact, that if every couple when they unite themselves in that holy, happy tie that holds the human family together, would plant the seed of some useful or ornamental tree before their door, they might live to sit under its shade, and sing,

When this old tree was new,
And our fond hearts were young,
The tender plant we till'd
And morn's gay carol sung, &c.

What a happying train of reflections would arise!—"This tree," says the father to his children, "was not planted by *other* hands.—It is my own work.—It is a living monument of the blessed union of your parents."

Mr. Editor, to prove that shade trees may be planted and enjoyed by ourselves, let me take you a short ride in the burning sun of this day, across one of the western prairies. The road is familiar to me—I will make it so to you.

Ah, here we are, just emerging from the west side of a grove—seven miles to the next shade. "Oh, how the sun glares down upon us!" "Delightful, beautiful, rich prospect; but how bare of shade!" "How the cattle must suffer, such a day as this!" "Ah, here is a cabin well out on the prairie! but, desolation! not a single green leaf floating in this gentle breeze!" "Why don't the man plant a few shade trees? they would be useful to his children." Yes; but it is that very sentiment of yours that prevents him. The

idea that he may not live himself to enjoy the shade, deters him. If the settlers upon the western prairies could only be convinced of the advantage to *themselves*, they would not neglect this duty. And so we career along over this shadeless wild.

Ah! now we approach "the settlement" again. Here is another cabin—bare of shade trees, too. "But," as you observe, "everything here looks so new!" Yes; the *first* settlement was made here only six years ago. "Oh, no—that ain't possible! Here must be one older—why it appears, after such a scorching ride, a very paradise! A neat, clean log cabin, fairly embowered in an elysium of shade,—locust, mulberry, honey-suckle, grape vine, pear, apple, peach, currant! I must stop, and have a gambol with those lively children, sporting upon that carpet of white clover. Six years, do you say? Was this a naked spot of wild prairie, six years ago?"

Yea, less than that—and within that time every bush and turf here has been grown from the seed.

"Well, well, this is a lesson.—I will never recommend my readers again to 'plant for posterity,' but *for themselves*. I will venture the assertion that here lives a man not only of taste, with a benevolent heart, but one who——"

Has acquired this taste from reading Agricultural Papers—let me add, to finish your sentence.

"Yes, yes, and let me add, from writing for them too.—'Tis all explained now. That wild and merry shout—Oh, how it thrills through my heart!—'Father's come—Father's come!'—that tells the whole story; and I shall then cool myself under that delightful shade, *planted with your own hands*. Oh, how delightful!—No, no, my boy—no chair—nothing so pleasant after such a burning ride, as a roll upon the clean sweet grass. And such water!—Children all pictures of health. No wonder you are a contented, happy man, and fond of your home. Give me your hand! Indeed I do not envy you; but I wish every soul who sees this would *plant some shade trees around his house*."

Mr. Editor,—I am not very familiar with your readers, and this may appear a little egotistical; but it is a way I have of illustrating. You know me better yourself—that is, at a distance—and by and by you will know me personally, for I am coming to have a chat with you under your *shade tree*.

This is a hot day and a cool subject; but I hope it never will cool the ardour that you and I feel to promote agricultural improvement. I am your stranger friend,

SOLON ROBINSON.

Lake C. H., Ia., June 29, 1841.

We admit that we had a very different class of persons in view when the sentiment alluded to was inserted in the pages of the Cabinet—those who do good for the love of it, “hoping for nothing again;” men who are actuated by a spirit of self-devotion, not self-interest; and to such, it was our desire to direct the *gratitude* of those who have luxuriated in the shade and on the fruits of those trees which have been “planted by other hands.” We confess also, there was one of them who stood conspicuous,—the father of the present Mr. John Vaughan—to whom the citizens of Philadelphia are indebted for the delicious shade of their beautiful streets; it was he who planted that noble row of elms which surrounds Independence Square, observing at the time, “It is my desire that the citizens of the next generation shall enjoy the luxury of a shady walk under a burning sun.” We are sure our intelligent and interesting correspondent is quite right in the view he has taken of the subject; but we suspect there may be another reason why the settlers of the west feel so little care for planting trees—so many of them calculating on a removal “year after next.” The feelings which we desired to inculcate were those of *Benevolence* and *Gratitude*.

“O say, what virtue of the great,
Gives highest polish to their state?
’Tis that, which gladness can dispense
To sorrow—sweet BENEVOLENCE!”

O say, what glory gilds the shed,
And throws a halo round the bed
Of Poverty—so low and rade?
’Tis the mild beam of GRATITUDE!”

ED.

For the Farmers' Cabinet.

The Bee Moth.

MR. EDITOR,—It would appear that “Bee-breeding” is to share a large portion of the attention of the community the next year. It is a deserving object, and might be made both profitable and agreeable, in proper situations and under careful management; but neither will that or any other pursuit succeed, unless it be well attended to and made a regular business. Already there are numerous contrivances to stop the ravages of the bee moth, but to me, in this as in most other cases, it seems by far better to *prevent* the evil by keeping the bees strong and healthy; and it is only a part of the system which I have laid down for myself, to consider the moth the *effect*, rather than the *cause* of the destruction complained of. I believe that the moth has no desire to deposit its eggs in a hive, until it knows by instinct that the swarm is unhealthy; by the putricity which is then engendered, it is taught that its services will soon be required, according to that beautiful theory so well set forth by Agricola, “wherever animal or vegetable substances are in the progress of decay, moths are found ever ready to convert dead matter into food for living things.”

And this is no new idea; I knew, many years ago, a person who kept from 20 to 30 hives of bees with uniform success, but he was peculiarly attentive to the moths, and when he saw them flitting around the entrance of any particular hive, he knew that the bees were sickly, and he would immediately remove them to a clean hive, by turning the box which contained them, placing upon it an empty hive; and by giving the lower box

a few gentle blows, the bees would ascend and take possession: this was done in the evening, after the bees had returned from their labours, and the next day they would be found busily employed on their new premises, without any fear of the moth. Now, it is all very pretty—these ingenious contrivances to deceive the moths by furnishing them with large and convenient entrances to sham boxes, brushed over with honey or wax, while the bees are restricted to one small and inconvenient hole of entrance—but I do not consider that nature is so imperfect as to be so easily bamboozled; I believe the moths know full as well as the man, when they are *inside* the hive, and that they will not be induced to deposit their eggs in an out-house, where there is no food for their young when they come into existence. I beg therefore to repeat, I consider the moth the *effect* and not the *cause* of the mischief; the sickness of the bees and the putricity of the internal atmosphere of the hive being the true cause, teaching them that the labours of their progeny will soon be required to act the part of the turkey-buzzard. Remove the cause, therefore, and the effect will cease—depending upon it, that “when the constitution is in a healthy state, there is little liability to infection of any kind.”

Let then, all those who enter the race of bee-breeding be attentive to this, and by shifting the swarms to other boxes so soon as they perceive them attacked by the moth, they will, I am persuaded, find that prevention is much easier than cure. With me, there is no doubt, the *cause of sickness* often arises from the system of withdrawing the honey by means of boxes and glasses placed on the top of the hive, reducing the bees to the necessity of ever breeding in the same cells, by which they become filthy and putrid; I therefore much prefer to add another box below, on removing one from above, according to the plan proposed in that interesting little work, “Bee-breeding in the West,” which is quite a *manual of the art*. In Weeks’s late work on the same subject, the evil here pointed out is admitted to its full extent, but, strange to say, it is proposed to be remedied only by transferring the bees to another hive; it is said, “when bees have occupied one tenement for several years, the comb becomes thick and filthy by being filled up with the old bread and cocoons made by young bees when transformed from a larva to the perfect fly; and are so contracted that the bees come forth but mere dwarfs, and cease to swarm;” and yet, by the use of the Vermont hive, they are compelled to breed in the same cells continually. It would appear, therefore, that these patent palaces are constructed on false principles.

Vir.

For the Farmers' Cabinet.

Ornamental Planting.

THE efforts of agriculturists in America have been hitherto almost entirely utilitarian. Their principal aim has been to secure good crops, and to keep their lands in the best possible condition, while too little attention has been paid to ornament and taste, in the arrangement of their grounds and buildings. In many parts of the country the traveller may pass through large and fertile tracts, and his eye will meet buildings of every class, from the cottage of the daily labourer to the house of the independent farmer or the spacious mansion of the wealthy, yet find no relief from the glare of a summer's sun. Often, not a tree or shrub can be seen in their vicinity, or if there should be any, they are scattered with so little care or taste, that they would at once stamp the owner as devoid of all perception of the beautiful. The very forest trees—whose noble size would more than grace the park of an English nobleman—are mercilessly cut down, and many a pleasant residence stripped of its finest ornaments; and this, too, in a country where nature has scattered with a lavish hand all that is beautiful in vegetation. Nowhere in Europe or the tropics, can be found our noble forests with their fresh greenness of spring and gorgeous hues of autumn, or our rolling prairies, where the most beautiful flowers flourish in the wildest luxuriance. Yet with all this around us, we remain insensible to its beauty, and casting from us all those pleasures that address themselves to the eye or the mind, spend our days in obtaining that wherewith to eat, drink, and be clothed. I would not say that this is universally the case, for there are instances to the contrary, and the environs of our principal cities can boast of many a beautiful country-seat with its well-planted lawn and ornamental shrubbery, yet it is with the practical farmer that this taste should increasingly prevail. At a very trifling expense, and by the employment of his leisure hours, he could surround his house with forest trees and shrubbery; and with the exercise of that *ingenuity*—which is said to be *native* with every American—impart to the whole place an air of rural beauty.

Nor would the cultivation of such a taste render his other employments more irksome, his home less pleasant, or his domestic circle less cheerful: on the contrary, it would lend a double charm to all, and enhance tenfold his enjoyment of things around him.

It would increase his love of nature; and, giving him a deep appreciation of her charms, would insensibly refine his feelings and make him a happier man. We should then see

none of that want of taste which strikes the traveller so unpleasantly at every step, and which is almost a characteristic of us money-getting Americans; and our country—than which none can be found possessing superior natural advantages—would appear as one garden, replete with everything for the enjoyment as well as support of life. May we not, then, venture to hope that our agricultural papers will devote more attention to this branch of their subject; that they will obtain and circulate information respecting it, and encourage the practical farmer not only to attend to the means of sustenance, but to cultivate a taste for those beautiful things which have been so bountifully showered upon us. P.

For the Farmers' Cabinet.

Rotation of Crops.

I HAVE been amused, while reading in different agricultural publications, the various and very dissimilar propositions for the formation of a course of crops. It is admitted to be a subject of paramount importance, and has called forth the consideration of almost every one who is practically engaged in the science of agriculture, as well as of many who have scarcely ever held an acre of land in their lives. It is a fertile subject for speculation, while upon it depends much of the weal or woe of the husbandman; at the same time, it must be confessed that many of the most egregiously false systems that are propagated, have emanated from really practical men—a proof that practice is not always in alliance with sound theory. It is readily admitted, that different soils require different management; but the rule, that no two grain crops follow in succession on any soil and under any circumstances, ought always religiously to be observed.

In a late work, entitled "The complete Practical Farmer, by an American," I find the following instructions for a rotation of crops, and am constrained to ask, can *mere theory* be more wide of the mark than *mere practice*; or rather, is it possible that the writer could be a "practical farmer," exonerating him from the charge of being "complete" in his profession? He says: "If the soil be a stiff dry clay, the first crop may be oats, well harrowed in the sward; turn the stubble under, and in the fall of the year throw up the ground into high narrow ridges; cleave these down in the spring, and prepare the ground for barley, after manuring with suitable compost: plough up immediately after harvest, and put in wheat in the fall, and in the spring harrow in clover and timothy." Now here are three grain crops in succes-

sion, with barley on the most unsuitable soil—a stiff dry clay—without seeds. The plan of winter fallowing, throwing up the land into high narrow ridges to receive the benefit of the winter's frost, is admirable, and ill accords with what follows. Without prejudice, such a man may be suspected of paper farming.

Perhaps the nearest approach to a regular and judicious course, is that which is proposed in the first article in the Cabinet, number for July, over the signature S. I would not, however, exclude oats from the rotation, for the value of that crop, when cut up in the straw without threshing, as winter food for cattle, and in connection with roots, is almost invaluable, and will one day be properly appreciated. They should be sown thickly on land that has been ploughed deep in the autumn and left exposed to the winter frosts, harrowing them in without a second ploughing as soon as the land will work in February, permitting them to freeze in, if it should so happen; the crop will not become ripe the sooner for such early sowing, but will have longer time to perfect the straw before the shooting of the ear; by such means very large crops may be obtained from suitable soils, which ought to be stiff and cool; and the straw from these would be of far more value than the whole of many of those crops which are to be met with every year with the common mode of management. Can any one say, why wheat should not follow corn, seeded in the spring with clover and timothy? Is not a clean, unexhausted, well pulverized soil, exactly what is desired to insure the most perfect success to our seeds?—and if these are top-dressed the next spring and mown twice for hay that summer, there could not be a more suitable seed-bed for wheat, after once ploughing; roots, however, following, with manure;—in short, *anything* but the "Complete Practical Farmer's" rotation—oats, barley, wheat, or the more common but highly exceptionable mode, corn, oats, wheat. There is no longer any difficulty in clearing off the corn in time for wheat-sowing in common seasons, as the business is so expeditiously and easily performed by means of the simple machine described at page 73 of the 5th vol. of the Cabinet, which has been in use for this purpose.

In conclusion, what say our "practical friends" to the following rotation: 1st. An old sward—ploughed deep in autumn or early winter, and left exposed to the frosts—oats, sown in February, if seasonable weather, and harrowed in without a second ploughing. 2d. Roots, and green crops, (potatoes, &c.) 3d. Corn. 4th. Wheat, seeded in the spring, and the next year top-dressed; mown twice for hay and broken up for wheat; or kept in

grass another year, or perhaps two, for feeding; and then break up for oats? E.

York County.

We would suggest to our correspondent the practicability of obtaining a crop of buckwheat from the oat-stubble, if it be turned in immediately after harvest: and if it be in contemplation to cut the oats into chaff without threshing, the crop might be harvested a week earlier than usual, with great advantage; the straw will be of better quality, sweeter and more nutritious, the grain suffering no injury whatever.—ED.

To the Editor of the Farmers' Cabinet.

Large Calf.

Sir,—I send you the weight of the calf "Brandywine," which you may remember seeing at the exhibition of the Chester-County Agricultural Society last October, his dam "Ellen," a three-fourth blood cow, taking the premium as the best cow of "improved breed." He is this day one year old, and on the platform scales at Marshallton, balances exactly 1056 lbs. I had weighed him previously when eleven months old, and found his weight to be 956 lbs., so that his increase has been 100 lbs. in thirty days—a gain perhaps unprecedented, his food being the common grass of the pasture, which, however, is of good quality—and not having tasted meal of any kind since he went to grass in April last.

Need I say, this superb animal was sired by Mr. Paschall Morris's bull "His Grace," whose stock is winning golden opinions throughout the country; showing most conclusively the truth of the axiom, long admitted and practised in England, that the male should be finely formed, rather than large, the dependence for heavy cattle being placed rather on the dam than the sire.

I see, by the last number of the Cabinet, that Mr. Morris, having a young bull sired by "His Grace"—*Henry Clay*, which took the first premium at the last Philadelphia Society's exhibition—will be induced to dispose of "His Grace" the present season: I would willingly believe that he will not be permitted to go far from this part of the country, where the improvement from his get is so manifest, that it is not difficult to point out his calves from others, on first entering the pasture.

It is long since last we saw you here; on your next visit we shall be prepared to show you some of the most elegant full-blood and half-bred animals in the state, several of which will, in all probability, find their way to the Philadelphia exhibition, to be held at the Rising Sun, on the 29th and 30th September next, and where I hope to meet you.

JOHN H. KELLY.

East Bradford, Chester Co.,
July 20, 1841.

For the Farmers' Cabinet.

Improvement of Exhausted Soils.

MR. EDITOR,—Returning the other day by stage from Baltimore, our route lay through lands which are a caution to behold! The farm, which I was informed consists of about 200 acres, is in the most deplorable state of poverty and wretchedness that can be imagined, although the owner has of late done much towards repairing and adding to the buildings, the erection of fences, &c. The fields lie very conveniently around the house, are large and easy of access, free from obstacles and of level surface, but the weeds completely occupy the soil, and have left no space for any cultivated plant whatever; the St. John's-wort and the gigantic mullein reign triumphant and unmolested, and in its present state, the occupation must be ruinous to any one who would undertake to reclaim it by his individual means. I was informed, the owner is a very intelligent man, of much wealth and first-rate possessions, but has been unfortunate in his tenants, who have not, for some reason or other, done justice to the farm in question. Now, it struck me, that nothing would give me more pleasure than to be the owner of such property with such resources at hand, for I have ever had a "pendant" to make two blades of grass grow where but one grew before; and here, I should not despair of finding employment to my heart's content, although it will be admitted that it would be a work of time to cause such a desert to "blossom like the rose." On my ride to the city, therefore, I amused myself by chalking out a plan for both owner and tenant, which, upon paper, looks well, and by no means of difficult accomplishment; and if, on detail, you should consider there is aught in it that would be amusing or instructive to either, perhaps you would give it a place in some future number of the Cabinet; at all events, it might contain hints that may be useful to some one, either in the way of *re-proof or comfort*.

In the first place, then, were I the owner of this estate—"very intelligent, of much wealth and first-rate possessions,"—I would seek out some intelligent man, having neither of the additional requisites; put him upon the farm, and become to him another Duke of Buckingham—see page 79 of the Cabinet, vol. 5—my motto being "live and let live," sensible, that the more a tenant improves his land, the more he must benefit himself and me. I would say, "Every assistance I will render you, should I find you deserving, relying on your honour and friendship to do me justice whenever that is in your power; I live in the hope of seeing you successful, and long may you live to enjoy

and increase the value of the property." I would then give him the farm at an easy rent; assist him to stock it, holding it as security for the investment at common interest; give him the right hand of friendship, and the sole management of the estate.

And were I the tenant of such a farm and under such a landlord, I would improve it, or I would know the reason why. Perhaps I should not, in the first year, plough twenty acres—possibly not half that quantity—but I would not suffer a weed to live and perfect its seed upon any part of the farm: I would get my landlord to purchase me a few young cattle and sheep, with which to stock the greater part of the farm; and I would then seek for some low part of the land, from whence I could raise earth for the purpose of top-dressing the permanent pasture, eventually to the depth of perhaps some inches; this, with the continual mowing of the weeds would alone work wonders, for it is a fact that as soon as land is able to support useful plants, and they have a fair chance to grow, the weeds will give place. I should never contemplate to keep under the plough more of such land, than sufficient to produce roots and straw for winter use, and bedding for the cattle, satisfied, that at least two-thirds of the farm should remain in permanent pasture; and thus, in a few years, I would put a new face upon things. For although the doctrine is not denied, that the best means of renovating old worn-out pasture is to plough and cultivate and again lay to grass, by sowing the best seeds on a clean, well-pulverized and well-cultivated soil; admitting also, that "without grass, severely-cropped land cannot be restored to full fertility, and without *cropping*, grass cannot be made to continue at the maximum point of utility and verdure," yet this must be done by degrees and by small portions at a time, still reserving the proportion of two-thirds of such land in pasture; careful not to undertake too much, and remembering always, that what is expended in top-dressing, will be found, whenever the system of renovation by breaking up, is resorted to.

But I must continue to have the farm at a specific *rent*, and not upon *shares*—a system that is ruinous to both landlord and tenant, nine times out of ten; productive of distrust on the one side and dishonesty on the other. The rent of the farm abovementioned cannot be great in its present state, and as it is the tenant who must render it productive, he ought to be the gainer, after paying a fair rent and interest for the use of money expended in the purchase of stock, &c., which stock should be held by the landlord, as security for capital so advanced. No one, having capital of his own, would consent to ex-

pend it in reclaiming lands that are so impoverished and unproductive, while other lands, rich and profitable, are so easily procurable; but there are persons who have intelligence and industry, which, in such a case, are a rich exchange for capital, to a very considerable extent.

After awhile, the manure of the cattle would be increased, but that must not be laid upon the land in its pure unmixed state; it should be *composted* by mixing it with the earth abovementioned, and with every other article to be obtained upon the farm suitable to the purpose; and after it has fermented together and received a perfect degree of pulverization, it might be spread abroad and brushed into the sward by means of a *bush harrow*, when it would bring forth "fruit a hundred fold." And this business of forming compost ought to be the chief employment of the man who would procure the means of living on land which does not now yield sufficient to keep body and soul together, either of *man or beast*.

Perhaps 50 acres of such land would be more profitable to a tenant than 200, and if there were four dwellings upon the estate, it would be desirable so to divide it; but any one taking the whole, must not at first expect to be able to give more than the fair rent of fifty acres; if he does, his ruin is sealed, and he had better at once take up his residence at the Palace on the banks of the Schuylkill, which he would be sure to occupy in the end, after expending his strength for "things that are nought." D.

Eastern Shore, Maryland.

For the Farmers' Cabinet.

Rotation of Crops.

YOUR correspondent R. W., who hails from Chester county, in an article on Subsoil Ploughing, in the last No. of the Cabinet, seems to speak lightly of the "undeviating course or rotation of crops believed in and practised by the old-school farmers of that county, viz., first a crop of corn, then oats, then wheat and grasses, with the application of what little manure *chanced* to be lodged in the barn-yard during the winter." Now, in the first place, I do not consider this by any means a fair description of the system of farming in Chester county; but leaving this matter out of view for the present, we may observe, that although this rotation of crops may not be the best for the advanced state of agriculture, or for the newly sprung-up demand for particular products, yet it is perfectly well known to those whose reminiscences extend back beyond "two-score years," that it has been immensely beneficial; and that to it and a liberal use of lime as a

manure, are mainly owing the very rapid advances which the farmers of that county have made in wealth and agricultural improvement. It is these which have changed the products of her soil from briars and thorns — from fog-grass and broom-sedge, to clover and timothy, and a host of other valuable grasses and grains, and made her once impoverished fields to "blossom like the rose." A system, therefore, which has produced so much prosperity, cannot be *decidedly bad*, and ought not to be departed from, without good and substantial reasons. And I think observation and experience will warrant the assertion, that it is better calculated to permanently improve worn-out lands, and at the same time to keep them free from the usual pestiferous weeds, than any other, embracing no greater expenditure of labour and money, in proportion to the return of crops, that has yet been proposed. It ought also to be recollected, that a very large portion of our state is far, very far, behind the county of Chester, in agricultural improvement, and that if the same system of cropping which has unquestionably tended so much to her advancement, could, with the proper modifications, be generally introduced throughout its whole extent, incalculable advantage would be derived therefrom—more, in my humble opinion, than from all the patent gimcracks that have been invented, and all the new-fangled systems of farming that have been recommended, for the last twenty years.

The raising of grain, the rearing and fattening of different kinds of stock, with an occasional exchange of the latter employment for the operations of the Dairy, must always form the leading objects of the labours of the great bulk of our farmers, whatever variations from these may be found necessary in the confined neighbourhoods of large cities. That system or rotation of crops, therefore, which will enable the farmer to attain these objects in a profitable manner, with the least expense of labour or money, and at the same time keep his land free of weeds, and in an improving condition, would seem to be the only proper one to be recommended for general adoption.

If any one knows of a better than that, so long in use in Chester county, and which your correspondent seems to consider as antiquated and behind the age, let him fairly state it, and let it be as fairly tried, even though it have less than half-a-score of years of experience in its favour. After this, and before a choice is made, let the present (or old) system be critically examined, and its advantages and disadvantages maturely weighed, and then, if the new is found the best, let it be adopted.

In conclusion, I would only further remark,

that although not engaged at present as a practical farmer, yet I was educated as such, and for many years followed the business, in one of the best cultivated districts of Chester county. Since then, I have had many opportunities of observing the modes of farming in this and some of the adjoining states, and from these circumstances may be presumed to know something of the matter. My object is not to enter into a controversy, but by giving the results of my observation and reflection, to arouse farmers to an examination of the subject, and thus contribute something towards the advancement of an art which is the primal cause and true foundation of all our wealth.

S. LEWIS.

Pottsville, July 20th, 1841.

Importance of Manure.

THE importance of manure to the farmer is such, that his success in the production of the crops he cultivates will mainly depend on its quality, and the application of it to the crops he raises as *food for stock*; as those which are *consumed* on the farm are much more productive of an additional quantity of manure, than the crops of *grain*, a great part of which is carried off the land. As straw and green crops are the foundations of manure, the increase of these raw materials is of the greatest importance with a view to future crops; but when the stubble is left in the fields, we are deprived of at least one-fourth of the means of re-producing manure; showing the propriety of collecting all the straw which our crops produce, for the purpose of converting it into manure. The straw of the wheat-crop will double the weight of the grain produced; so that if all the straw be converted into manure, by part being consumed by animals, and the remainder as litter, it will keep up, and with good culture increase the productiveness of the soil.

We hold it as an axiom, that all the manure produced on the farm should be applied to the production of green food, such as turnips, beets, cabbages, potatoes, clover, &c., for by such application, a very large quantity of food can be obtained from a small quantity of land, when compared with the old system of applying all our manure for our marketable articles. The produce of food for stock ought to be our *first* object — that of corn for sale, the *second*; for if we secure the first, the second will follow. Attention to the accumulation of the dung-hill ought to be one of the first objects of the farmer. The dung of beasts fed on straw only, is of little value, when compared with the dung of those fed on roots; the dung from corn-fed beasts is better than either, but that from oil-cake is the most valuable of all. It has been calculated, that an acre of well-manured clover

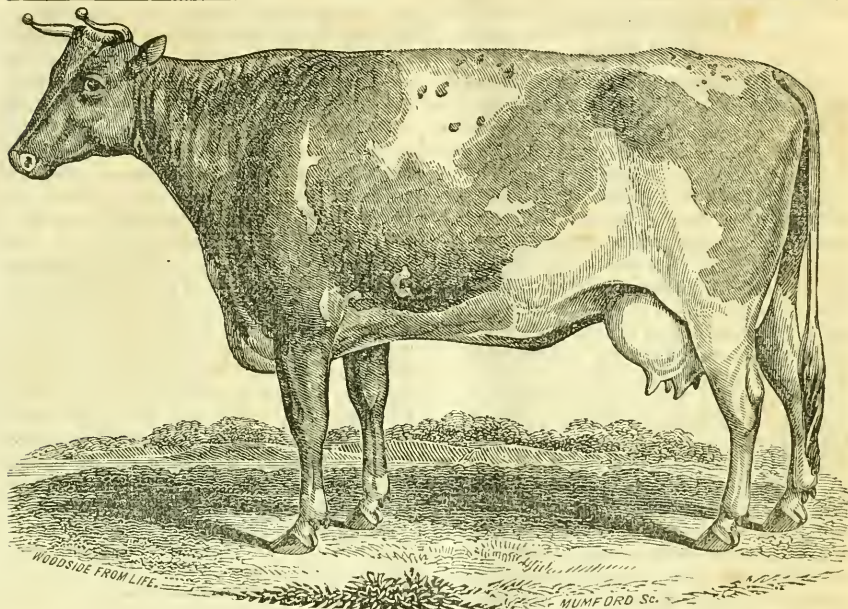
will support three 3 years old beasts for six months — from April to November, and an acre of roots, from the 1st of November to the 1st of May; the quantity of manure from these beasts, while thus fed in the house for twelve months, being thirty tons.

The *manufacture* of manure, or the art of preparing it for different qualities of soil, should be more attended to than it is — this is one of the most necessary branches of husbandry — not only the increasing its quantity and quality, but the *preparation* of it. Much earth should be used in all dunghills, as this becomes more valuable than the dung itself, by altering and adding to the staple of the soil on which it is applied. A compost for a light soil should be formed of cold manure, the earth partaking of clay or stiff loam; while that designed for strong tenacious soils, may be formed of the dung of horses, hogs, sheep, &c., well composted with light, sandy, porous earth, or road-scrappings. In the application of manure, the nature of the soil ought always to be considered; if the soil be strong and cold, long and fresh manure may be used to advantage, but this should never be used for light and porous soils. Peat, when mixed with fresh dung and permitted to ferment, is an excellent manure; while those composts into which bone-dust, soot, ashes, &c. enter, produce wonderful results on all grain and root crops. The production of turnips, beets, clover, &c. by a large proportion of the farm, and the consumption of these by stock on the premises, will produce a sufficient quantity of manure to keep the land in a productive state; and if proper attention be paid to this part of the business of the farm, a much greater quantity of grain will result from it, even when a less quantity of land is sown with grain, and a greater proportion to green crops.

MORTON.

A HORSE-RAKE, to collect leaves, &c., from the woods, has been invented by Mr. Lownes, and is described in the Southern Planter. It is formed by boring 8 two-inch holes through a locust or gum log, and putting teeth, made of seasoned locust, drawn to a point, and driven through from the top of the log. The teeth are two feet long, the log eight inches in diameter, and three feet and a half long; the shafts just long enough to balance the log, which falls back considerably, from the great lean the teeth are obliged to have, to collect the trash. With this rake, the inventor has collected fifteen cart-loads an hour, and calculates upon obtaining at the rate of fifteen hundred loads a year.

WE have no sympathy with those who would desecrate and pare down the loveliness of earth to the grade of *mere utility*.



“QUEEN OF CHESTER.”

The property of Algernon Sidney Roberts, Esq.

LIGHT red and white, calved the 27th May, 1836, got by J. Thurlow's full-blooded Durham bull; dam a red cow, from a Holstein and Devon, (owned by Thomas Rotch, Esq.) by A. Ashton's Durham bull; this bull was by Colonel Powell's full-blooded bull Clinton, and he by Col. Powell's Malcolm, from imported Belle—dam of Ashton's bull, Mr. Rotch's superior Holstein cow.

The dam and sire of Thurlow's bull were thorough-bred, of the stock of Newman Cash, Esq., near Leeds, England.

The “Queen of Chester,” is five-eighths Durham and three-eighths Devon and Holstein, probably the most valuable cross that can be made for the milk-man and the grazier, in this country. This cow evinces in a remarkable degree, the advantage of improved blood. She is always in prime condition, even fit for the shambles, whilst the ordinary stock on the same kind of food are invariably lean and slab-sided during the milking season.

In 1839-40, having met with an injury which prevented her from bearing, she continued in milk for twenty months, and gave 20 quarts in one day, six months after calving.

Statement of the Milk and Butter from the “Queen of Chester,” in one week.

1841.	Quarts.	Pints.	1841.	Quarts.	Pints.
May 22.....Morning.....	10		May 26.....Morning.....	10	
”.....Evening.....	11	0½	”.....Evening.....	12	½
23.....Morning.....	10		27.....Morning.....	10	
”.....Evening.....	12		”.....Evening.....	13	
24.....Morning.....	10	1½	28.....Morning.....	10	
”.....Evening.....	12	1	”.....Evening.....	12	
25.....Morning.....	10	1			
”.....Evening.....	13			157	1

Or, 22½ quarts per day.

The cream from the above milk produced 13 lbs. of butter.

Remarks.—She was somewhat lame by the foot-ail, during this week, and gave several quarts per day less than a week or two previous. She ran, during the day, in a meadow where the pasture was of medium quality, and at night was confined in the barn-yard. A little dry Indian-meal and wheat-bran were given her this week.

She calved on the 24th of March last.

I have no doubt, that under more favourable circumstances, and milked three times a day, she would make 15 or 16 lbs. of butter in a week, and will next season test her productive qualities fully.

A. S. R.

For the Farmers' Cabinet.

Fruit Trees.

As the season for planting is fast approaching, and believing that many of my brother farmers are awake to the delicious comforts of a well-regulated home; satisfied also that the most costly arrangements are absolutely bald and barren without the accompaniments of shade and shelter, I would recommend every one who has a few yards of land only, to *plant a tree*. I am aware that the idea of planting a tree must be strange to him who has, during the most of his life, been labouring to cut them down; yet the time is coming when that reckless feeling will have passed away, and then, no one will be content to sit abroad unless it be under his own vine and under his own fig-tree. During a pretty long life, I have been much engaged in this delightful employment, but have, for the last years, felt a preference for the cultivation of fruit trees over those of the forest, and have sometimes been surprised that this preference is not more general; for where will you find more pleasant shade, more beautiful foliage, sweeter bloom or more lovely growth, than in the trees of the orchard or the fruit-garden? At no time are they less beautiful, either in the spring, summer or winter, while in the autumn the difference in their favour is palpable to all our senses.

The almost endless catalogue of fruits offered to our notice will surely entice us to do something the coming season in the way of a more general system of planting, and there is one variety which is deserving greater regard than is generally bestowed upon it—I mean the pear. I know it has been urged that this fruit is of less value than many others, as the time of its use is but short when compared with the apple, according to the observation, "The pear is in season only one day in the year, namely, on the day when it is plucked," but this is by no means the fact, for there are some of the varieties which keep well, and I have lately become acquainted with one that improves by being kept until Christmas or even later; it is known by the name *Columbian Virgalieu*, and is, I find, largely cultivated in the extensive nurseries of Messrs. Parsons & Co., Flushing, near New York, who have furnished the following account of a pear which is likely to become, through their instrumentality, extensively known and widely cultivated; in answer to inquiries from a person in an adjoining state, they write as follows:

"We have recently been introducing into our nursery a new variety of pear, decidedly superior to any hitherto cultivated. It is called the *Columbian Virgalieu*, and was originated by a farmer of Westchester coun-

ty, in this state. Some time since, having occasion to visit the orchard of this farmer, so glowing a description was given us of the remarkable qualities of this variety, that we requested him to send us a basket of the fruit, when they arrived at maturity. About the latter part of the 10th month they came to hand, and, though mellow, were green and perfectly insipid. Much disappointed, we threw them aside, and thought no more of them until about Christmas, when we accidentally met with them, and were surprised to find they had assumed a bright gold tinge, with a spicy and most delicious flavour, exceedingly juicy and luscious,—in no way inferior to the glowing account given of them. When of full size, they will often weigh a pound or more, and are a very valuable winter table-pear. The tree is a good bearer and thrifty in its growth. We cultivated them last season extensively, and think them well worthy of being introduced into the garden of every farmer and lover of good fruit.

Flushing, 7th mo. 20, 1841."

JOHN DALE.

For the Farmers' Cabinet.

The Tare Culture.

At a late meeting of the Philadelphia Agricultural Society, a member inquired if any one present could speak experimentally on the culture and value of the tare or vetch, which is in such very general use in England, where the summer-soiling system is adopted; remarking, that from all accounts the plant must be astonishingly productive as well as nutritious. Having myself employed it for that purpose very largely, and for many years, I would say, its productiveness has never yet been overstated, or its value overrated, as food for all kinds of cattle. Horses, milk cows, fattening beasts, sheep and hogs, will grow fat while feeding on it, and the older it grows the more valuable it becomes, as the seed when formed in the pod, is far superior to oats or any other grain for the purpose of cattle feed; the seeds are black, and the size of very small peas. The crop is used for soiling, by cutting while green and taking it to the stables; it is sometimes fed off by sheep, confining them on it by means of temporary fencing or hurdles; cattle are not liable to become hoven while feeding it in any stage of its growth; on good land it has been known to reach the height of three feet and even more, producing as much as 12 tons of green food per acre, which, when well dried, will yield 3 tons of the most valuable hay on the farm. The first sowing takes place as soon after harvest as possible in England, upon land designed for the wheat-crop the next autumn, with the *winter* variety of seed, which can easily be distinguished from the

summer tare, as it is smaller, rounder, and blacker; these will bear the severity of the winter; rye is often mixed, to enable the crop to stand up, when it attains a considerable height, but a sprinkling of wheat has been found best for this purpose, as it remains longer succulent in the summer. The crop from this sowing will be fit for cutting for soiling in May, and the stalks, if left in the ground, will afford a second growth for sheep-feed; but as the tare is a fallow crop, it is the best management to cut all off and plough the land deep as soon as the crop is removed, well working and cleaning it during the summer, preparatory to wheat-sowing, early in the autumn, after a dressing of well-prepared compost, if this has not been given to the tares—a far better arrangement for both crops. The next sowing is with the *summer* variety of the tare, as early in March as the season will admit, on land that has been ploughed preparatory in the autumn or winter; again in April another crop is sown, and, if necessary, two other sowings might take place, the last so late as the end of June, that so a succession of this most valuable crop might be secured for the whole of the summer, and until the end of September. Such crops produce immense quantities of manure, which is carried from the sheds and *composted* for dressing others; turnips, for instance, which may be sown on the land from which the first crop of tares has been carried, and fed off in time for wheat-sowing in the autumn. It must not be forgotten, that the richer the land, the greater will be the crop of tares, and none will pay so amply for manure; but when the crop is very heavy, there is less chance of obtaining good seed, and if that be the object, it is recommended to mow the first crop early for soiling, and permit the second growth to stand for seed, which is sometimes a precarious business, nothing being more uncertain; I have purchased seed at a guinea and a half a bushel, and sold the next year's produce obtained from it at six shillings a bushel! When the price of seed is moderate, the quantity sown is two bushels or two and a half per acre, but whatever the price may be, it will be repaid in the crop, if the land be in good heart. As much as 30 bushels of seed per acre has been obtained, but 15 bushels, and often half that, is more common. Under a heavy crop of tares, the land will be found perfectly clean and mellow, and will turn up like an ash-heap: and there is no question with me, that the crop may be raised with success in this country, if well cultivated on good land, rather stiff in its nature, and lying cool.

With regard to the value of the tare for soiling, it has been calculated that ten times the stock might be kept on them than on any

other commonly cultivated crop; horses require no corn or any other food, and cows give more butter while feeding on them than on any other food whatever. Is it not strange, that no regular experiment on an extensive scale has yet been made on such an invaluable crop in this country? D.

National Agricultural Society.

MR. SOLON ROBINSON has proposed a Farmers' and Planters' Convention for the nation—I second the motion. When a lad, I desired to be a farmer from inclination, but now I am getting old, I am a farmer from necessity. My lands will eat me up, unless I can cultivate them; to sell and live upon the proceeds is now out of the question—all business is at a stand, and all human existence depends upon bread; stop the plough, and all civilization comes to an end. For the last five years I have felt confounded and overwhelmed with the consideration, that the very bone and sinew—the heart's-blood and life of the nation—the Farmers, have in Europe been hag-ridden for centuries, and in America for half a century, by persons who knew nothing of, and felt no interest in the main branch of national wealth. The *real estate* of the nation is its only solid wealth—this is subject to taxation, and is the only permanent support of government; it is folly to speak of commerce without it, for what profit can there be in commerce, to make great importations for a nation of paupers? And it is strange to me—next to the barbarous shackles of despotism—the imprisonment of an unfortunate debtor—the sacrifice of *real estate* under execution, without any regard to its value! This should never be; on this subject my mind has never changed, after more than fifty years' serious reflection.

So we go for a Convention of American Farmers and Planters on rational principles; there is a necessity for it, and volumes could not contain half the reasons that might be urged; we have a constitution of the United States to protect every thing but the vital interest of the nation, AGRICULTURE; for touch this and urge it as of national importance before Congress, and we are told, it is *unconstitutional!* With this view, therefore, I consider it high time that every farmer and planter should be awake to his duty and interest, and urge on with all diligence, the meeting of a Convention of Farmers and Planters, according to the plan proposed by the respectable and highly intelligent individual who has the honour of moving first in the great cause.—*West. Far. and Gard.*

If twenty bushels an acre be considered a remunerating crop, all that the product falls short of this must be a *loss*.

For the Farmers' Cabinet.

Gardening.

MR. EDITOR, — My garden at the present time presents an admirable lecture on horticulture. Although the season has hitherto been propitious, to a degree not often experienced, my crops are uniformly short and unhealthy; and with more than an usual attention to cleaning and dressing, its appearance is mean and disagreeable, and all this discomfort and unthriftiness arises from the single circumstance of working it in the spring while the land was wet! Every one knows that the season for gardening opened wet and cold, but as I always love to have things early, I thought I could not wait for better weather, and accordingly began dressing my beds with a good coat of rotten manure, and turned it in while the land was wet, and cold, and heavy, thinking it better to be early in my planting than to wait — but how far have I been out in my reckoning! My parsneps and carrots never attempted to make their appearance at all, although the land was twice sown; my peas, which always before grew tall and yielded abundantly, are not more than half the height of the sticks, with pods short and but half filled, while my onions are not the fourth of a crop; my cabbages are blue and stunted, and all the other crops are disgracefully poor and ragged, and this, in consequence of working the land while it was *wet, and cold, and heavy*. It is my intention the ensuing autumn to try the plan adopted by a friend who resides a short distance from me, and is sure to obtain first-rate crops in his garden — *by good luck*, as I have always thought, but he says it is because he always trenches up the land as soon as the crops are removed in the autumn, laying it dry for the winter and digging in the manure at that time instead of in the spring, so that on turning the land for planting at that season, the dung is brought up to the surface, perfectly rotted and *sweetened* as he terms it; when it forms a surface-dressing, which he assures me is the cause of his uniform success: and, indeed, I have often observed that his crops do not suffer like mine for want of rain, his land always lying light and open on the surface, which he is convinced is occasioned by the top-dressing formed by the dung. And another thing I have observed, he never uses the rake while digging for planting his crops, his land turning up mellow and sufficiently pulverized without it, and this he says is owing to the dung, which is thus brought to the surface, after lying all winter to meliorate that part of the soil which is then turned up to form the seed-bed of the crops. Now, there is reason in all this, and I begin to wonder that the thing did not

occur to me before, and has never yet got into practice. I should add, he uses long dung for the purpose of digging in, which he says operates in a two-fold way, first *mechanically*, by keeping the land light and open, permitting the winter rain to pass off into the subsoil; and second, *chemically*, by giving out its "pabulum" or food of plants in the spring, when brought into contact with them at the surface, just at the time it is required, and in the proper state of decomposition to be taken up by them in *solution*; the only way, he is convinced, in which it can enter into their circulation. Now there appears so much good sense in what he says, that I suspect I was wrong in attributing his uniform success in gardening to good luck; and on my last visit to him, I was convinced of the superiority of his management, by finding that I could half bury my shoe in the fine surface-mould of his garden-beds, while mine lies hard and tight as a brick; — there must be some good reason for this difference, his land being precisely of the same nature as my own. It is also a fact, that his crops are by no means so liable to blight as mine, nor is he troubled as I am with insects of all shapes and colours and sizes; and this, too, he attributes to the mode which he has adopted, saying, he is never afraid of blight, if he can get his crops strong and healthy. He is much pleased with the communication signed R. W. in the last No. p. 274, and intends to subsoil his garden the present autumn, calculating great benefit to arise from the washings of the long dung penetrating into the loosened subsoil during the rains of winter, and declaring it to be his opinion that the system will become general, both in the garden and in the field; and in this opinion he is joined by many.

YOUR SUBSCRIBER.

Del. Co., June 12.

For the Farmers' Cabinet.

Destruction of the Rose Bug.

IT is said, the destruction of the rose bug has been accomplished by Mr. Haggerston, gardener to Mr. Cushing, of Massachusetts, for which a premium of one hundred dollars had been offered by the Horticultural Society. The application consists of a solution of soap made from whale oil, in water, which, when sprinkled over the plants infested with the bugs, effectually destroys them. Now, would not the same application be as effectual in the destruction of bugs of every other description, particularly those which prey upon the vines of the squash, melon, &c.? I see no reason why it should not, for it must operate on all, one would suppose, in exactly the same way — "but in what way does it operate?" might be asked, and this is a question which I have not yet heard answered.

Now, as I believe, according to the theory of Vir and others, that these animals are merely the *effect* and not the *cause* of the disease of the plant—that arising from the putridity of its juices upon which they feed—that all putrid matter is highly charged with oxygen, oxygen being the basis of acidity; the application of a strong solution of soap must have the effect, by means of its alkaline properties, of neutralizing this acid and purifying the juice of the plant, rendering it no longer capable of sustaining the lives of creatures destined by the Almighty to prey only on corruption; they therefore die, properly speaking, of starvation. If this theory be correct, it is probable that a solution of soap and water will be found as effectual in the *prevention* of disease in all kinds of plants as in their *cure*, and its application might be expected to become general, in the garden and green-house as well as in the field, no injury being to be apprehended from its glutinous quality, as it is so readily miscible in water. And to this neutralizing property is no doubt attributable the benefit that has resulted from dressing peach-trees affected with the yellows, with soap-suds. A friend writes, he has tried the effect of soft soap on the rigid bark of some of his apple-trees, and the result is surprising; the trunks of his trees are become as smooth as glass, and the branches seem possessed with new vigour. I presume that whale oil may be rendered saponaceous by an addition of barilla or potash at a most trifling expense, but would not recommend the refuse oil for this purpose, as its filth and impurities may be found injurious to some of the more delicate plants. O.

For the Farmers' Cabinet.

The Farmer's Diary.

CONVERSING with a friend in Delaware on the very general rust which has befallen the wheat-crop in that part of the country the present season, he assured me the evil had been the work of a few hours only; the thick, moist and hot atmosphere of a certain Wednesday in June, having been the cause of the prostration of their hopes, which had, until then, been bright and most promising. On my return home, I turned to my diary, and read the following entries, which to my mind fully corroborate the views which he had taken, and go to prove the truth of the theory, that rust is occasioned by atmospherical influence.

Tuesday, 22d June. Therm. 72°; considerable rain, close and warm; afternoon excessively close and hot.

Wednesday, 23d June. Therm. 83°; close, cloudy, moist and hot; a trying time for the wheat. Look out for blight, mildew and rust; rain about noon, excessively sultry.

Thursday, 24th June. Therm. 93° at noon, hot and clear, the reverse of yesterday, by no means so oppressive. It is hoped the wheat will recover from the effects of yesterday.

Friday, 25th June. Therm. 82°; a close, thick, hot day; at noon, heavy rain until 5 o'clock, with therm. 77°, a dread time for the wheat.

Saturday, 26th June. Therm. 77°; close, damp and hot in morning; at noon clear.

Is it not strange, that every one at all concerned in the state of the weather does not keep a diary? I procured mine from the recommendation at page 190 of the Cabinet for January, and it is a perpetual source of interest and pleasure to look back to its pages and read those "prophecies of the past," as they have been called, and benefit by observation and reflection on things gone by: by them I have been convinced that there is such a thing as *weather-wisdom*, and find myself becoming quite an adept in the science. H.

For the Farmers' Cabinet.

Lime, an Anti-Septic.

In corroboration of the theory contained in an article in the Cabinet, page 314, under the caption "Lime a Septic or Anti-Septic," I beg to copy the following note from Mr. Samuel Parkes's examination before a committee of the British House of Commons, as published in the Philosophical Magazine for September, 1808. It is there stated—

"On the 4th of August, 1798, Mr. Cruikshank made the following experiment: he dissolved two separate ounces of sugar, each in five ounces of water in separate vessels, and added a two drachm measure of yeast to each. To the one, he afterwards added a little fresh lime in powder, and placed both vessels in a favourable situation for fermentation. In twelve hours, one mixture began to ferment, but that which contained the lime showed no sign of fermentation, although it was continued in a favourable situation during a period of twenty-four days: a similar experiment was made with potash, with the same result."

Would it not therefore appear that "no fermentation can take place, if the alkaline principle be in excess? and can chemical decomposition take place without fermentation?" K.

Four pounds of beef lose one pound by boiling; one pound five ounces by roasting, and one pound three ounces by baking. Four pounds of mutton lose fourteen ounces by boiling; one pound six ounces by roasting, and one pound four ounces by baking.

For the Farmers' Cabinet.

Beet and Turnip Culture.

I HAVE just read an article in the last No. of the "Cabinet," by Win. Penn Kintzer, in which he says: "I myself have tried roots, and would not condemn them wholly; but I contend, the acre of ground, forced by manure and culture, producing a good crop of beets, will, under like circumstances, produce an equal, if not greater amount of solid nutriment in the shape of corn." And he closes with observing: "Aware of the partiality of beet-culture for stock, I shall look out for a censorial notice from some ready pen. Nevertheless, I shall not be easily driven from my ground."

Perhaps there are few who take greater pleasure than I do in the practical improvement of our general system of agriculture in its various branches, which consequently cover a wide range, including, as intimately connected therewith, the feeding of stock. I, too, have raised and fed roots, for several years, and am decidedly of opinion that they are valuable for stock-feeding; but, on the other hand, I am equally decided in opinion, founded upon my own experience as well as observation, that the position taken above, is *substantially correct*,—and that for the purpose of stall-feeding stock, in most cases it is much more profitable, in our country, soil and climate, to raise Indian-corn for that purpose, than beets or turnips, however different it may be in England, where Indian-corn will not as profitably mature; where, also, beets and turnips grow much more luxuriantly than they do with us, and where the extra labour requisite in their culture is not so expensive as it is with us. Perhaps some may reply, they do not require great extra labour. Then let such make the comparison with the culture of corn. It is well known that many farmers cultivate 25 and some 50 acres of corn annually. Now, let the same quantity of land be properly cultivated with beets and turnips, instead of corn, and then judge of the comparative labour; and who would not flinch from, say 50 acres of roots, especially if he have his other farming operations going on meanwhile? I venture to say, he would not like to repeat the culture of 50 acres the next year. I am, however, of opinion, that in high stall-feeding with corn-meal, it is advantageous to give daily a small quantity of roots—beets, turnips or potatoes—on account of their cooling properties, enabling the animal to extract more thoroughly the nutritive matter of the grain in its passage through it. It is true, there may be instances, where a mechanic, or other person who keeps one or two cows, and has but a small lot of good land; and who, as a relaxa-

tion from his trade in his shop—and for advantage to his health, would spend an hour or so occasionally in his lot—with such, it may perhaps answer to cultivate roots. But, even then, I think a little grain with them an economical addition, even if it has to be procured at the expense of selling a part of the roots.

I have often thought that one great cause of the prejudice to what is sometimes called *book-farming*, arises from the unsuccessful attempts of those who have too implicitly followed plans and statements which have succeeded well in other countries, soils and climates; not sufficiently heeding, that what is well adapted to one, frequently will not profitably answer the agriculturist in another. The true interest of the farmer is, to cultivate such crops as will best remunerate him, taking into consideration the nature and state of the soil, the climate, and his particular locality (which last has frequently much to do with it) and his means of manuring it according to its wants—always bearing in mind the steady progressive improvement of his land.

But I have digressed. My object in taking up my pen was, to support the position of the superiority of corn to beets and turnips for feeding. As to the exhaustion of the land in the one case, and the melioration thereof in the other, with fair and just treatment, I do not believe in it to the extent that some appear to do.

And now, before I close, let me add, if all the corn-stalks are foddered and littered in a barn-yard or yards of sufficient dimensions and properly constructed (concave) and well trodden by stock, together with all coarse vegetable matter that can reasonably be obtained, they will contribute largely to the mass of barn-yard manure (the farmer's bank, sure and safe) for the next summer's crop of corn. A pen of hogs, having a suitable yard to run in, sufficiently concave and wet in the centre, and plentifully supplied with coarse vegetable matter, will make, what would appear to those who have not tried it, an incredible quantity of excellent manure, which I greatly prefer for the melioration of my land, to a crop of roots.

W.

Burlington Co., N. J.

For the Farmers' Cabinet.

The White Carrot.

MR. EDITOR,—As many of your subscribers must have at this time crops of the white carrot growing on their land, I should feel obliged if they would inform us of their progress, and whether they are likely to fulfil the promise which was made at the time of sowing, namely, that they should supersede all other crops of roots for the use of stock

during winter. I was not conveniently situated for the experiment the present year, and am now desirous of hearing from those who have entered upon their cultivation, that I may be prepared the next spring, by sub-soiling a portion of land in the autumn and burying long manure, according to a plan proposed of late, and which I conceive would be very likely to insure large crops. I find there are two species of the white carrot, the most productive being that which makes a large portion of its root above ground: it has been lately cultivated in the Island of Jersey—that country so famous for the last century for parsneps as cattle-feed—and from accounts published by Colonel Le Couteur, to whom the world is indebted for a most valuable treatise on wheat, and who is a host in himself, the success attending it is complete; he says, “In Jersey, the prize crop of parsneps this year afforded 24 tons to the acre, while the white carrot, a prize crop also, which I have cultivated experimentally, gave me nearly 33 tons to the acre; an enormous crop, which, if equal to the parsnep for butter, will of course supersede it, as my parsnep crop in the same field, and cultivated alike, only produced 16½ tons an acre, which, nevertheless, was a very fair crop.” I remember seeing roots of the white carrot the last winter which weighed more than two pounds each, and hope to find some well grown at the exhibition of the Philadelphia Agricultural Society, on the 29th and 30th September next—and where, too, I trust we shall meet with many agricultural friends from distant parts of the country: I certainly anticipate much pleasure and happiness of the right sort on that occasion of mutual reciprocity. H.

Chester County.

For the Farmers' Cabinet.

Top-Dressing.

ON a late visit to the delightful gardens of Mr. Buist, in 12th street below Pine, I saw the principle of top-dressing carried out on a plan that I had never before witnessed—several large beds of dwarf roses are covered to the depth of two inches with perfectly rotted dung, in which it does not seem that a single weed has ever made its appearance. The plants exhibit a high degree of health and vigour, and judging from this instance, I am prepared to believe that the system would be as applicable to the farm as to the garden. I have therefore turned to the papers on this subject, which have of late appeared in the Cabinet, and re-perused them with increased interest. Indeed the theory is very plausible, as we can readily conceive, that if this body of manure had been buried at the roots of these rose-trees, the effects would indeed have been deleterious.

In Mr. Buist's garden, I saw also the Bokhara clover in bloom: its flowers are diminutive, white, pea-blossom shaped, and hung on spikes at the top of the plant: judging from appearance, it will be long before a quantity of seed sufficient to sow much land will be procured, but in all probability the cultivation might be extended by the root, after the method practised with lucerne, by cutting off the crown of the plant an inch or so below the surface, and dividing it by slips, which, if planted separately and watered, will readily take root and produce abundantly, the root which remains in the ground forming another head and throwing up other shoots in great profusion; and thus the cultivation might be extended very expeditiously. The walks in these very pleasant and extensive gardens are covered with exhausted tan from the pits, and are thus rendered dry and clean even in the worst weather. This plan should be adopted generally, as it also prevents the growth of weeds, saving one half the labour of cleaning. C.

On Sheltering Sheep.

I wish to see the whole race of hardy sheep extirpated from the soil. Instead of a race, hardy, wild, starved, comfortless, diseased and thinly clad with the shaggy, coarse, open coat of the goat or the wolf, let us substitute upon our mountains and plains a well-fed, cultivated sheep, with a comfortable and sufficient inside lining of nourishing food, and the external defence from the cold, of a thick, close and valuable fleece; his health and strength and real hardiness supported by shelter, whenever nature may point out to him the need of it. Let us hear no more the distressing and disgraceful accounts of the numbers of sheep perishing with cold, but of the numbers preserved, and of the merit of flock-masters in their plans of winter protection. While the notions of hardiness prevail, and of sheep that will starve within an inch of their lives, there can be but little hope of the improvement of which they are susceptible, and to which this country ought to aspire; there are none that ought to be exposed without some kind of shelter to the rigours of the winter and early spring, or without a sufficiency of food to support them in a thriving state; these things are necessary, if it be intended to force the growth of their fleece to its utmost weight, and to preserve the quality, in its highest degree of condition and fineness. It matters not how much an animal eats, provided it pays for it.—Lawrence.

THE individual who lives a life of temperance and virtue, and partakes daily of sufficient active exercise, requires no opiate to lull him to repose.

For the Farmers' Cabinet.

Agricultural Exhibition.

MR. EDITOR,—I am glad to see it announced in your last number, that the Philadelphia Agricultural Society will hold their annual exhibition at the Rising Sun, on the 29th and 30th of September next. Since the last meeting of the Society, I have not ceased to grieve for the disappointment which was then felt on account of the total failure of the ploughing match! and is it a fact that Pennsylvania is so far behind the Eastern States, that it is not possible to get up a ploughing match in this part of the country? True, it is said the land which had been selected was unsuited to the purpose, and that those who came to the trial were unprepared, as it was not understood that each should bring the necessary apparatus; but this is not all—there was not a plough upon the ground that was *suited to the purpose* of turning whole land in a dry season. Is it asked, in what were the ploughs defective? I answer, they were too wide in the share, or wing, for ploughing whole land—they cut too much: the points were too wide, and their beams too short. If one of them had been fitted up with a narrow, sharp share—say about 8 or 9 inches wide, with the point narrow and perfectly sharp, and a foot of chain attached to the beam to prevent its being lifted out of the work by the draught of the *horses*—which ought to be prevented from going steam-pace, as is too much the custom—she would have entered the land, never fear; and in the hands of a good workman would have been considered worthy a premium.

A great deal has been said in the papers about a plough that was sent from a maker in Market street, Philadelphia, to compete with the English ploughs at the agricultural exhibition at Cambridge, and they have gone so far as to declare that it received the encomiums of the Society; but the fact is, it was never brought into competition with the English ploughs at all, for it was found perfectly impotent—it was tried on an adjoining field, where it drew a *good deal of notice*, but it was quite inefficient until it had been furnished with a couler; and all that was ever said in its favour was, “after that, it did better;” even the “noble President” could make nothing of it.

But I fear it is a fact, that “the worst part of our agricultural operations in this part of the country is our ploughing,” and I guess it will be long before we are able to cope with some of our distant friends in this particular; nevertheless, that is no reason why the attempt should not be made and the question decided, and I sincerely hope the committee of arrangement will determine on making

another exhibition of the skill of our ploughmen, who will now be able to come better prepared to wipe away the stigma which rests upon them since the abortive attempt of the past year: is there no such machine in this part of the country as a dynamometer?

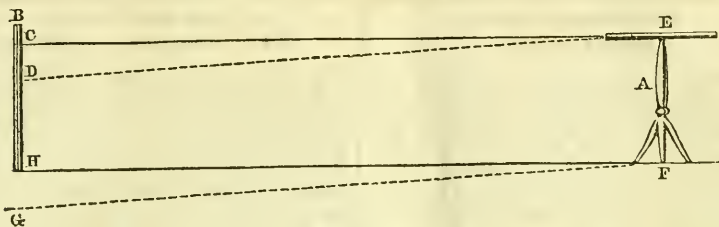
But let the proprietors and manufacturers of the different ploughs act liberally, and offer, as a premium, the *plough* which is declared to be the winner, as is done in Europe: they could well afford to do so, for the *eclat* will be worth to them many times the value of the plough in the way of advertisement. Now let our young ploughmen look out and do their best; to them we old folks look for improvement. But if the weather be hot and dry, and the land a hard lay, they will do little with ploughs such as those which were exhibited the last year, and no disparagement either to ploughs or ploughmen—in that case, let them narrow the width of their shares and points, and lengthen the beam if necessary, and my word for it they will go. In my opinion, the best ploughs in the world are the American; they only need to be fitted for the work they are required to perform.

I have just seen an account of a ploughing match against time for a bet of \$100, between two farmers of Lincolnshire, England, on the farm of Mr. C. Popplewell, of Canwick, who undertook to find a man who should with one pair of horses and a single-furrowed plough, turn up two acres of fallow land within eight hours, to the satisfaction of two impartial judges. The plough was started at six in the morning, and the two acres were completed before one in the afternoon, being within seven hours, to the perfect satisfaction of the judges. The furrows averaged a depth of seven inches, and the share measured *only six and a half inches broad in the wing*. The ploughman's name was William Prescott. I repeat, our ploughs are too wide in the wing of the share—they cut too much.

AN OLD PLOUGHMAN ON THE SHELF.

Schuylkill County.

We are authorized to say, the Society have it in contemplation to institute a second exhibition or meeting in the Spring, to be held at some convenient place on the western side of the Schuylkill, when and where they consider it probable that more attention would be paid to a trial of ploughs than is likely to be rendered at the general exhibition in the autumn; the land, too, might be expected to be in a more favourable condition for the trial, which if got up on a grand scale, would add much to the interest of the meeting. They would strongly recommend to the notice of the manufacturers of ploughs, the European custom mentioned above, of presenting to the winner a new plough of that description which gains the premium; a cheap mode, they consider, of advertising and bringing into notice *the maker of the best plough*. — Ed.



TAKING LEVELS FOR DRAINING.

A, the spirit level; B, a staff erected at the end of the intended drain; C, the mark of the real level; D, another mark as many inches below C, as it is to have fall in the drain. If the level be lowered, so that the point of intersection, instead of being at C, be at D, the line formed by the level will be represented by the dotted line D E. The line H F, represents the surface of the land.

Now, if a staff the length of D H, with the additional depth of the drain at F added to it, be removed to any situation between H and F, it will give the true slope it ought to have at that particular point; and the drain, with its regular fall, is represented by the dotted line G F.

Profits of Farming.

MUCH discussion and conversation have been had upon this subject. We do not mean to enter fully or much at large upon a subject which requires to be examined in various aspects and relations, in order that an enlightened and well-founded judgment may be made up; and especially in order that we may not lead to any false inferences of its unprofitableness, nor encourage any fallacious expectations as to any advantages,—we mean *pecuniary* advantages,—to be derived from it. The erroneous opinions and calculations which have been formed in this matter, have led to most painful results, to serious losses, and to bitter and vexatious disappointments. We know a gentleman who tried farming on an extensive and experimental scale, whose authority is often quoted as ascertaining that “in agriculture, two and two do not always make four.” We understand it to be implied in this calculation, respecting the profitable results of agriculture, or a fair return for the expenditure of labour and the investment of capital, as not so likely to be verified as in other business pursuits of life. We do not admit the axiom in any fair sense. We do not believe that it does justice to agriculture; and no small experience, and some observation satisfy us, that circumstances being equal, farming would furnish as fair a compensation for labour, and as ample a dividend upon the capital invested, as the common trades which men engage in, and even the pursuit of mercantile and commercial life. Of course we except all extraordinary cases of good fortune, and all matters of gambling and speculation.

The returns of most crops strike one some-

times with astonishment, and would, if taken as a test, lead to most delusive expectations. A grain of seed sometimes returns one hundred fold; and this being sown a second year, would perhaps give ten thousand fold, and so on in geometrical ratio. Twenty bushels of potatoes planted, will frequently yield four hundred bushels, that is twenty for one. A bushel of wheat sown, often returns thirty bushels. A peck of Indian-corn planted, will often produce sixty bushels, that is two hundred and forty for one. A pound of carrot-seed or of ruta бага, which costs a dollar, will produce six or nine hundred bushels of roots worth one hundred dollars. The proceeds in this case seem enormous, and yet they are constantly realized, and often, it must be admitted, at a comparatively small expense. But no confident conclusions of the profits of farming are to be drawn from such results as these. So many circumstances of abatement enter into the cost, that if these are the only elements given in the case, the solution of the problem would give the most egregiously erroneous and deceptive results.

We are not to look to agriculture for any extraordinary or sudden gains, as, for example, like drawing the capital prize in a lottery where there are two blanks to a prize; like some successful East India voyage, where the sale of the cargo yields a net profit of one hundred per cent.; or like some sudden rise in the stocks, or some monopolized article of produce, where a shrewd calculation draws its thousands or twenty thousands, into our pockets. But that skill, experience, assiduity, and industry will, in agriculture, yield a fair, and, to a reasonable mind, an ample compensation, there are too many and reiterated proofs to admit even of a doubt.—H. Colman.

For the Farmers' Cabinet.

Moon-Farming.

THERE is no man on earth who farms less in the moon than myself; but there are circumstances which compel an observing person to hesitate, before he decides that that luminary has no influence in sublunary things, save only in the rising and falling of the tides — the ebb and flow of the sea. That persons afflicted with madness are much more irritable and ferocious at the new and full moon than at other times, has long been admitted by those best able to ascertain the fact, and a residence for some years in the neighbourhood of a house of confinement for such unfortunates, has afforded me ample proof of the truth of the assertion — hence the term *lunatics*, when applied to persons so afflicted. Nor is it easy to conceive that such a general opinion could have been formed without some foundation arising from general observation, that the moon has influence on other *times* and *tides* of the world — but on this I lay no stress, farther than to introduce two instances which have been mentioned, and which seem worthy the examination and reflection of practical men, who alone have it in their power to put them to the test of experiment.

1st. In the Island of Guernsey, from whence such numbers of cows are sent to other countries for the use of the dairy, and where a heifer-calf is worth about ten times the price of a male, the desire of the breeders is to obtain as many of the latter as possible; and to effect this, it is, in their opinion, only necessary to put the cow to the bull during the waning of the moon; this has been practised for ages, and is implicitly relied upon by every inhabitant in the island. And it is an universally-admitted fact, that by very far a greater proportion of female than of male calves are thus produced — probably as many as six or eight for one; nor is this peculiarity confined to the Island of Guernsey; for in the whole of the channel islands, Guernsey, Jersey, Alderney, and Sark, the same *cause* produces the same *effect*.

2d. A practical farmer, a German, asserts, after fifteen years' close observation, that the crops of wheat which do not ripen within two days of the full of the harvest-moon, will be affected with rust; and he points particularly to the state of the crops of this grain the present year, in proof of his assertion. And is it not a fact — whether through the influence of the moon or not — that the crops late in ripening have proved peculiarly obnoxious to this disease the present season? Now the only end I have in view is, to set farmers "a-thinking," — it matters not what is *said*, it is the *trial* which makes mention. Z.

For the Farmers' Cabinet.

The Whin, Gorse, or Furze.

MR. EDITOR, — A writer of travels in England and Wales, has observed, that in the latter country the land and management are so wretchedly poor, that oftentimes, during the winter, the farmers are actually under the necessity of feeding their starving cattle with the very gorse which grows upon their barren hills, the spikes of which are as long as the finger, and sharp as daggers; expressing his wonder that it is not the cause of the death of hundreds of their miserable creatures!

Now, who could, from this account, conceive, that the gorse in that country is by far the most valuable of all their crops; that it is preserved with the greatest care, and reserved until a time of hard labour, and made to bring the highest price of any crop in the market! a field of gorse renting for much more than their most productive wheat-lands.

On reading the above account of the travelling gentleman to a friend who resided in that part of the country for several years, he was quite amused with the error into which he had fallen, remarking, that nothing could possibly be more opposite to the truth. He informed me, that the gorse or furze on many of the large estates in that region, is cultivated and protected with great care, as a reserve for the horses belonging to the collieries and the canal in the Tawey valley leading to Swansea, and other adjoining parts, at that season of the year when the grass of the meadows had been all expended, and the labour of the animals was the greatest; it was then given to them unaccompanied with the usual allowance of corn, it being, alone, quite equal to hay or grass and corn united. The seed is sown on well-prepared land, when it springs up and takes possession of the whole surface, not permitting a plant of any other kind to show itself, and so thick that a rabbit can scarcely find its way through it. At the end of two years, the crop has attained the height of about three feet, with stems as large as the finger; it is then cut quite close to the ground, with short scythes, bound into bundles, and taken to a small mill erected for the purpose, where it is passed between rollers, by which the spikes and stems are so completely crushed, that the horses desire nothing better than a manger-full of these "daggers" three times a day, the juice which exudes being quite clammy, and of a honey-sweetness, and fermenting the instant it leaves the rollers. The gorse-grounds are divided into two portions, one of which is cut every year, the crop being then two years old at the time of cutting. In some cases, this food is found too heating and invigorating

even for horses; it is never given to cows, being by far too hot a food for them; all animals will, however, leave every other kind of food for this, and while feeding on it, the coats of the horses shine like velvet. During the roughest weather, the most protracted winter, the severest frosts, the deepest snows, and under a deluge of water, the crop of gorse remains uninjured—a certain resource, and obtained at no earthly expense, save only the labour of cutting: of four times the value of a crop of grain, and bringing a rental of at least that proportion above the best wheat-land in the country—so much for travellers' stories! Z.

For the Farmers' Cabinet.

Blight—Mildew.

MR. EDITOR,—I am particularly pleased with the review of the interesting papers which have of late appeared in the "Cabinet," on this all-important subject, by the very intelligent editor of the Farmers' Monthly Visitor; more particularly with the theory of the Hon. Samuel Hatch, which is there recorded, and which I must ask leave to copy for insertion in the Cabinet. From the views there taken, and the way in which they are expressed, it is easy to believe that Mr. Hatch "has been in the habit of doing every thing well."

He says, "blight, or mildew takes place generally at a time when days are hot and nights are cold; the day heat throws up an undue proportion of sap into the stalk, and the close burden of stalks shields the surface of the ground, so that it continues to force up the sap through the night, while the chill air strikes with full force upon the stalk above: in this state of the atmosphere, the stalk bursts just below one or more of the joints, and at once arrests the further growth of the grain." He is of opinion that "there is no remedy for blight when the grain has arrived at a certain point, and when the weather favours the process; but rye and wheat are more apt to escape when sown early; winter rye before the first of September, and indeed the earlier both winter and spring grain of all kinds is sown the more likely it will be to escape blight; a change of seed should take place every three or four years."

Mr. Hatch has succeeded, by a simple process, every year to make the flour from his rye but little inferior to that of wheat; he invariably cuts it about four or five days sooner than the crop is usually cut, and when the joint of the stalk is green. It is first carefully dried in the field, and when removed to the barn, the sheaves are set singly, to become perfectly so. After the grain is threshed and cleaned, it is spread abroad and turned,

when, at the end of three weeks it will be found to have lost at least one bushel in twenty: it is then put into close bins, in the assurance that it will make perfectly sweet flour, imparting elasticity and life and excellent flavour to the bread into which it is manufactured. He very properly observes, "Any fermentation causes injury; if the grain is not properly cured in the field—if it is exposed, after it is cut and cured in the sheaf, to dampness—if it is kept close after it is threshed, so as to gather moisture—if it is suffered to heat after it is floured—or even if after the flour is made into dough it be permitted to ferment beyond a certain point—in either case, the article is worth scarcely half price." GERARD SMITH.

Schuylkill Co.

For the Farmers' Cabinet.

The Borer, again.

I AM glad to find that the experience of a "Montgomery County Farmer" confirms the correctness of my own opinions; for he says, "The most effectual preventive that I have tried is to keep the ground for a few inches round the tree entirely clear of all rubbish, at all seasons, not suffering grass, loose bark, or *clods of earth* to touch the tree." Now this is precisely what I recommend; but perhaps I go an inch or two deeper than my unknown friend, and, like the Indian who makes his picaninny "all face" by exposing him naked to the influence of all kinds of weather, I make the upper part of the roots for a few inches from the trunk of the tree, as hardy and as impenetrable and unpalatable to the worm as the trunk itself. I think it will generally be found that when the worm enters a root he does comparatively little injury; because if one or two roots be entirely eaten off, the main body of the tree remaining sound, new roots will very soon take the place of the old ones, and the tree will be none the worse; but when the trunk is injured or destroyed, a new one is not so readily formed.

As regards the proper mode of planting, my friend says he is "aware that very shallow planting is all the fashion with nurserymen, and perhaps the trees may grow as well or better for a season, but most people want them to last awhile as well as grow."

I can assure him that *my* object in advising shallow planting, is not only to make the trees grow well or better for one season, but for at least fifty; and in my journeyings through the country, it gives me great pleasure to see fine thrifty orchards, which originally came from my hands. I am so entirely convinced of the propriety of shallow planting, both by reason and experience, that until I meet with much sounder and more forcible

arguments than my friend advances, I must continue to recommend the practice to my friends and customers.

He thinks a tree should be planted so deep that the roots shall be lower than the usual depth of a furrow, otherwise they will be injured by the plough. By this plan the upper roots must be placed 8 or 9 inches below the surface, and all the roots will be in the sub-soil; now if my friend had had as much experience in planting young apple trees, and had received as much information on the subject from others, who have been losers by deep planting, as myself and other nursery-men, he would know that a tree thus planted cannot thrive, but will barely live until new roots are thrown out where nature forms them—near the surface.

I believe it is as necessary to cultivate a young orchard as a corn-field, and not only for one or two seasons, but for many; and if it be properly done, the trees will not be injured, even if planted as shallow as the "fashion" and experience of nurserymen point out. My friend does not represent me quite fairly when he says I think it best to have the trees planted so shallow as to have the roots bare winter and summer; my words were, "in transplanting trees from a nursery, great care should be taken not to plant them too deep; let the upper roots be so near the surface of the ground, that a *little basin formed about the tree*, may expose the *upper part* of them to the sun and air."

Thus the upper roots may be two or three inches below the general surface of the ground; and for one or two seasons after transplanting I think it would be quite as well to keep the roots covered a little, and devote additional time and care in searching for the first indication of the presence of a worm; and I certainly did not mean to advise a neglect of a frequent examination for it; in doing which I would recommend the use of a piece of annealed wire, a few inches long, instead of a piece of tough wood. In ploughing an orchard of young trees, it is not necessary or proper that the plough should run nearer the tree than two or three feet; a spade will readily turn up the remaining space, and both the roots and the body of the tree will escape injury.

S. RHOADS, JR.

THE lovers of sweet flowers may derive advantage from the knowledge, that sandy or gravelly soils promotes the secretion of aroma. Those flowers of the richest perfume, are natives of sandy lands, Persia, Arabia, &c., and those in pots should therefore be supplied with a portion of sand or gravel.—*Western Farmer.*

For the Farmers' Cabinet.

Foul Air in Stables.

At the last meeting of the Philadelphia Agricultural Society, a member drew the attention of the company to the fact established by Liebig, in his late work, "Organic Chemistry," that plaster of Paris (gypsum) has the property of absorbing volatile ammonia; and urged upon all those who keep stock, the very simple mode by which their stables could be rendered perfectly sweet, healthy, and inodorous, merely by scattering abroad about a bushel of the pulverized gypsum per month on the floors, by which means the complaints and evils arising from the stench of confined stables—weak eyes, &c., would be prevented, the gypsum used being rendered far more valuable by such application, for the purpose of manure. He also very judiciously remarked, that the hay and fodder, which are generally deposited over our horses in their stables must become greatly contaminated by the penetrating effluvia of ammonia arising from the urine, which also might be remedied by the application above recommended. In Liebig's book, p. 238, are the following observations on this highly important subject.

"The carbonate of ammonia, formed by the putrefaction of urine, can be fixed or deprived of its volatility in many ways; if a field be strewed with gypsum, and then with putrefied urine, or the drainings of dunghills, all the carbonate of ammonia will be converted into the sulphate, which will remain in the soil. But there are still simpler means of effecting this purpose—gypsum, chloride of calcium, sulphuric or muriatic acid, and super-phosphate of lime, are all substances of a very low price, and completely neutralize the urine, converting its ammonia into salts, which possess no volatility. If a bason filled with concentrated muriatic acid is placed in a common privy, so that its surface is in free communication with the vapours which rise from below, it becomes filled, after a few days, with crystals of muriate of ammonia. The ammonia, the presence of which the organs of smell amply testify, combines with the muriatic acid, and loses entirely its volatility, and thick clouds or fumes of the salt newly-formed, hang over the bason. In stables, the same may be seen; the ammonia that escapes in this manner is not only entirely lost as far as vegetation is concerned, but it works also a slow, though not less certain destruction of the walls of the building, for when in contact with the lime of the mortar, it is converted into nitric acid, which gradually dissolves the lime; the injury thus done to a building, by the formation of the soluble nitrates, has received, in Germany, a special name—*salpeterfrass*.

The ammonia emitted from stables and privies, is always in combination with carbonic acid : carbonate of ammonia and sulphate of lime, (gypsum) cannot be brought together, at common temperatures, without mutual decomposition; the ammonia enters into combination with the sulphuric acid, and the carbonic acid with the lime, forming compounds which are not volatile, and consequently, destitute of all smell. Now, if we strew the floors of our stables from time to time with gypsum, they will lose all their offensive smell, and none of the ammonia which forms can be lost, but all will be retained in a combination serviceable as manure."

Then, would it not follow, that the more gypsum is used for the absorption of ammonia in our stables the better; and ought it not to be scattered plentifully over the bedding of our cattle, horses, sheep, and hogs, as the most economical mode of preparing it for use?

P.

Advantages of High Cultivation.

FURTHER inquiries have satisfied me that there is not a single crop well cultivated in New England, which will not, in ordinary seasons, pay a fair rent for the land, at current prices, and liberally compensate the labour and cultivation. Our proximity to quick markets gives great advantages over many parts of the country. In one of my visits to a town on the sea-shore of Massachusetts, in a region whose rock-bound surface seemed to set cultivation at defiance, I found several acres of land, subdued and improved at the rate of three hundred dollars per acre. Could this be afforded? Look at the case.

The land was made to produce three tons of hay to the acre. The price of hay in the vicinity has averaged for years, at least fifteen dollars. The value of one ton of hay per year, is sufficient to gather the crop and keep the land in condition: thirty dollars, then, are the nett return for the investment. These are examples of extraordinary expenditure and ample profits.

The crop of Indian corn is the greatest blessing to our country. The average crop in New England is thirty bushels. It is not difficult to produce fifty to an acre. I have known one hundred and eleven produced on an acre in Massachusetts, as measured after being shelled and dried. At fifty bushels per acre, rating the rough fodder as equal to a ton of English hay, and the grain at seventy cents per bushel, the return may be considered as equal to fifty dollars. Thirty dollars may be considered a high average price for cultivation, and this, including the interest upon the value of the land, at fifty dollars an acre.

HENRY COLMAN.

Work for August.—Garden.

CABBAGES—of all kinds may now be planted out; those already out must be kept clean.

Radishes—for fall use may now be sown.

Small sallading—of all kinds may now be sown.

Celery—plant out celery, and water in dry weather.

Strawberries—clean old beds and plant new, choosing the strongest runners for this purpose; well manuring and cultivating the soil by deep digging, or trenching, watering in dry weather.

Asparagus beds—must now be cleaned and dressed.

Peas and beans—for autumn use or pickling must now be planted.

Brussels sprouts, or kale—sow now, for spring use.

Cabbage-seed—for spring use must now be sown; the Early York, and other varieties, on a well-prepared seed-bed of fine mould.

Cucumbers, melons, &c., for pickles, must now be planted.

Fruit-trees—must be well attended to, and frequently dressed at the root with soap-suds, with which wash also the stems of the trees and branches, to loosen the bark and destroy worms with their eggs.

To the Editor of the Farmers' Cabinet.

Lime Ashes.

CAN any of your readers account for the almost total worthlessness of the ashes from a lime-kiln, when compared with the regularly-burnt stone?—which fact can be ascertained, each one for himself, by experiment, without much labour or cost. That such is the case, the writer entertains no doubt, being informed by a most respectable and peculiarly correct, practical husbandman, that he once made the trial of one thousand bushels, that had been carefully deposited under a shed, as often as it was drawn from the kiln, to protect it from the weather, when, to his great surprise and mortification, no beneficial result was experienced from the application, either at the time of spreading or afterwards. Can its inefficacy arise from its having undergone a sort of *sublimation* by over-burning? Would some of your scientific correspondents be pleased to take the matter into consideration and inform us of the result, with the *why* and the *wherefore*. CALX.

How much happiness in this life depends upon a cheerful disposition! It is not only pleasant in itself, but is the cause of pleasure to others. Gloom and discontent make an unhappy home, and only serve to feed the evil that they war against.

Orcharding.

WHEN the profits of a good apple-tree are considered, some being known to give twenty dollars worth of fruit a year, it is surprising that more attention is not paid to orchards. Mr. Marret, a clergyman of some town in Maine, dependent on a scanty salary, contrived to give his two sons a liberal education from the avails of an orchard, cultivated by his own hands. Most men think, if they plant an orchard now, or even engraft one already planted, they may not live to derive any advantage from it — the fact is, too many cultivate their land more with a view to present profit than to more lasting benefit in future years, and this accounts for such bad management as is witnessed around us.

The present season, Mr. Peter Foster, whose orchard was noticed in the *Monthly Visitor* for August last, came over and spent the greater part of two days upon the little orchard attached to our premises; on some of the trees he placed as many as twenty-five to fifty grafts, first taking off the limbs that were unnecessary to the proper shape of the tree, and filling those that might be usefully left with two scions each; and with this stock, another limb was left to be resorted to, in case both grafts should fail. In this state, the trees were left until about a fortnight since, when on viewing them, and finding that most of the scions had started from the bud, Mr. Foster stripped one of the trees of its super-numerary limbs and branches, leaving directions to have the others treated in the same way; and this has since been done, the trunks of the trees standing divested of their foliage, except only the grafts themselves. The grafting took place on the 10th of May, and the stripping was performed about the 10th of June: the trees now present a beautiful appearance, and knowing that all the foliage upon them has sprung from the small shoots that were inserted only this spring, the idea associates itself with the appearance, that a tree of sour and distasteful apples, is, in a few weeks, converted into a tree soon to bear the choicest fruit. By this operation, we can readily perceive how the bearing of grafted fruit-trees may be hastened — the whole sap of the tree is at once thrown into the grafts, which will probably grow more the first season than they would have done in four, while the roots and body of the tree were affording nourishment to their natural limbs, and foliage of ten times the amount. Some of the newly-grafted scions had blooms upon them the present season, which will not, of course, be expected to produce fruit; but it would not more surprise us, to have those scions bear next year, than it has, to witness the progress which they have already made.

The orchard which has been grafted and

nurtured by Mr. Foster, at Canterbury, only six years ago, produced last season something like one hundred bushels of the choicest fruit, and the product will soon be increased tenfold; it has now seven hundred trees, embracing most of the choicest kinds of apples produced in New England, and in half-a-dozen years more, no orchard in the state will probably compare with it. — *Monthly Visitor*.

To the Editor of the *Farmers' Cabinet*.

The Carrier Pigeon.

SIR, — I see by the late English papers, that these messengers were in requisition to convey the result of the Derby stakes to London — the distance from Epsom, where the races were held, is fifteen miles, and the papers say, "The flight of pigeons, carrying the all-important result to London and elsewhere, was the largest ever witnessed, and proves the increase of this favourite mode of transmitting intelligence. The result was known in London in sixteen minutes from the termination of the race." So, it would appear that the ordinary rate of flight is about one mile a minute! It is added, "It was a singular sight; one after another was let off, each pigeon having a slip of paper tied to his wing or to his foot, on which was written the word 'Coronation': they all rose very high into the air, made several circular sweeps, and then suddenly darted off like an arrow, to the place of their destination." The account concludes, "The races were attended by more than 100,000 persons; immense sums of money were lost and won, and there was an inconceivable amount of vice and crime perpetrated!"

D.

I HAVE observed, that a married man falling into misfortune, is more apt to retrieve his situation in the world than a single one; partly because he is more stimulated to exertion by the necessities of the helpless beings who depend upon him for subsistence: but chiefly because his spirits are soothed and relieved by domestic endearments, and his self-respect kept alive by finding that though all abroad is darkness and humiliation, yet there is still a little world of love at home, of which he is the monarch. Whereas, a single man is apt to run to waste and self-neglect; to fancy himself lonely and abandoned, and his heart to fall to ruin, like some deserted mansion, for want of an inhabitant. — *Washington Irving*.

THE size of a plant is proportional to the surface of the organs which are destined to convey food to it. A plant gains another mouth and stomach with every new fibre of root, and every new leaf.

Premiums

Proposed by the Philadelphia Society for Promoting Agriculture, for the Exhibition to be held on the 29th and 30th of September, 1841, at the Old Rising Sun Tavern, Germantown road.

HORSES.

- For the best thorough-bred Stud Horse \$10
- For the next best do. do. { Certificate of Merit.
- For the best Stud Horse adapted to the field and road 10
- For the next best do. do. certificate.
- For the best thorough-bred Brood Mare 10
- For the next best do. do. certif.
- For the best Brood Mare adapted to the field and road 10
- For the next best do. certif.
- For the best Horse Colt between 2 and 3 years old 8
- For the next best do. do. certif.
- For the best Filly or Mare Colt, do. 8
- For the next best do. do. certif.
- For the best Horse Colt between 1 and 2 years old 5
- For the next best do. do. certif.
- For the best Filly, do. 5
- For the next best do. do. certif.

NEAT CATTLE OVER TWO YEARS OLD.

- For the best Durham Bull over 3 years old \$10
- For the next best do. do. certif.
- For the best do. between 2 and 3 years ... 8
- For the next best do. do. certif.
- For the best Devon Bull 8
- For the next best do. certif.
- For the best Ayrshire Bull 8
- For the next best do. do. certif.
- For the best Alderney do. 8
- For the next best do. do. certif.
- For the best Durham Cow over 4 years old 10
- For the next best do. do. certif.
- For the best do. do. between 2 and 4 years old 10
- For the next best do. do. certif.
- For the best Devon do. do. 8
- For the next best do. do. certif.
- For the best Ayrshire do. 8
- For the next best do. do. certif.
- For the best Alderney do. 8
- For the next best do. do. certif.
- For the best Cow of any other breed 8
- For the next best do. do. certif.
- For the best Ox or Steer raised in Pennsylvania .. 10
- For the next best do. do. certif.

NEAT CATTLE UNDER TWO YEARS OLD.

- For the best Durham Bull between 1 and 2 years old \$6
- For the next best do. do. certif.
- For the best bull of other improved breed do. 6
- For the next best do. do. certif.
- For the best Durham Bull Calf between 4 months and 1 year old 5
- For the next best do. do. do. certif.
- For the best Bull Calf of other breed do. 5
- For next best do. do. do. certif.
- For the best Durham Heifer between 1 and 2 years old 6
- For the next best do. do. do. certif.
- For the best do. do. of other improved breed 6
- For the next best do. do. do. certif.
- For the best Durham Heifer Calf between 4 months and 1 year old 5
- For the next best do. do. do. certif.
- For the best Heifer of other improved breed 5
- For next best do. do. do. certif.
- For the best Steer between 1 and 2 years old 5
- For the next best do. do. do. certif.

SHEEP.

- For the best Long-Wooled Buck \$4
- For the next best do. do. do. certif.
- For the 4 best do. do. Ewes 5
- For the 4 next best do. do. do. certif.
- For the best Short do. Buck 4
- For the next best do. do. do. certif.
- For the 4 best do. do. Ewes 5
- For the 4 next best do. do. do. certif.
- For the 4 best Lambs of any breed 4
- For the 4 next best do. do. certif.

Hogs.

- For the best Berkshire Boar over 1 year old \$4
 - For the next best do. do. do. certif.
 - For the best do. do. under 1 year old 3
 - For the next best do. do. do. certif.
 - For the best do. do. Sow over 1 year old 4
 - For the next best do. do. do. certif.
 - For the best do. do. under 1 year old 3
 - For the next best do. do. do. certif.
 - For the best brood of Pigs, not less than 5 4
 - For the next best do. do. certif.
- Similar premiums will be allowed for the same classes of hogs of other breeds.

No animal that has previously taken the Society's First Premium, will be allowed to compete in the same class.

The above-named Stock must have been owned and kept in Pennsylvania, 6 months, (if of that age,) previous to Exhibition, to be entitled to compete.

AGRICULTURAL IMPLEMENTS, &c.

- For the best Plough \$5
 - For the next best do. certif.
 - For the best Drilling Machine 3
 - For the next best do. do. certif.
 - For the best Grain or Grass Sowing do. 4
 - For the next best do. do. do. certif.
 - For the best Mowing or Reaping Machine 6
 - For the next best do. do. do. certif.
 - For the best Straw and Hay Cutter 4
 - For the next best do. do. do. certif.
 - For the best Root or Vegetable Cutter 4
 - For the next best do. do. do. certif.
 - For the best Corn Sheller 5
 - For the next best do. certif.
 - For the best Display of Agricultural Implements 6
 - For the next best do. do. certif.
 - For the best Display of Agricultural Produce, such as grain, butter, plants, &c. 6
 - For the next best do. do. certif.
- Any newly-invented Agricultural apparatus will be entitled to appropriate premiums.

The Judges are authorized to withhold premiums where none is entitled to distinction; and where but one of a class is exhibited, they will award such premium as they think it merits. Those who intend to compete, must inform the Committee of Arrangement, before 11 o'clock on the first day of Exhibition.

All Stock, &c., contributed, must remain on the ground during the two days of Exhibition; and all Stock intended for sale, will be required to be registered in a Book provided by the Committee of Arrangement, at the following rates: For each horse, \$2; for neat cattle, \$1 each; for hogs and sheep, 50 cents each.

- | | |
|------------------|----------------------|
| KENDERTON SMITH, | JAMES PEDDER, |
| FRANKLIN COMLY, | P. R. FREAS, |
| JAMES GOVEN, | ALGERNON S. ROBERTS, |
| AARON CLEMENT, | OWEN JONES, |
| GEO. W. ROBERTS, | |

Committee of Arrangement.

July 14, 1841.

DANIEL ZOLLICKOFFER, of Carroll County, Maryland, and Joseph Sharp, Merchant, of Philadelphia, have just received a small invoice of the true Turgid Wheat, (Cone species,) by the ship Thomas P. Cope, which they had specially ordered two or three months since, intended only as an experiment.

In the event of its fully sustaining in this country the high reputation it bears in England, with reference to its adaptation to clay soils, the farming community will be notified in due time of the fact, and can then supply themselves accordingly.

The month of August being the best in which to sow the English broad Turnip for cattle, every rod of unoccupied land should be ploughed up and seeded with this crop, to form a supply for winter use. There will still be sufficient time to bring them to maturity; and every one knows from the experience of last winter, what will be the value of two or three hundred bushels extra of turnips, if such another trying season awaits us; the land upon which they are grown deriving a benefit from extra tillage quite equal to the expense of the labour. Let no one forget that "Winter follows on the heels of harvest."

To Subscribers.

THE science of agriculture is at length beginning to demand from the community the regard which has ever been its due. In all parts of the world it is receiving the homage of the great and wise, the learned and the powerful; kings and princes and the nobles of all lands are vying with each other in the attempt to subserve its purposes, and in the most distant regions of the earth are its demands heard and acknowledged by all classes and denominations.

In no country, however, ought it to be more highly cherished than in this; blest as we are with a soil of unbounded extent and fertility, with fruitful and early seasons, a vast amount of population, and a prospect of future well-being and prosperity;—in such a land it is, that the science and practice of agriculture should take precedence of all other occupations and employments; for what would become of the immense masses of people which immigration is bringing to our shores, and trade and commerce are forcing into existence, were it not for the all-creating power of agriculture! It is from this source they can alone be fed, in all the vicissitudes of commercial advance and decline; for it is evident that no means can be adapted to an increase of population, but the incessant cultivation of the soil!

Nothing is so well calculated to subserve this great cause as the periodical publication of what is taking place on the important subject amongst the cultivators of the soil around us; thus forming a medium of communication and register of events between distant parts of the country, by which each might know what others are doing, and be taught by practical experience, the best means of obtaining the end in view.

The Farmers' Cabinet, now in its sixth year of publication, is peculiarly devoted to this purpose; its pages are open to contributors, who also might wish to use them for the purpose of inquiring what are the prospects and usages of their fellow-labourers in the cause throughout the world. Such an interchange of good offices and kind feelings must tend to the furtherance of the object in view, and stimulate the best powers of the mind and body towards its attainment.

To Postmasters.

THE franking privilege in aid of the agricultural press of the country, which has been extended by the liberality of the general government to all postmasters,

has given them the enviable opportunity to assist, in a most efficient manner, in the spread of agricultural science, throughout the length and breadth of the land—and numerous are the proofs we are constantly receiving, that such a privilege has not been conferred in vain. We are aware, however, that their influence has often been solicited in aid of trivial and unworthy publications; and it is not, therefore, matter of surprise, if some of them should be inclined to reject applications of this kind, without much examination into the real merits of the work.

We readily admit that no periodical is fairly entitled to the benefit of this liberal provision, which is not calculated to advance the substantial interests of the community—and to this test we would confidently refer the claims of the "Farmers' Cabinet," while we solicit the kind co-operation of postmasters throughout the Union, by promoting its circulation in their respective neighbourhoods; and we think they would be willing to do this, if they would only reflect on the great benefits they might thus bestow on their country, in the way of furthering the success of one of the noblest of causes, and adding, in an eminent degree, to the spread of that science which is enabling us to feed the hungry even of those countries, to which not long since we were looking for the means of subsistence. By their kind co-operation we are enabled to transact business in the most distant parts of the Union, their agency making plain the path before us; and will they be pleased to accept from the proprietors and publishers of the "Farmers' Cabinet and American Herd-Book," their best acknowledgments.

Philad., Aug. 15, 1841.

WE would again remind our friends of the terms of subscription; by an observance of them, they would enable us to fulfil our terms of engagement with pleasure to ourselves and advantage to our subscribers. The fifth volume of the Cabinet may now be had, neatly bound and lettered, price \$1.25, by application at the office—where also may be obtained complete sets from the commencement, at five dollars half bound, together with all the standard works on Agriculture, Botany, and their relative branches; Science and the Arts.

The quantity of rain which fell during July (7th month,) was 3.28 inches.
 Pennsylvania Hospital, 8th mo. 1, 1841.

THE FARMERS' CABINET,

IS PUBLISHED BY

KIMBER & SHARPLESS, No. 50 NORTH FOURTH STREET, PHILADELPHIA.

It is edited by JAMES PENDER, and is issued on the fifteenth of every month, in numbers of 32 octavo pages each. The subjects will be illustrated by engravings, whenever they can be appropriately introduced.

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By the decision of the Post Master General, the "Cabinet," is subject only to newspaper postage: that is, one cent on each number within the state, or within one hundred miles of the place of publication out of the state,—and one cent and a half to any other part of the United States—and Post Masters are at liberty to receive subscriptions, and forward them to the Publishers under their frank—thus affording an opportunity to all who wish it, to order the work, and pay for it without expense of postage.

THE FARMERS' CABINET, AND AMERICAN HERD-BOOK,

DEVOTED TO
AGRICULTURE, HORTICULTURE, AND RURAL AND DOMESTIC AFFAIRS.

"The Productions of the Earth will always be in proportion to the culture bestowed upon it."

Vol. VI.—No. 2.]

9th mo. (September,) 15th. 1841.

[Whole No. 80.]

KIMBER & SHARPLESS,

PROPRIETORS AND PUBLISHERS,

No. 50 North Fourth Street,
PHILADELPHIA.

Price one dollar per year.—For conditions see last page.

For the Farmers' Cabinet.

Farming a "Miserable Business."

MR. EDITOR,—The first article of the last No. of the Cabinet reminds me of a very interesting account of a conversation in the way of dialogue, by Professor Colman, from which it would appear that farming ought to be "cracked up," if, with such management on such a farm, a family of eleven persons can be supported, without coming out at the little end of the horn at the *end of the year*. The truth is, farmers *ought* to debit themselves with all that they consume, charging market price for every article; for why should the expenses of a family be drawn from the *land* without credit being given, any more than from a business in *trade*—which no one thinks of. By inserting the following, you will be doing a service to the community generally, and oblige
AN OLD SUBSCRIBER.

F. Ah, farming's a miserable business.

A. But why? What is the estimated value of your farm?

Four thousand dollars.

Is it increasing in value?

Yes, by its favourable location, and by every improvement that is made upon it.

Do you get from it all the produce which it can be made to yield?

No, not one-third. It consists of one hundred and twenty acres. At least fifty acres of it are in wood, and a considerable portion in pasture. Besides that, I have several acres of peat bog, which might be redeemed and brought into English grasses.

What is the value of the wood land?

We supply our family with fuel, and besides this, the growth of the wood and hoop-poles which we obtain from it, pays a larger interest on the current value of the land, so that we consider this as one of the most profitable parts of the farm.

Have you done any thing to improve your pasture lands?

CAB.—VOL. VI.—No. 2.

No—I suppose I ought to. I tried one hundred weight of plaster spread upon a part of it, and the effects were visible as far as the land could be seen, but then after that plaster rose half a dollar on a ton, and I thought I could not get any more. Then the huckleberry bushes and the sweet fern, and the rushes and alders have come in, so that I cannot keep so much stock as I could formerly.

Have you attempted any improvement upon your bog meadows?

No,—sometimes I have thought I would. My neighbour, J. B., has redeemed eight or ten acres, and now gets two tons and a half of hay to the acre, herd's-grass and clover and red-top of the best quality, where formerly he got scarcely any thing; but then it cost twenty or twenty-five dollars an acre to drain and manure it; and he will have to top-dress it at least once in five years, or it will never hold out. Then, too, he has put on at least half a bushel of grass-seed to the acre; and grass-seed, which I used to buy for twelve cents a pound, or two dollars and a half per bushel, is now twenty cents a pound, and herd's-grass three dollars per bushel. Then, too, labour is so high, I cannot afford to hire.

Have you plenty of manure?

No—that is a great want. I have a bog hole where I suppose I could get two hundred loads a year, but then I should have to go more than a mile for it, and it is wet work. I have not any of the advantages which the farmers who live within six or seven miles of Boston have, and can go in and buy a load of good dung whenever they want.

Do you know what these farmers have to pay for manure in Boston?

Why yes. I have been told they have to give sometimes from three to five dollars a cord at the stables. Sometimes our tavern-keeper sells a few loads, but he asks five dollars a cord.

Have you a barn cellar?

No; I have often thought it would be a very good thing, and my barn is well situated for one; but then it would cost, besides what work I should do with my own team, full fifty dollars to make one.

Do you keep cows?

Yes, I keep some just to eat up our coarse
(41)

fodder; but our women folks do not like dairy work, so we buy our butter and sell our milk to the milk man for about eleven cents a gallon.

Do you keep swine?

Only one or two for our own pork. We do not have any skimmed or butter-milk for them. Besides, there is no great profit in fattening hogs. They will not much more than pay for what they eat. I know they will make a large quantity of manure, but then you must cast in a great deal of stuff into their pens or else they can't make any. But come, I must show you a sow I have got; she is only fifteen months old, and I sold her pigs for more than forty dollars. I suppose I shall make her weigh four hundred in the fall.

Do you raise your own grain and potatoes?

Not all. I raise about three acres of corn and about as much rye, and about six hundred bushels of potatoes. We sell hay and buy Genesee flour. We have tried wheat, but sometimes it blasted, and it don't make white flour, and our women folks say that they cannot make handsome pie-crust or white bread with it.

How many have you in your family?

I have a wife and eight children, and my father lives with me.

Have you any trade?

No, I have nothing but my farm.

Does your farm support your family and pay your labour?

Why yes; I have nothing else, except a little interest that comes from some money which I received for the sale of wood from off the farm some time ago, which came to about five hundred dollars, and which I put out at interest. We sell enough produce from the farm to pay our hired labour, which costs about a hundred dollars a year, and our store bills and taxes.

We have very much abridged this conversation, and we shall leave it without farther comment. But here is a husbandman on a farm valued at four thousand dollars, not producing more than one-third of what it might be made to produce, yet supporting a family of eleven persons, and paying all expenses, excepting the labour and superintendence of one man, and the farm gradually increasing in value by every expenditure, however small, for its improvement; this man, too, not working half the time, and he and his family living in the enjoyment of all the luxuries which you can reasonably ask. Let such a man, if he will, take his two hundred and forty dollars income, and labour no more hours than he does in the country, and go into Boston and try to support his family there. The end of the year would make him ashamed to com-

plain of his present condition. His whole money income of two hundred and forty dollars would scarcely pay for his fuel, his taxes, and the rent of a ten-footer. What an evil it is that our farmers do not know their blessings!—*N. Eng. Far.*

For the Farmers' Cabinet.

Preservation of Plants in Pots.

MR. EDITOR,—I have a desire to acquaint you with the mode by which I succeeded the last winter in preserving my plants, while many of my neighbours lost all theirs, some by *over* and some by *under* nursing. It is customary, we know, to place the plants either in the garret or the cellar as a place of protection during the winter, but experience has proved that these extremes are equally unsuitable for the purpose; so also is the room in which we usually reside, as well as the kitchen, these being too uniformly warm, while an out-house is too cold. Now, taking these things into consideration, and being desirous to save some very favourite plants in pots the last winter, I determined to try how the atmosphere of the bed-room—without fire—would suit them, and I found that to be exactly the place, for I saved every plant, and they came out in the spring perfectly strong and healthy. The way I did was this:

I first fastened down the *upper* sashes of the windows, and then placed shelves around the walls within two feet of the ceiling, and upon them I ranged the plants, which were thus kept in a pretty even temperature, especially by night; and when the windows and doors were thrown open during the day for the purpose of airing the room, the plants were *above* the current of air, which passed either into or out of the room, that never reaching to the ceiling, as all draught was cut off by fastening down the upper sashes. And here they stood, fresh and green, without heat sufficient to force forward vegetation, or cold to freeze the earth in the pots during the whole of the winter. It was necessary to exercise caution in the supply of moisture—this being given only in fine, open weather, in the morning, and in very small quantity, sometimes sprinkling the leaves slightly—and in the severest part of the winter I never had a leaf frozen. I should add, I took the precaution, when the weather was at the very coldest, to set each pot containing the plant into an empty one rather larger than it, filling the interspace with dry sawdust, which so effectually protected the earth from frost, even when the thermometer was very low, that not a plant ever suffered in the least; being careful, however, to remove these casings so soon as all expectation of such very severe cold had passed away, or premature

vegetation might have been encouraged. I frequently satisfied myself of the correctness of the mode which I had adopted, by testing by means of the thermometer the temperature of the atmosphere at the bottom of the room near the floor, and around the pots near the ceiling, and the difference was quite sufficient to convince me that the reasoning was just. My plants are now very strong and healthy, and I attribute their thrift to the circumstance of covering the surface of the mould in the pots with a small quantity of well-rotted manure—thus practising the principle of top-dressing, for the idea of which I am indebted to the pages of the Cabinet.

A thought has this moment struck me;—we see how often the plants of a green-house, or those that have been preserved through the winter, when put out in the summer on frames or otherwise, are found to suffer through the heat of the sun and the drying influence of a scorching wind; and how much better they do if they are removed to the border and the pot be plunged into it; but as this is often not convenient or desirable, would it not be an excellent substitute to place each pot into a casing—another or outside pot, which might be painted white, to prevent the absorption of heat, even under a mid-day sun? And this, I conceive, would not be all the advantage to be derived from the plan proposed, for we know that the nights soon grow cold, and long before the season for removing the plants to the green-house, how often must they be chilled by the night air after a scorching day's sun, penetrating through the thin covering of a single pot—the thickness about the fourth of an inch only—between the cold atmosphere and their tenderest roots. Now all these vicissitudes might be guarded against, merely by placing the pot containing the plant into another—a common size larger—which would not be troublesome, expensive, or unsightly. I mean immediately to adopt it. FLORA.

August 20, 1841.

Protection against Drought.

IN tillage, the best protection against drought that can be conveniently practised to a great extent, is frequent stirring the earth, so as to keep it light and loose. In this way, the earth at the surface is in many small particles, which serve as a non-conductor of moisture, and retain it below, where the roots obtain a supply.

On the contrary, when the earth is hard and compact, the moisture is readily conducted off through it, even to a great depth in a very dry time. As an illustration, if one end of a long bar of iron be put into a fire, the heat will readily pass to the other end; but if that bar be cut into pieces of one inch or less

in length, and laid along in the manner of a bar, the pieces would touch in some places, and in others there would be a small space between them; and on heating one end, the other would not be affected, as the heat would not pass but a small space through the pieces.

Again, we will suppose that a fire of intense heat be made on a block of iron that is four feet square, and ten feet high, the body of iron would fast become heated downward, even to the bottom. Now, if that iron should be cut or broken into fine pieces, and a body of iron formed of these pieces, of the same size as the block, and a fire of a like degree of heat made thereon, the heat would work down slowly, after penetrating a small distance through the many particles, and the air intervening between them. We give this as the theory. It is the practice, as in all other things, that we rely on as the foundation of true science.

There is, in a dry time, a great quantity of moisture in the earth, that is continually rising and passing off in evaporation; and if this evaporation can be prevented, in a great measure, by a non-conductor of moisture at the surface, the plants will suffer comparatively but little. This is abundantly shown in practice.

Those who have not witnessed from experiments and observation the advantages of fine loose earth on the surface, as a protection of plants against drought, would not be likely to suppose its effect so great as it is, though the theory is plausible and reasonable. Corn and other vegetables that have been well hoed, in extremely dry times, have flourished well, while some parts left for experiment were nearly destroyed by drought.

We noticed the powerful effects of this protection last season. We cultivated a few acres, mostly dry land, and the drought was severe indeed. Where the soil was frequently stirred and kept light and loose on the top, there was a constant moisture a short distance from the top; but where the earth remained unmoved, it dried to a great depth.

A narrow strip, running across the piece, was left for turnips, and remained unploughed. On this the soil became dry below the usual depth of ploughing, and the weeds were almost dead for want of moisture, while at the side, weeds of the same kind in the edge of the ploughed ground, were fresh and vigorous, and the soil was dry only a few inches on the surface.

Where some grain was sowed, the earth was dry down six or seven inches; while by the side of it, where the soil was often stirred, it was dried down only three or four inches. And in this latter case, the moist earth had a good degree of moisture, while the former contained but little.—*Yankee Far.*

For the Farmers' Cabinet.

Seasoning of Wood.

MR. EDITOR,—I have felt much interest in the papers which have appeared in the Cabinet on the most proper time for cutting timber, and the mode of seasoning it by means of fire, by which the sap is extracted, leaving nothing to ferment and become food for worms; and can readily believe that there is truth in the view which is there taken. All admit that if the sap could be extracted, the timber would be rendered exceedingly more durable, and it would appear that to cut it while the sap is flowing and submit it to the action of fire, is an effectual way of accomplishing the end, as well as a cheap and easy mode of performing the operation. In the number of the Cabinet for May, we were promised an account of experiments about to be made on this subject; we should be glad to become acquainted with the results. In the meantime, there is a very interesting chapter in "Tredgold's Elementary Principles of Carpentry," on the seasoning of timber, which would, it is thought, be valuable, were you to lay it before your readers; it is therefore copied and offered to your acceptance.

"Langton's method of Seasoning Timber by the direct extraction of the sap.—As green wood consists of woody fibre saturated with the fluid called the natural sap of the tree, it is obvious that a method of separating this sap without injury to the woody fibre, is one of the most important discoveries that has been made in the management of timber. From three to five years is, in the usual method, necessary to render green wood fit for use; and for so long, not only is the interest of the capital employed to purchase it lost to the consumer, but also the manufacturer must have a larger capital to conduct his business than with a quicker mode of drying. In ship-building, the disadvantages of the slow progress of seasoning by the natural air of the atmosphere are most evident. When green wood is placed in the receiver of an air-pump, as the air is exhausted by the pump, the sap, being no longer confined by the atmospheric pressure, separates from the wood; and if heat be applied so as to convert this sap into vapour, as fast as it arrives at the surface of the wood, and the means of condensing the vapour be provided, the whole of the sap will soon be extracted from the wood; and this is the nature of Mr. Langton's process. In practice he employs upright cylinders of iron to contain the wood, into which the pieces are lowered by a crane, and raised again when the operation is finished. Steam is used to produce a partial vacuum in the cylinders after the wood is in and the covers closed,

and heat is applied by means of a water bath surrounding the cylinders. The vapour of the sap is conveyed away and condensed by another apparatus. The wood seasoned in this manner rather exceeds the usual density of the same kind equally dry, and loses about the same weight as in seasoning by the common process, with somewhat more shrinkage. The time when the process is over is easily known by the liquid ceasing to collect in the condensing part of the apparatus; and in regard to expense, it appears that to season, or rather to extract the whole of the sap from green wood, will require from 8 to 12 weeks; the timber so prepared, being fit for any purpose, as it is not that degree of dryness called *seasoning*, but the whole of the sap is extracted."

In regard to the time required to season, much must depend on the size of the timber submitted to the operation. Dr. Watson found that a small piece of a large ash cut from the middle of the tree after it had been felled six weeks, lost, merely by exposure to the atmosphere, nearly one-fifth part of its weight in seven days; and on a subsequent trial, after five months, it had lost no more of its weight, showing that it had become perfectly dry in the short space of seven days. A cubic foot of oak which, fifteen days after felling weighed 58.74 lbs., weighed, after 3 months' exposure, 56.18 lbs.,—the same, when perfectly dry, weighed 39.27. J. D.

Profitable Farming.

THE question is often asked, How can farming be made profitable? I answer, by liberal manuring, deep and thorough ploughing, and clean culture. I will venture to affirm, without fear of contradiction, that no instance can be cited, where a farmer who has manured his grounds highly, made a judicious use of the plough, and cultivated with care, has failed to receive an ample remuneration for the amount invested; nay more, that he has not received a greater advance upon his outlay, than the average profit derived from any other business. One great difficulty is, that most farmers seem not to be aware of the fact, that the greater the outlay, to a reasonable extent, when skillfully applied, the greater will be the profit: they therefore manure sparingly, plough shallow, and the consequence is, get poorly paid for their labour. This has raised a prejudice and given a disrelish to the business of farming, especially among those who are in the habit and are desirous of realizing something more from their occupation than a naked return of the amount expended.

The farmer who is so sparing of his manure that he can get but thirty bushels of corn from an acre, gets barely enough to pay him for the expense of cultivation, and in ad-

dition to this, by the ordinary method of ploughing, his field, at each successive rotation, is deteriorating, his crops becoming less, and in a few years he finds he must abandon his exhausted and worn-out fields to seek a subsistence for himself and family in some other business, or in some other region, where the hand of man has been less wasteful of the bounties of nature.

Instead, then, of his scanty manuring of ten cart-loads to the acre, which will give him but thirty bushels of corn, let him apply thirty loads. This additional twenty loads, at the usual price of manure in this part of the country, will cost him thirty dollars. But he now, instead of thirty bushels of corn, gets sixty bushels, and the increased quantity of stover will more than pay for the excess of labour required in cultivating and harvesting the large crop over that of the small one. He has then added thirty bushels of corn to his crop by means of the twenty loads of manure, which at the usual price of one dollar per bushel, pays him in the first crop for his extra outlay. His acre of land is laid to grass after taking off the corn, and the effect of his twenty loads of additional manuring, will be to give him, at the lowest estimate, three additional tons of hay in the first three years of mowing it, worth fifteen dollars a ton, standing in the field. Now look at the result. His thirty dollars expended for extra manuring was paid for in the first year's crop, and at the end of three years more, he will have received forty-five dollars profit on his outlay of thirty dollars, and in addition to this, his land is improved, and in much better condition for a second rotation. There is no delusion in this. It is a practical result, of the reality of which any farmer may satisfy himself, who will take the trouble to make the experiment.

From no item of outlays can the farmer derive so ample, or so certain a profit, as from his expenditures for manure to a certain extent. This has been most strikingly verified by some of our West Cambridge farmers. It is not uncommon among some of the farmers in that town, to put on their grounds one hundred dollars' worth of manure to the acre; and in more instances than one, the gross sales of produce from ten acres under the plough have amounted to five thousand dollars in one season. This is the result of high manuring and the judicious cultivation of a soil, too, which is exceedingly poor and sandy.

—E. Phinney.

If you would be remembered by posterity with gratitude, transplant each year a few trees to the spot on which you live, and attend carefully to their cultivation.

For the Farmers' Cabinet.

Rotation of Crops.

THE importance of a rotation of crops is indeed a subject of vast moment. De Condolle, the celebrated botanist, has discovered and verified by satisfactory experiment, that of the nutriment which all plants receive and digest, they exude an inconsumable or innutritive portion by their roots, and that this excrementitious matter unfits or poisons the soil for a second crop of the same kind, until it is either consumed or neutralized by cultivation; this very matter, however, proving nutritious to other and different kinds of plants. And from thence he argues that one crop of grain should not be succeeded by another of the same description — wheat after wheat, oats after oats, &c.; nor, reasoning from analogy, ought wheat to follow oats, as they are too nearly allied in their natures, and are supposed to feed on the same pabulum, both also coveting the same description of soil — that which is cool and rather heavy. The fact above-stated fully accounts for the failure of the clover crop, if sown often on the same land. The fibrous-rooted plants always succeed best after those that are tap-rooted; hence arises the incalculably profitable system of the turnip husbandry in England, by which they are enabled to raise crops of grain of the finest quality and in almost double quantity; at the same time carrying forward the improvement of the soil to an almost indefinite extent, to which might be added, the means of supporting double the quantity of stock of all kinds, by introducing the different varieties of the roots, green crops for soiling forming a link in a system by which the farmer is enabled to pay in rent, tithe, and taxes, a sum which in almost every other country would be found absolutely insupportable.

It is a *change of crops* that we want—and by it, I sincerely believe that we should be relieved from one half the evils which now assail us in the shape of blight, smut, rust, mildew, root-rot, studs, and a dozen others, whose very names would then be forgotten—a *healthy crop* being oftentimes proof against this host of pestilences; and such a crop generally springs from a well-cultivated, unexhausted soil, not, however, made rich by the immediate application of large quantities of rank manure; for, valuable as these may be in forcing on green crops to be mown for hay or fodder, I am convinced they are of great injury to the production of all kinds of grain.

J. SAUNDERS.

York County.

LABOUR and capital judiciously applied to the improvement of agriculture, are a no less sure investment than in any other business.

For the Farmers' Cabinet.

Shade Trees.

MR. EDITOR,—In a late conversation with Mr. John Vaughan, I took occasion to bring to his notice the highly graphic letter of Mr. Solon Robinson, at page 18 of the last number of the Cabinet, "On planting Shade Trees," as also your note in explanation; when he made the following observations, which ought, I think, to be recorded. He said:

"When my father planted the trees in Independence Square, he was careful to place the variety of the American elm in the outer row, that their wide-spreading branches might form a more ample shade in the adjoining streets; but the double row of trees leading to the entrance of the State-House, were a species of the English elm, that their high and upright branches might form arches or "cloistered boughs" above the walk, leading from the gate of the square to the door of the building. As they grew up, however, they were found to be affected with a worm or caterpillar—said to have come originally from India—and which annually visited them, by which they were at length so much injured, that it was found necessary to remove them, their bark being undermined from bottom to top, and coming off in long strips: with them the evil ceased, and then the rows of trees which are now growing there, were planted. Now, it was said and believed, that this insect came from India; but hearing, some time after, that a solitary tree in the country was every year affected in the same way, I took occasion to go and examine it, when I found it to be the same description of tree, attacked by the same description of insect and precisely in the same manner! proving that, whatever it was, it had been bred on the spot, and had never been to India at all.

"Ah, I once knew a very old man that planted every year a number of trees 'for posterity,' who, on being asked by some young people why he was so foolish, knowing that he would never live to enjoy their fruit or shade, replied, I am planting for myself, but if I die they will not be lost, for posterity will then enjoy them. There is one tree, however, that ought never to have been planted in our streets; it is the Lombardy Poplar, a worthless, unsightly tree, except in one particular spot—around the lone dwelling in the country, where their tall spires, pointing heavenward, act the part of ministering angels to the weary and benighted traveller—they then form, with the curling smoke from a chimney, a picture, perfectly in keeping with our most holy conceptions!"

I would add, no doubt the class of men whom Mr. Robinson has in view, are mainly actuated by self-interested motives, but there

is a much larger class amongst us, who, blessed be God! are "planting" in many ways for the good of posterity—for the *pure love of it*—and who, like our heavenly Master, and according to his blessed book, are going about doing good, hoping for nothing again. And I must be permitted to believe that to inculcate the pure doctrines of the gospel amongst the inhabitants of the prairies, would be far more likely to induce to the planting of trees, than all the laws of the Persians and of the Medes combined. I consider that as the one thing needful in situations so strikingly delineated by your correspondent; and if in such, the spirit of Christianity were "planted" at the time of the erection of the log-hut, we should soon see the habitation shaded with trees, and the desert blossoming like the—honeysuckle! Whenever I indulge in the airy vision of "settling a prairie," I always find myself commencing by creating, just in the centre of it, a place of worship, to which you ascend by three steps—desirous of preserving even the language of scripture, and literally, going up to worship on the Sabbath or holiday; while the building serves the purpose of teaching, during the remainder of the week, that pure system of faith and practice, which will secure every comfort in this life, and the hope of that which is to come.

And there is no man living who has indulged more in the "luxury of doing good," than the venerable personage of whom mention is made at the commencement of this article; who has followed closely in the steps of his excellent Father, and whose path through a very long life has been strown with many a flower and planted with many a fair tree, the shade and fruit and fragrance of which will be enjoyed by thousands, after he shall have been removed to that blessed country where the light of the sun and the moon will never more be required—"for there shall be no night there."

All, all must come
To the cold tomb!
Only the actions of the Just,
Smell sweet and blossom in the dust!

J. R.

Philad., Aug. 4, 1841.

Signs of a Poor Farmer.

HE grazes his mowing land late in the spring. Some of his cows are much past their prime. He neglects to keep the dung and ground from the sills of his building. He sows and plants his land till it is exhausted, before he thinks of manuring. He keeps too much stock, and many of them are unruly. He has a place for nothing, and nothing in its place. If he wants a chisel or a hammer, he cannot find it. He seldom does any thing in stormy weather, or in an evening. You will

often, perhaps, hear of his being in the bar-room, talking of hard times. Although he has been on a piece of land twenty years, ask him for grafted apples, and he will tell you he could not raise them, for he never had any luck. His indolence and carelessness subject him to many accidents. He loses cider for want of a hoop. His plough breaks in his hurry to get in his seed in season, because it was not housed; and in harvest, when he is at work on a distant part of his farm, the hogs break into his garden, for want of a small repair in his fence. He always feels in a hurry, yet in his busiest day he will stop and talk till he has wearied your patience. He is seldom neat in his person, and generally late at public worship. His children are late at school, and their books are torn and dirty. He has no enterprise, and is sure to have no money, or if he must have it, makes great sacrifices to raise it; and as he is slack in his payments, and buys altogether on credit, he purchases every thing at a dear rate. You will see the smoke come out of his chimney long after day-light in winter. His horse-stable is not daily cleansed, nor his horse curried. Boards, shingles, and clapboards, are to be seen off his buildings, month after month, without being replaced, and his windows are full of rags. He feeds his hogs and horses with whole grain. If the lambs die, or the wool comes off his sheep, he does not think it is for want of care or food. He is generally a great borrower, and seldom returns the thing borrowed. He is a poor husband, a poor father, a poor neighbour, a poor citizen, and a poor Christian.—*Balt. Far.*

For the Farmers' Cabinet.

Muck Gathering.

EVERY farmer should now, and for a month to come, be busily employed in raising muck from mud-holes, wherever that can be obtained. A friend, with whom I spent a pleasant day the last week, showed me a grand mine of this description situated below his cattle-yard, from whence it receives all its superfluous, and into which he tumbles any animal that might chance to die during the winter; and there I saw the bones of an old horse, white as ivory, after the flesh had been decomposed, in a receptacle containing, perhaps, 200 loads of capital fat muck, intended as spring dressing for next year's clovers. The plan he pursued is this: as soon as the stock leaves the winter yard, he turns the water which runs from thence, in another direction to a second muck-hole, and by the autumn, the superabundant water is evaporated, so as to leave the contents in a proper state to be dug out by the shovel; and at this time he has two men employed in the opera-

tion of mining "old gold" from a bank of deposit, that at all times is ready to pay up both principal and interest, at a premium of cent per cent. The mud is only thrown on the bank of the hole for the present, where it lies until it is sufficiently dry to be thrown together into a snug heap, mixing at the same time a liberal allowance of lime; and from thence it will be carried on to the clover in the spring, and spread like ashes, being quite equal to them as a top-dressing. As soon as the hole is emptied, the current from the yard is again directed into it, and the work of replenishment goes on; the clear water flowing off by a flood-gate placed near the top of the bank, after leaving its sediment behind, together with what fortuitous articles may have chanced to drop into it during the winter, whether in the shape of horse, cow, sheep, hog, cat or dog. My friend calculates that he makes more profit from this muck-hole than from any ten or fifteen acres on his farm, taking the value of the manure and the saving of cartage into the estimate.

And now also is the time for all those who are so situated, to cut and carry the green reeds from the banks of rivers and ponds into the fold yard, after ploughing up the bottom a foot or more in depth in the centre, so to lie to absorb the moisture of the dung during winter; when it should be removed with the manure in the spring, and after lying to ferment, it should then be turned up and carefully mixed with lime; and thus 500 loads could be added to the resources of the farm with comparatively little labour and much profit. I know at the present moment a bed of reeds six or seven feet in height, with other aquatic plants, lilies, &c., which would give any quantity of first-rate green vegetables, sufficient to lay the foundation of the barn-yard to the depth of many feet in thickness, and upon which the stock might be wintered to an extent of profit, compared to which probably, the rent of the farm would be but as a *modicum*;—but the owner seems quite unaware of the treasure which is within his reach, the value of which would be enhanced, from the circumstance of its containing no seeds of weeds that would vegetate on an upland soil. Thus, in many ways has the intelligent cultivator an opportunity to add to his resources, and prevent the necessity of a recurrence to the burning of pine knots to save candles. Z.

August 8, 1841.

It should be a fixed principle, never to suffer the soil to deteriorate; for, as it costs as much to cultivate a soil producing only half a crop as a full one, it is perfectly clear that it is the interest of the cultivator to keep his land always in good heart.—*Beatty.*

For the Farmers' Cabinet.

Root Culture.

MR. EDITOR,—I have noticed with regret from various quarters, a flagging in relation to the cultivation of roots for the use of stock; some suppose corn a more profitable crop; but as I have succeeded tolerably well in the cultivation and feeding of roots, I have drawn a different conclusion, and apprehend that if any have been discouraged, it was for the want of better experience. I will, therefore, venture a few hints, for the consideration of those, who may be disposed to try their success the next year. Select a piece of greensward or clover-lay, suitable for raising corn—(beets, parsneps and carrots, will bear a more tenacious soil than turnips)—spread upon it at the rate of 20 loads of coarse manure to the acre in the fall, then turn it under as deep as you can plough, lapping the furrows at an angle of about 45 degrees. The next thing, prepare a compost sufficient for 20 loads to the acre, let it be well stirred and decomposed by the 1st of May following. As soon as the ground is in a suitable state in the spring, harrow it well lengthwise of the furrows, and again in about a week crosswise, if it will bear it without disturbing the clods; otherwise, harrow it diagonally until a mellow tilth is raised and all the interstices are filled and the field smooth. About the 1st of May, spread your compost, 20 loads to the acre, and harrow it in; and about the 10th, in this latitude, lightly ridge the land about 3 feet apart—that is, back two furrows together—and plant your beets, carrots and parsneps, by hand. Four weeks after, keeping the ground well harrowed, prepare your ground in the same manner for ruta bagas, and sow them with a drill-harrow;—I have MERCHANT'S, which cost me \$3, and it works to a charm. Half a pound of good seed sows an acre quite thick enough. I use before sowing, a coarse iron rake drawn lightly over the top of the ridges lengthwise, to remove any small stones, turfs, &c. So soon as the roots can be seen distinctly, run a plough lightly between the rows, turning the furrows from the plants; and in a day or two, contract the cultivator or dressing-harrow and pass it once or twice between the rows, immediately following with the hoe to stir the ground and destroy every weed around the plants, thinning the thick clusters and transplanting where they are missing. A sprinkling of ashes is now beneficial and very necessary on the turnips, if the flies have made their appearance. In about a week after, run the cultivator through again, and if weeds are sprouting, follow again with the hoe and utterly destroy them. Indeed, the success of root-crops depends much on the early destruc-

tion of the weeds and thinning the plants. If they are all suffered to grow together until they nearly cover the ground, it will be more work to dress them once, than the whole cultivation of the crop, if taken in season and thoroughly managed, besides the loss of more than half the produce. I apprehend that this is the *very point* where persons generally are discouraged in cultivating roots. I estimate the expense of cultivating one acre of roots, judiciously, about equal to two acres of corn; and I will add, what I consider a good course to follow: plant the next year, early corn,—I use the Connecticut eight-rowed yellow, long-eared, 10 to 12 inches, small cob and very heavy; ripens two weeks earlier than the Jersey corn, and I have found it as productive. I have now on the ground succeeding roots, a promising crop, that may be fit to cut up by the first week in September, and then I shall sow Mediterranean wheat this fall, seeding with grass in the spring. Two hoed crops give a better chance to thoroughly pulverize the soil and destroy foul weeds. While gathering my roots last fall, I weighed and measured half a dozen white Silesian beets, the best I could select. The average weight of six was 19½ lbs. each, the average circumference 22¼ inches, the average length about 2 feet. I fed for some weeks, with these kind of beets, an animal I was fattening, and he put on flesh during the time beyond my expectation. My hogs have done well principally on roots in the winter, and cows have doubled their milk.

Yours, respectfully,

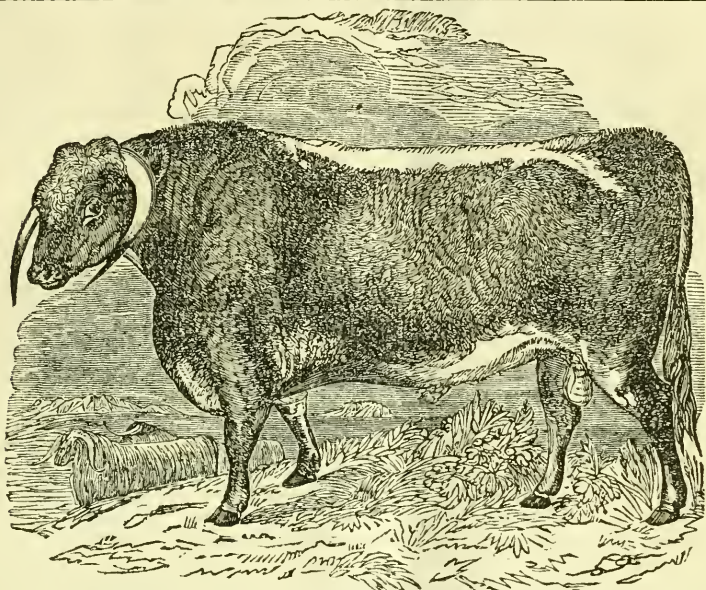
DAVID L. DODGE.

Cedar Brook, Plainfield, N. J.,
August 20, 1841.

Lime in Planting Trees.

AN English paper says, that a large plantation of trees, within the last few years, has been formed without the loss of a single tree, and this has been achieved by a simple process; it is merely putting a small quantity of lime in the hole with the plant. About four bushels of lime will suffice for an acre. It must be thoroughly mixed and incorporated with the mould before the plant is inserted. The effect of lime is to push on the growth of the plant in the first precarious state; new fibres begin to form and ramify from the tap-root, and not only is the safety insured, but its growth is advanced in double ratio. There existed at first an apprehension that liming the plant would force it prematurely, but this apprehension is proved to have been groundless.

THE highest cultivation and the greatest investment of capital and labour upon a given quantity of land, afford the greatest profit.



THE NEW LEICESTER OR DISHLEY BULL.

From Garrard's beautiful Illustrations of British Cattle.

THIS noble animal was the property of Mr. Honeyburn, the nephew and successor of Bakewell, and may be considered a perfect representation of that peculiar breed of Long-horns, famous for their fine proportions, and a superior stock for the butcher. In Bakewell's opinion, everything depended upon *breed*,—the beauty and utility of the form, the quality of the flesh, the propensity to fatness—these four points demanded all his attention, and he wisely concluded, that the object might be better accomplished by uniting the superior branches of the same breed, than by any mixture of foreign ones, and on this new and judicious principle he started. Many years did not pass, before his stock was unrivalled for the roundness of its form, the smallness of its bone, and its aptitude to acquire external fat, while they were small consumers of food in proportion to their size; at the same time their qualities as milkers were very considerably lessened, and while the graziers could not but highly value the Dishley or New Leicester long-horn, the dairyman and small farmer held to the old breed—the Lancashires—as most useful to their purpose. But while this great improver was justly displeas'd with those gaunt, leggy and misshapen animals with which his vicinity abounded, which scarcely any length of time or quantity of food would thoroughly fatten, and patriotically determined upon raising a more sightly and profitable breed, he unfortunately became impelled by his zeal towards the opposite extreme; and having painfully and at much cost raised a variety of cattle, the great merit of which was to make *fat*, laid his disciples and successors under the necessity of substituting another breed that would make *lean*.

Mr. Young speaks of the gentleness with which Bakewell managed his cattle, remarking: "All his bulls stand to be examined in the field, a boy, walking by their side with a small stick three feet long, guiding them from one end of the farm to the other, and separating one bull from others, or from the cows, with the greatest ease." A curious description is given of Mr. Bakewell's hall, where the separate joints and peculiar points of each of the more celebrated individuals of his cattle were preserved in pickle, or hung up side by side, showing the thickness of the flesh and external fat on each, and the smallness of the ossal; there were also skeletons of the different breeds, that they might be compared with each other, and the comparative difference marked. Some joints of beef, the relics of his favourite cow, OLD COMELY, the mother of the stock, and who was slaughtered when her existence had become burdensome to her, were very remarkable, the fat on the sirloin on the outside measuring four inches in thickness. But what is now become of the New Leicester long-horns! It was a bold and successful experiment, and answered for a while the most sanguine expectations, establishing a breed of cattle equalled by few, and excelled by none, save the Herefords; it enabled the long-horns to contend with the heaviest and best of the middle-horns, and improved the whole herd of long-horns, putting on flesh and fat on their most profitable points, and acquiring an earlier maturity: and, the process of improvement not being carried too far, the very dairy-cattle obtained a disposition to convert their aliment into milk, while milk was wanting, and after that, to use the same material for the accumulation of flesh and fat. The midland counties of England will always associate a feeling of respect and gratitude with the name of BAKEWELL, while the Irish breeders owe every thing to the New Leicester long-horns; and yet—although it will scarcely be credited—in 1833 there was not a single Leicester on the farm of Dishley, or a dozen of the pure breeds within the circuit of a dozen miles of it! it would seem as if a convulsion of nature had swept away the whole of this valuable breed! The fact is, they had been bred to that degree of refinement, that even the propagation of the breed was not always certain, and in addition to this, a powerful rival had appeared in the field—the improved *short-horns* began to occupy the banks of the Tees—presenting an equal aptitude to fatten, greater bulk, and earlier maturity: they are now, therefore, superseding them, and are fast driving all long-horns from the field.

For the Farmers' Cabinet.

Lightning Rods.

Will the erection of lightning rods insure perfect security, and is it *certain* that the electric fluid will always pass down a rod in preference to making its way in another direction?

On the 1st July last, during a thunder-storm, the electric fluid struck the chimney of a sugar-house in Race street, Philadelphia, throwing a large portion of the bricks into the street: the effects of the stroke were sensibly felt in the neighbourhood, many people were prostrated, and one man never recovered from the shock, dying in consequence the next day. On repairing to the spot, it was found that a conducting rod, to appearance in perfect order, and leading far above the highest point of the building at the gable-end, and much higher than the chimney that had been demolished, had not served its purpose, although, by accurate measurement it was found to be situated within fifteen feet of the chimney.

"During a thunder-storm on Saturday the 21st of August, a flash of lightning descended from a cloud and struck the barn of Mr. S. Baab, near Pricetown, Pa., in which four men were standing, who escaped without material injury, after being knocked down and somewhat stunned. A conductor is attached to the barn, but it appeared that the lightning had descended *diagonally*, instead of passing *down* the rod from the top, and struck the rod about a foot from the ground, from which it glanced off, and *passing through a stone wall* from 12 to 16 inches thick, entered the wall on the other side of the wagon-shed, where it was spent, within a foot of those who were in the barn at the time."

The latter case reminds me of the account furnished by Mr. N. J. Sharpless, of Downingtown, page 105 of the Cabinet, vol. 5, in which it is said, one portion of the lightning left the rod at the surface of the ground and passed through a wall, perforating several holes, and killing two cows, which lay 25 feet distant and in opposite directions. Now, possibly, in this case, the lightning never passed *down* the rod at all, but *struck it diagonally*, as above-mentioned — not fulfilling its purpose in the regular manner, by *drawing* the electric fluid from the over-charged cloud and depositing it harmlessly in the negatively-charged ground; and certainly not without danger and injury to the building, or the animals lying 25 feet distant.

There is a remarkable case of destruction by lightning recorded in the English Philosophical Transactions. A broad-wheel wagon, while ascending a hill during a thunder-storm, was struck, and one or more of the horses,

with, I believe, the driver, were killed; on a very minute examination, it was discovered that the electric fluid never descended from the cloud at all, but issued from the earth, immediately in contact with one of the wheels in its passage, leaving a round hole immediately under it, as though it had been forced up by the pressure of the wheel.

A friend informs me, during a late visit to Mr. Isaac Newton, Delaware county, Pa., he could not but remark the very exposed situation of his barn, which has, however, never yet been furnished with a conducting rod; but hitherto has escaped in a remarkable manner the stroke of the electric fluid. It stands very high, and has several very lofty Lombardy Poplar trees in its immediate vicinity, one of which, within about 50 feet of the barn, was struck and destroyed some time since; a sow and pigs which were lying at its foot at the time, sharing the same fate. Another tree, about 80 yards from the barn, and in nearly a direct line, had since been struck and destroyed, while during a late storm the electric fluid had struck two other trees in the vicinity, one in advance and another in the rear of his premises, the top of one of them being taken off and carried a considerable distance, the barn still standing unscathed, amidst all this "war of elements." Now, need it be considered necessary to erect a *conducting* rod to a building which has hitherto escaped injury with the lightning playing all around it, while so many instances have occurred where buildings carefully guarded have suffered?

Is the idea new to your readers, that the swallows always leave a barn before it is struck by lightning, or are they aware, that such a notion prevails in many parts of the country, and is implicitly relied upon as a fact? My friend remarked that the barn of Mr. Newton was thickly peopled with these useful and inoffensive little creatures.

SUBSCRIBER.

August 25, 1841.

Interesting Philosophical Facts.

SOUND travels at the rate of 1142 feet per second in air, 4960 feet in water, 11,090 in cast iron, 17,000 in steel, 18,000 in glass, and from 4636 to 17,000 in wood.

Mercury freezes at 38 degrees below 0, Fahrenheit, and becomes a solid mass, malleable under the hammer.

The greatest height at which visible clouds ever exist, does not exceed ten miles.

Air is about 816 times lighter than water.

The pressure of the atmosphere upon every square foot of the earth, amounts to 2160 lbs. An ordinary sized man, supposing his surface to be 14 square feet, sustains the enormous pressure of 30,240 pounds.

Heat rarifies air to such an extent, that it may be made to occupy 5 or 600 times the space it did before.

The violence of the expansion of water when freezing, is sufficient to cleave a globe of copper of such thickness as to require a force of 28,000 pounds to produce the same effect.

During the conversion of ice into water, 140 degrees of heat are absorbed.

Water when converted into steam, increases in bulk 1800 times.

One hundred pounds of water of the Dead Sea, contains 45 pounds of salt.

The mean annual depth of rain that falls at the equator, is 96 inches.

Assuming the temperature of the interior of the earth to increase uniformly as we descend at the rate of 1 degree in 46 feet, at the depth of 60 miles it will amount to 480,000 degrees Fahrenheit—a degree of heat sufficient to fuse all known substances.

The explosive force of closely confined gunpowder is six and a half tons to the square inch.

Hail stones sometimes fall with a velocity of 113 feet in a second—rain, 34 feet in a second.

The greatest artificial cold ever produced is 91 degrees Fahrenheit.

Electricity moves with a greater velocity than light, which traverses 200,000 miles of space in a second of time.

Thunder can be heard at the distance of 30 miles.

Lightning can be seen by reflection at the distance of 200 miles.—*Selected.*

For the Farmers' Cabinet.

Handling.

How few of us ever think any thing about the *quality* of an animal, if it only please the eye, and how little did I myself know or care for this distinctive property until the perusal of the excellent article at page 363, Cabinet, vol. 5, by that spirited and first-rate judge of cattle, W. H. Sotham, to whom I consider we are indebted, more than to any other, for a fearless independence of character in his profession that will be of the first importance in our race for pre-eminence in the all-important science of stock-breeding. A man who has the *temerity*, at this time of day, to declare that his idea of name and colour of *any* cattle is, that it weighs but little in the scale of profit, is worthy a high stand as a judge, and I for one am content to bow to his decision, if he will allow me the *liberty which he claims for himself*. In the article above alluded to, Mr. Sotham has said, very properly, it is absurd for a man to form a correct idea of the quality of an animal by the eye

alone—that is ascertained by the *hand*—and as the handling is the governing point in purchasing with all graziers and butchers, breeders also should look to that point. I find some excellent observations in Culley on this very important subject, although he admits that the *sensation* which is experienced on the touch of an animal is not to be described by words—it is only to be attained by *practice*. He says:

“We undoubtedly first judge by the sight, which, being pleased, we then bring the sense of feeling to its aid, and if this also approves, we then conclude that the animal suits our purpose, or is answerable to the idea that we have formed of it. A nice or good judge of cattle or sheep, with a slight touch of the finger upon the fattening points—the hips, rump, ribs, flank, breast, twist, shoulders, core, &c., will know in an instant whether the animal will make fat or not, and in what part he will make fattest. I have often wished that I could convey in language that idea or sensation we acquire by the touch or feel of our fingers, which enables us to form a judgment when we are handling an animal intended to be fattened, but I have as often found myself unequal to fulfil that wish. It is very easy to know where an animal is fattest that is already made fat, because we can feel a substance or quantity of fat upon all those parts which are denominated *fattening points*; but the difficulty is, to explain *how* we know or distinguish animals in a lean state which will make fat, and those which will not; or rather, which will make fat in such and such points or parts, and not in others, which a person of judgment and in practice can tell instantly—I say *in practice*, because I believe that the best judges out of practice are not able to judge with precision. We say, ‘this beast *touches* nicely on the ribs, hips, &c.’ because we find a mellow, pleasant feel on those parts, but we do not say *soft*, because there are some of the same sort of animals which have a *soft, loose* handle, of which we do not approve, because, although soft and loose, they have not that *mellow* feel above-mentioned, for although they *both* handle loose and soft, yet we knew that the *one* will make fat and the *other* will not; and in this lies the difficulty of the explanation;—we clearly find a particular kindliness or pleasantness in the feel of the one, much superior to the other, by which we immediately conclude that *this* will make fat, and the *other* not, and in this a person of judgment and *in practice*, is very seldom mistaken.” P.

It is calculated that if the harvests of a single year should fail, the whole of the human race must perish!

For the Farmers' Cabinet.

Russia.

SIR,—I am tempted to send for insertion a short extract from a letter which I have just received from a dear friend, who sailed from this country some time ago, and has since made two voyages to Russia. The descriptive scenery, and the contrast between that country of eternal storms and this of almost perpetual sunshine, would, I conceive, be interesting to some of your readers. It is indeed necessary, in such a climate, for the government to provide artificial means to amuse the people, shut out as they are from the "illuminations" of the heavens for so great a portion of the year.

Z.

"My dear Friend,—We have had cold and wet and blowing weather since May, and there is no prospect of change; to-morrow morning we sail again for Russia. While we are buffeting the angry waves of the North Sea and Baltic, they have, I find, fine weather across the Atlantic, and with you it must now (31st July) be warm. We did not see the sun for the space of six hours, during the whole of our last voyage.

"On my birth-day (13th July) we made up a party to visit PETERHOFF, one of the imperial palaces on the banks of the Neva, and it was a trip which I shall never forget! By a 'coincidence,' the Empress has a birth-day on that day, and the illuminations at Peterhoff to celebrate it, may be ranked amongst the wonders of *this* world. If you should meet with any one who has been there on the occasion referred to, you may be able to obtain some faint picture of the scene,—my pen is too feeble. I heard a lovely song in London, 'Beautiful Venice!'—but oh! most beautiful Peterhoff!—its dense woods and magnificent avenues!—the glorious Turkish domes and minarets of burnished *gold* rising from the *green*, copper roofs of the palace! But 'tis no use to try; I could make you a model of it, showing every alley and fountain and reservoir, but it is impossible to satisfy myself or you by any description of which I am capable. I estimated the length of the framework at *forty miles*, at the average height of fifteen feet, and the lamps one foot apart: this calculation would give rather more than three millions of lamps, but there are more than four millions used. Each lamp contains at the least four ounces of tallow, with wax and turpentine, I think—perhaps nearer eight—say four, however, and the consumption of tallow is 450 tons! This helps one to form some idea of the extent of the thing; and although too much cannot be said of the *devices* of the framing, the stars, roses, &c., it is the almost interminable *length* of the burning wall that impresses the mind with *awe* as

well as admiration. Oh! for time and talents, that you might share with me in the sensations I feel, whenever my thoughts revert to that night; some day, if I have the opportunity, you shall have the best descriptive plan in my power to make. There were at least 500,000 people parading in the gardens and park, chiefly Russians; but amongst them were to be seen the inhabitants of, perhaps, every country that has a place amongst nations. More than twenty bands of music were stationed in different parts of the grounds, and the Emperor and family, with their suite, in open carriages—very low, Irish jaunting cars—promenaded the whole of the gardens for several hours. The Emperor is the most magnificent person I ever beheld, the Grand Duke, his brother, being only inferior to *him*. Glorious sight, that! depend upon it. Truly yours, W. P."

"London, July 31, 1841."

Small Farms.

If it were not for the irrepressible desire of cultivating large fields, a system might be commenced, the benefits of which would soon be acknowledged by every farmer; a small amount of land well cultivated, will make a poor man thrive—a large tract neglected, will bring a wealthy man to poverty. If a man can obtain from one acre more than he usually obtains from five, the renovating system ought not to be delayed a day. When hay turns out less than half a ton to the acre, the labour and expense of getting the same will be double that of getting it when the produce is two tons. Fifty loads of manure to the acre will raise the produce of our hay land—worn out to the half-ton standard—up to the value of two tons for five years; and half that quantity for the succeeding five years, will keep the land up to that point. In the one case, the land produces *without* manure, five tons of hay; the expense of fencing, taking care of the land, and cutting and curing the hay, will amount to three-fourths of the value of the produce,—so if the hay be worth \$12 a ton, the annual income of the land will be \$15 only: but in the other case, seventy-five loads of manure will give twenty tons of hay per annum, worth \$240, on land which on the exhausting system gave \$60 only!—leaving, at the end of ten years, more than the difference of the value of the land itself, with the satisfaction to the proprietor—worth as much more—of witnessing *good crops*, where only wretched ones grew before.—*Selected.*

WHAT freights the barks of commerce in their liquid flight, threading every channel and whitening every port, but the products of *agriculture*?

For the Farmers' Cabinet.

"The Science of Agriculture."

How strangely must this "figure of speech" sound in the ears of many of our friends who believe that the less of science is mixed up with agriculture, the better! But with all due deference to the prejudice of such persons, I must be permitted to believe that the more of true science is blended with any of our pursuits in life, the more rational will be the expectation of success in our undertakings, and the greater will be the reward of our labours in the end. It is indeed strange, that in all other occupations, science should be thought absolutely indispensable towards a successful prosecution of our affairs, while we find it deprecated on all sides the moment a man attempts to call for its aid in the pursuits of agriculture! But, is it possible to believe that such a state of things can exist much longer? If it is, then the education which it is become fashionable to extend to all in the same ratio, must be unsuitable to the youth who is destined to follow husbandry as the means of living, for much labour has been bestowed, to convince him of the necessity of thought, examination and comparison, in every event of life, and he will have especially to *forget* the lessons which he has been taught in philosophy, chemistry, and the arts generally, before he can sit down to practise the only *art* which is to sustain and support all other arts and sciences in the world!

I find in the Tenn. Sentinel a short article on this subject that is worth preserving in the Cabinet, and therefore copy it for your acceptance.

"The time is not distant, when the farmer's son will be the *man* amongst the well-educated of his day; for already has the spirit gone abroad, and the feelings of all are beginning to be enlisted in this honourable cause. No longer is the profession viewed as fit only for the poor and ignorant, but it claims that rank to which it is so justly entitled. Men of learning and talents have turned their attention to its investigation, without the least compunction of conscience, for having acted below their dignity: they have learnt that the occupation of the farmer—humble as it may hitherto have been considered—can call into action most of the powers of the mind, whatever may be the amount of his knowledge, and if useful, it can be brought to bear either directly or indirectly: and hence the erroneous opinion, that *farmers need not be educated*, is fast passing away; and ere long, popular sentiment will consign it to the shades of oblivion. No occupation is better calculated to call forth the learning of the man of science, and none, in which a man can engage with more honour, or to which

more honour should be attached. We believe, that in time, instead of leaving the poor and the ignorant to fill the profession of agriculture, we shall see young men turning from practical institutions of learning, to that of the *Plough*, fired with a laudable spirit to gain honour and create wealth from their occupation. When such a state of things shall take place, agriculture will be added as another of the 'learned professions,' considered as honourable as any of them, and prove as profitable. Hills, that are now barren and neglected wastes, will be brought into active and profitable cultivation, waving with beautiful harvests and set thickly with the heavy-eared corn: then gladdening smiles of plenty will cheer our domestic circles, and the bounties of Providence be enjoyed with overflowing and grateful hearts." ZILS.

Cows.

THE management of cows, so as to keep them healthy and ensure a constant supply of pure milk, is not generally understood in cities, and if understood, is not practised. Strolling through Orange, near Grand street, says the Editor of the New York Star, our olfactory nerves were refreshed with the delightful odour of cows, something like new-mown hay, which perfumed the air, and that, too, in a part of the city not remarkable for its cleanliness. On pushing open the door of a wooden stable or pen, we found thirty fine cows each in a stall, and kept in the most wholesome manner. They were attended by grooms like horses, curried and kept clean daily, fed with warm swill three times in twenty-four hours, besides meal and hay. The swill is emptied into a vat and pumped into their troughs, and the free use of water coursing constantly through the stable, keeps the place sweet and clean. The consequence of this treatment is, that their hides are smooth and glossy, the animals lively, and their udders distended with milk, which is served to city customers. We think this mode preferable to turning cows loose on the common to pick up the stunted shrubbery, or walk the streets gathering the offals of the city.

The breath of these cows is considered good for consumptive persons; and although the stable has not an inviting exterior, yet the condition of the tenants is really admirable, and we should prefer milk from animals kept so carefully.

I FULLY concur in the right and expedience of taking the lives of animals, but hold it to be gross inhumanity to inflict tortures upon them; I cannot therefore look upon the exposure to a lingering death by famine, storm and cold, but as a flagrant breach of humanity and justice.—*John Lawrence.*

To the Editor of the Farmers' Cabinet.

Scientific Farming.

SIR,—I wish I could convey to your readers one half the pleasure in description which I experienced in reality on a visit which I paid the last week to Morris Longstreth, Esq., Valley Green, Whitmarsh. The farm—for it is a *farm*, and not a garden—consists of 150 acres of just the best part of a valley renowned for its fertility, with the Wissahicon flowing within a few yards of the house, over which the owner has thrown a substantial bridge leading to the larger portion of the property which rises gradually from the banks of the creek until it terminates in a lovely wood half a mile distant;—indeed the estate might very appropriately be named “The cream of the Valley.” In the midst of a lawn and orchard of considerable extent and unequalled fertility, stands the house and magnificent farm-buildings—an establishment which requires to be seen before one half the luxurious comfort devised for its occupants, both within and without the house, can be properly appreciated; the preparations for the cattle and stock of all kinds during the winter *campaign*, however, forming with me the greater charm: even the *piggery* is so large and commodious, that it might become a source of envy to many a decent working-man’s family. But the most striking feature is, the large space which has been allotted to the cattle in their stalls, with ample room for feeding at their heads, and a space behind sufficient for the passage of a horse and truck, by which the stalls are cleared and the dung conveyed to the outer yard with a tenth of the labour incurred by the use of the wheel-barrow;—indeed the whole establishment as a farm, exceeds all that I have elsewhere seen. There is, too, a garden of sweets, properly situated at the back of the house, leading to a peach orchard, the soil of which is devoted to the culture of the sugar beet; the present crop cannot be less than 30 tons an acre, the same land having carried such a crop the last year, and being destined for the same the next: but the owner has hit a happy thought, for, upon the last cleaning of the beets, he sowed the land with turnips—a mixture of the white and the ruta baga: the plants are now making fine progress, and will form a second crop of great luxuriance and much value, on the removal of the beets a month hence; and for this hint, the agricultural community will be highly indebted to him. The crop of grass around the house was such that the yield of hay is estimated at four tons per acre; this has been augmented to that point by the judicious system of top-dressing with compost, lime, &c., a business which is destined henceforth to

demand very largely the farmers’ attention; and its effects might here be witnessed to perfection. The crops of every kind are abundant; the wheat—the red chaff bearded—but which I should not hesitate to denominate a fine sample of Mediterranean—having proved, like that, fly and rust proof—shows the best sample that I have seen, this year of very general failure of that crop; the oats also are superior. But the corn is *riotous*, throwing out, in some cases, four full-sized ears from a joint; and even from the tassel itself, an *apology*: I send one stalk with six ears to the office for exhibition. The potatoes promise a very large crop, owing to the judicious selection by the owner, of the *late Mercer*—a plan worthy of adoption, in a climate oftentimes so *quick* as to prevent the crop from coming to perfection, especially if it be of an early variety.

I found them busily engaged ploughing for wheat, the land having been prepared and manured by this early season; but the ploughs were unfit for this all-important purpose, being too small and light; a well-cultivated, pulverized and heavily-dunged surface, requiring a long and heavy plough, so as to take up and turn over a thin furrow, and completely to bury the dung—and this deficiency will, I fear, be perceptible the next harvest, these light ploughs slipping out of their work, and leaving it half-performed.

The lower meadows are grazed by a herd of Devon cattle, the *master-spirit* being the bull PORTER, which took the first premium at the last Exhibition of the Philadelphia Agricultural Society; one of his calves, out of a large Herefordshire cow, drawing the astonishing weight of 135 lbs. on the hay-scales on the day of his birth! There is a most remarkable bull-calf by Porter, from a very neat Devon heifer, which it is the intention of the owner to exhibit at the approaching meeting at the Rising Sun; it appears like *one bundle of muscle*, very neat, however, in the head and neck. I should name him Young *Shakespeare*, from the similarity which he bears to the wonderful animal of that name—the father of the Long-horns, as Hubback was of the Short-horns—as described in Youatt’s work on British Cattle, where it is said, “at first sight it appears as if the tail, which stands forward, had been severed from the vertebræ by the chop of a cleaver, one of the vertebræ extracted, and the tail forced up, to make good the joint”—just so appears young Shakespeare. Those who were present at the West-Chester and Delaware Co.’s exhibition of last year, might have seen a calf from a half-bred short-horn cow, of the same singular formation.

There is a lime-stone quarry in the centre of the estate, with two kilns in operation, from

whence the lime can be taken to the farthest extremity, in comparatively an hour of time; and near them is a muck-hole, which has received the washings of the adjoining lands perhaps for ages, where a thousand loads of the richest mud may be raised, and the lime almost thrown upon it from the kilns, whereby a compost of incalculable value may be formed to any extent. The owner of this fine farm has adopted a mode of saving his rail-fence in a time of freshet—to which the river is subject, and by which the low meadows are periodically dressed to a considerable depth—that is new to me, and deserves mention. The posts are set fifteen feet apart, well spurred at the bottom and firmly fixed: then, the butt-ends of the rails are joined two together by a piece of chain fixed with staples, the middle link of each chain being fastened at the proper height, to the post, by a very strong staple; and so each pair are fixed to the posts at the proper heights. The small ends of these rails are then supported at their proper heights on the next post by plugs, which are driven in a *slanting* direction, on which they rest, so *slanting* that the rails will not slip from them by the pressure of cattle, but when operated upon by a flood, they rise on the top of the water and slip off, when they are prevented from passing down the stream by the chain and staple on the other post; so they lie at their length on the top of the water, permitting the ice, &c., to pass; after which they are replaced in an instant. Such a contrivance, I calculate, deserves a patent.

In surveying this noble establishment, I could see nothing wanting, but another opening to the quarry; the one now in use was, no doubt, made many years ago, when farmers were not permitted to read or think, or theorize upon their business; and so it has been driven into the *face* of the rock, instead of at the *back*, and many thousand hours of worse than useless labour must have been expended on boring and blasting a rock, which, if it had been approached from the back, would have opened with the bar, with, comparatively, the ease of opening the leaves of a book. But times are now changed, and any man, having a few years' lease in the quarry, would find it to his interest to drive a new opening at the back, and work from thence.

It must be observed, Mr. Longstreth was for many years successfully engaged in business in Philadelphia, and has demonstrated the fact, that *city farmers* need not be, what some of our old friends suppose them, unfitted for the pursuit of agriculture by their former engagements;—indeed it can readily be shown that many of our most intelligent and successful husbandmen have retired from the city to *grace* the country by their improve-

ments and well-directed exertions, and I beg leave to recommend them to the notice of every intelligent and well-disposed agriculturist in the country.

J. Mc.

August 23, 1841.

Improving Soils.

THERE is a point, beyond which soils cannot be permanently enriched without an improvement of their *constitutional organization*, which however may be done by supplying artificially those ingredients of a good soil of which they are deficient, such as clay, where sand is too predominant—carbonate of lime, where that is deficient, &c.; but without this change in the constitutional organization of the soil, we cannot hope to carry its fertility permanently, beyond what it had acquired in a state of nature. Soils which have been reduced merely by cultivation, where they have not been injured by washing rains, may be easily renovated, and this must be done by again supplying them with those ingredients of which they have been deprived by bad husbandry; this may be done in part by the application of manures, but we must also look to the atmosphere, whence we are to draw much of the necessary supply of vegetable food, and to this end, we should freely cultivate those crops which derive most of their food from it; and in soils adapted for its cultivation, red clover is most suitable for this purpose; it is by far the most convenient and the cheapest mode of renovating exhausted soils, not only supplying much vegetable matter to soils that have been much reduced, but it is admirably calculated to pulverize and reduce its component parts to a finely divided state, and thus to produce a condition favourable to a combination with those elementary principles which are furnished by the atmosphere, greatly increasing its capacity for absorbing moisture, care being taken to suffer as few weeds to ripen their seeds as possible; these, previous to the time of ripening their seeds, derive much of their nutriment from the atmosphere, and by destroying them before they seed, their product in vegetable matter goes to renovate that soil upon which they have been grown; and exhausting grain-crops should be sparingly cultivated until the soil is become perfectly renovated, and even then, they should bear only such a proportion to the green crops as the soil will bear without deterioration.—*Beatty*.

AGRICULTURE is the true foundation of wealth; the sea renders her tribute, but the earth presents to skill and industry richer, and infinitely varied contributions;—money is not wealth.

To the Editor of the Farmers' Cabinet.
The Russian Horse-Sandal.

RESPECTED FRIEND,—A short time previous to the affixed date, I found in a periodical to which I have had access for many years, an article containing information of a somewhat interesting character; a transcript of which I deem worthy of insertion in the "Cabinet." It is as follows:—

"*Important to owners of Horses.*—A Frenchman by the name of Jony, now resident in Poland, has invented a new method of shoeing horses, for which the emperor has awarded him fifty thousand rubles, besides an exclusive patent. Jony covers the entire hoof with iron, and the base of his shoe, or, as it is called, sandal, is perfectly smooth. This method of his is being adopted in all parts of Russia. It requires neither nail nor screw; it is extremely cheap, and has the important characteristic of great lightness. Horses whose hoofs have been destroyed by bad shoeing, are, by the use of these "hippo-sandals," restored in a short time to their former state of efficiency, and may be used as soon as provided with them. Some horses have been brought to Jony's smithy which could scarcely limp along, and with their hoofs in so lamentable a state, that the common mode of shoeing could not have been applied to them; but after performing a slight operation, and putting a new sandal on their feet, they are sent back to their owners in a comparatively sound state, and are fit for work."

This newly-invented method of shoeing horses is certainly far in advance of the old system, or that which is now almost universally practised in America. The emperor must have conceived it to be an "onward" step of no minor importance in that branch of business, or he would not have rewarded the inventor so liberally; and I should be gratified to find it generally imitated by our Chester-county farmers, as well as the proprietors of that kind of stock without exception. The onward march of improvement has been peculiarly rapid within the last century, and as mankind have gradually diverged from a state of darkness to comparatively that of light, those good things which contribute towards forming the mass of human happiness, have increased in a proportionable ratio. May that spirit which incites us to rise, step by step, in the scale of knowledge, be ever promoted; for it is no detriment to any man's character to devote a portion of his time and talents towards the accomplishment of anything, by which he may hope to increase the happiness either of himself or others. I must confess, after thus speaking, that I have not in days past manifested even an ordinary zeal in the cause of agriculture, although from my infant years I have not been accustomed to

view from my door scenes so limited and monotonous as is the case in large cities, but fields, forests and meadows, clothed, in their season, with verdure, and blooming with transcendent beauty, or covered with the white companion of winter. But I trust I shall be making some amends for my past conduct, by thus giving in my mite for the support of a paper which was issued principally for diffusing that knowledge which the husbandman is wont to possess; and to endeavour to stimulate the lethargic to more industry.

N. B. Cannot some of the contributors of the Cabinet furnish its readers with information respecting the cultivation of grape vines?—the kind of soil they require, &c.?

Thine, respectfully,

Q. E. D.

Sadsbury, 8th mo. 6, 1841.

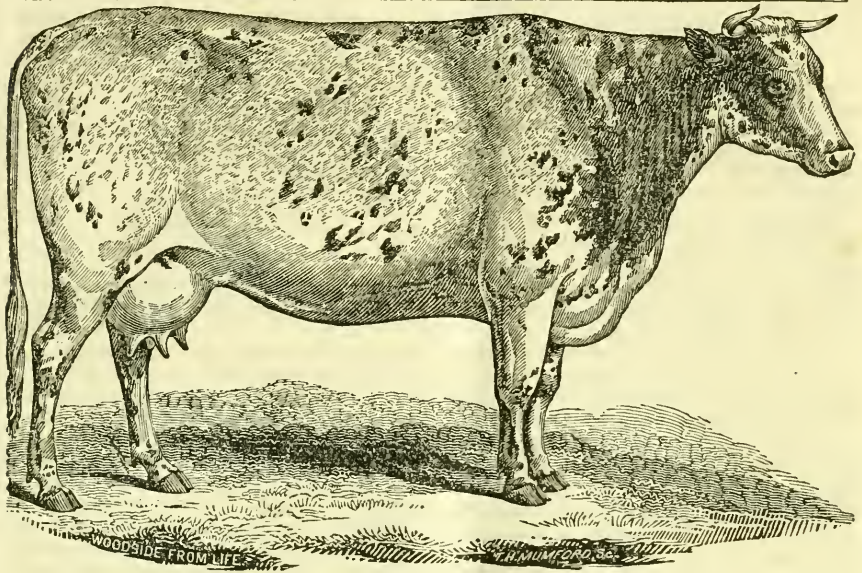
For the Farmers' Cabinet.

Corn Sled.

THE time being at hand for the removal of the Indian-corn crop from ground where it is to be followed by winter grain, a small farmer in Montgomery county, Pa., sends herewith a description of his corn sled, by which three hands and a horse removed with ease in three days his crop of corn last year from a field containing somewhat over three acres. It proved steady occupation for one hand to cut down while the other two were engaged in loading, hauling off, and shocking in an adjoining field the crop thus removed. Mine was Dutton corn, and proved a *good* crop, equal in yield to the crops usually raised in the neighbourhood, which are a mixture of the gored-seed and flint. It was planted in rows 4 feet apart, and in the rows 18 inches. I mention the kind of corn removed, that should any incline to use the sled, they may regulate the distance at which their poles, or shafts, are placed by the height of their corn, so that the ends of the stalks may not drag on the ground.

Mine is simply two cedar poles, 17 feet long, borne up and drawn precisely as shafts to a cart, while the other ends, dressed a little rounding on the under side, slide upon the ground; two sloats (which are but boards spiked on) are fixed across the poles to keep them at a proper distance apart, one of them at the distance of 4 feet from the end, the other at 10 feet, and having each of them two inch auger-holes bored, in which are fixed four pieces of laths as uprights to support the corn as it is piled on the sled,—these uprights or supports are the better for being set in with a slight inclination backward, that too much weight may not be thrown on the horse's back. An article so simple that any small farmer like himself can make it. L.

August 28, 1841.



BLOSSOM.
The Property of Samuel Canby, Esq.

MR. CANBY having politely furnished us with an account of the milking of his cow Blossom the present season, Mr. Woodside was induced to take a second portrait of her, conscious that he had not been able to do her justice on a former occasion, when she was nearly off her milk. She is here given as a perfect likeness, both in the drawing and engraving; and our pages may now boast of faithful portraits of two of the most remarkable milking cows in the Union — DAIRY MAID AND BLOSSOM. — Ed.

To the Editor of the Farmers' Cabinet.

DEAR SIR, — At your request, I send you a statement of my Durham cow *Blossom*, her milking, &c. Unfortunately, her calving so late as she has, both last year and this, has thrown the trial into warm weather, which is against her, particularly in the yield of butter, as, for want of a spring-house, we have to keep our milk in a cellar. You will perceive there is a great gain over last year in the butter, more than the increase of milk would warrant, which I consider mainly attributable to the trial being made rather earlier in the season and the weather cooler at the time: you may remember I stated last year, that with cooler weather or a spring-house, I had no doubt there would have been several pounds more butter.

Last year, one month from calving, *Blossom* gave for the week 247½ quarts, being over 35 quarts per day, which made 13½ lbs. well-worked butter. This summer, near two months after calving, she gave in one week 253½ quarts, being over 36 quarts per day, which yielded 17½ lbs. of superior butter, which was well worked before weighing; the milk also was never measured until after the froth settled.

To satisfy myself as well as a number of my friends, I had intended to try her for a week in the 4th month from calving, but the intense heat and drought coming on, I considered it would not be doing her justice to give her a trial at that time; I had her milk measured on the 13th of July, (being in the 4th month from calving,) and the yield was as follows: —

Morning, 12½ quarts — Noon, 11½ do. — Evening, 11 do. — Total, 35 quarts.

Which quantity I have not a doubt she would average for a week, if the trial could be made earlier in the season; and if nothing occurs, I hope to prove it next year, as she will calve earlier in the spring. During her trials, I never make any difference in her keep; she is fed as usual, and runs in the same pasture with the other cows. We were as unsuccessful as usual in attempting to get her dry last winter, as she gave 16 quarts per day up to calving. She had her first calf in April, 1838, and her sixth on the 12th of last April, (having twins twice,) and has never been dry during that time. Very respectfully, SAMUEL CANBY.

Blossom's Yield of Milk for one Week.

1841.	MORN'G.	NOON.	EVEN'G.	TOTAL.	1841.	MORN'G.	NOON.	EVEN'G.	TOTAL.
June 2d	13½ qts.	12 qts.	10½ qts.	36 qts.	June 6th	13½ qts.	12 qts.	10½ qts.	36 qts.
" 3d	13½ "	12 "	11 "	36½ "	" 7th	13½ "	12 "	10½ "	36 "
" 4th	13½ "	12½ "	10½ "	36½ "	" 8th	13½ "	12 "	10½ "	36 "
" 5th	13½ "	12 "	11 "	36½ "					
Total									253½ "

Being on an average, over 36 quarts per day.

Woodside, August 5. 1841.

For the Farmers' Cabinet.

Moon Farming.

THE readers of the Cabinet are indebted to a highly respected and much valued medical correspondent, for the following article on a subject which comes immediately within his province to determine. Will he accept our acknowledgments for a settlement of the question in the only rational mode.—ED.

In looking over the pages of the last number of the Cabinet, I observed an article headed "Moon Farming," which contains several statements that are so erroneous that I cannot help taking exceptions to many of your correspondent's propositions.

1st. Let me say to your readers who have not had opportunities to examine the matter, that Z is entirely wrong, when he says, that "it has long been admitted by those best able to ascertain the fact," "that persons affected with madness are much more irritable and ferocious at the new and full moon than at any other times." So far from this being the case, allow me to say, that no such influence is recognized by the medical men who at this day have charge of the insane, and that our facts will not prove the existence of such influence. If patients are more noisy at such times, it is that the light of the moon and the shadows of clouds passing before it have some tendency to prevent sleep in those who happen to be particularly vigilant.

It is very true the term *lunacy* was adopted on account of this supposed lunar influence—but so false is its origin as applied to the insane, that most authors reject it entirely; and those who retain it, do so because it is a well-understood term, and not because it is either proper or expressive.

2d. As regards *cattle*, I must also be permitted to doubt some of the facts given in the paper—or, at least, that such striking *effects* were produced by the *cause* there given. Let any of my agricultural readers, by a very simple way, decide for themselves,—let them note the birth of every male and female calf that occurs during a whole year, and by referring back it will be easy to see whether the sex was dependent upon the state of the moon. So let them make a memorandum of the births of all the children in their neighbourhood, and by the same process they will ascertain whether Z's propositions are confirmed,—I feel confident they will not be. Bull calves and boy children are being born every day in the year, and probably will always continue to be, whether the moon is full or not.

3d. I am less able to judge of the causes of *rust* in wheat, but I feel confident some of your intelligent correspondents can give sounder reasons than those suggested by Z. Is it not generally the late wheat that suf-

fers?—and is not the temperature then greater?—which might alone account for the disease in the late crop. But if the moon alone produced this effect, why should one field be lost when the adjoining one was saved? or why should we not every year lose crops, if the moon happened to be *wrong*? T.

August 27, 1841.

For the Farmers' Cabinet.

Potato Planting.

THE time for the preparation of this grand crop is fast approaching. The land designed for it, should be covered thickly with long dung, and be turned deep, with a plough that lays its furrow perfectly flat, early in the autumn, care being taken to carry the furrows so that they may take off the winter rain, not permitting it to lie and chill the land. In the spring, the land is to be run back and carefully worked, when the manure will be found perfectly decomposed, and in a fit state to be thoroughly incorporated with the soil by means of the harrows, &c. The sets are then to be planted in drills twenty-two inches apart, and the sets themselves ten inches from each other; these are to be kept clean by flat hoeing, but by no means to be earthed up, that operation causing the formation of new shoots and the production of small tubers, delaying the ripening of the crop, deducting from the quantity, and deteriorating the quality to a great and ruinous extent. When the plants make their appearance in the spring, strew well-rotted compost on the rows, and let it remain as a top-dressing. By these means, the writer has grown 750 bushels per acre, while Gen. Barnum, of Vermont, is said to have grown from 1500 to 1800 bushels per acre, giving it as his opinion that in a good soil and with this mode of management, from 800 to 1000 bushels per acre might safely be calculated upon. The largest crops grown in Scotland are on land manured with long dung in the autumn and turned down, top-dressing the plants in the spring with composted manure. The largest crop of beets grown the present year, has been raised from precisely the same means; the top-dressing having operated in a remarkable manner in preventing the growth of weeds and protecting the crop from the effects of drought.

E. T.

THE rearing of a tree, the maturing of a vegetable, the production of a flower, the forming of a race of animals, with shapes and dispositions and qualities modified to a great extent according to your wishes, are, in themselves, miracles of a power delegated to man, and which an intelligent mind recognizes as divine.

For the Farmers' Cabinet.

"Light and Darkness"—The Beet Culture.

WOULD our readers do us the favour to reconcile the following conflicting testimony? coming as it does from two of the most enlightened agriculturists and stock-breeders in the Union, we confess our inability to do so. We have no private interest to serve, and our desire has ever been, to follow truth wherever it may lead. We shall first give extracts from Mr. A. B. Allen's testimony in favour of the beet as food for all kinds of stock, and then introduce a letter in direct opposition to its culture—which we have just received from a very intelligent friend near West-Chester—without note or comment.—Ed.

Mr. Allen says: "I have not only my own taste for three years to prove that the sugar-beet raised about Buffalo is exceedingly sweet and nutritious, but can bring an hundred witnesses at any time to corroborate the assertion from their own experience. As food for stock, I know that even when fed raw to cows, they considerably add to the quantity and especially to the quality of the milk, making the butter as sweet and almost as yellow as that produced from fresh summer grass, keeping them, with the addition of hay alone, in the best possible order; the young stock on the same food keeping as fat and fine and glossy in the coat as when fed on summer pasture. But their most important use is as food for hogs, which they keep in as good flesh as I ever wish for breeders, while to the full-grown hogs, I give a stinted allowance, or they would get too fat for breeding: to young animals I allow a small addition of corn, and I never saw any thrive better or remain more contentedly—they fill themselves and lie in their straw as contented as puppies and whist as mice: and this is *experience*, and not mere *theory*."

Mr. B. of Chester county, writes: "I wish you would come out in the Cabinet in your might against the sugar-beet; depend upon it, they won't do—they have almost driven me mad this summer; I have had to neglect other necessary work to attend to them, and no crop at last! I have been running hard all summer to recover lost time, and shall not catch up till Christmas—being about two weeks behind-hand with everything. Five acres of beets require more attention than fifty acres of corn. It is customary here, as soon as the corn is planted, to repair fences—this was neglected to attend to the beets, and in consequence, my cows, sheep, and hogs, have been trespassing on my own and my neighbours' fields all summer: this is one loss. Next, my harvest commencement was delayed two weeks after the proper time, in order to give the abominable roots an extra hoeing—and this is a second loss. Again,

my hired man, from stooping so much to plant and weed *the things*, has a constant headache, and probably a tendency to congestion of the brain—to the distress of himself and his young and dependent family—and this is a third evil. Fourth, since harvest, when all weeds and rubbish are generally cut and cleared away, I had to put the hands again at the beets, and stand in danger of being overrun with noxious weeds, thistles, St. John's wort, mulleins, briars, elders, and other rubbish; while the apparition of a *beet-root* haunts me day and night.

Now, according to your plan of keeping a Dr. and Cr. account for each crop, how will my beet crop stand:—

Dr. Sugar-beet crop, say 2 acres.	
To damages from trespass on corn, potatoes and oats, from not repairing fences	\$75 00
" Two weeks behind-hand at harvest	100 00
" Congestion of brain, hired man, doctor's bill for four years, perhaps, loss of his time, and sufferings of a dependent family	400 00
" Propagation and spread of ten thousand millions of noxious weeds	300 00
" Actual cost, seed, labour, manure, cart and oxen, harvesting, &c.	100 00
	\$975 00

Now, one of my neighbours says, after feeding them a whole winter, the only effect he observed on his cows was, for them to stand all day and water; according to this account, sugar-beet will be

Cr. By 3500 buckets of urine from cows

But D. K. Minor, of the Urate and Poudrette Factory, can estimate this item better than I can, and to him I leave to strike the balance." B.

Chester County, Aug. 23, 1841.

Fences.

LITTLE has been said in our agricultural journals on this all-important though oft-neglected subject. Bad fences have taught our cattle to become unruly or breachy, whereby our crops and those of our neighbours have been destroyed, after the labour and expense of raising them. But a greater evil even than this is yet to be named;—bad fences have often been the means of the most unhappy disputes and downright quarrels amongst neighbours, from which have flowed assaults, batteries, law-suits, and ill-will for life, *and after*—for the quarrel has often been entailed with the property on the son—amongst those who would otherwise have lived upon the most friendly terms all their days: even starvation and murder have found their way into a happy neighbourhood through a bad fence! I would therefore beg those who wish to live in peace and have something to live on, and who mean to sleep in peace and not be disturbed with the awful tidings, "the cattle are in the crops," to attend more to their fences.—*Maine Farmer*.

For the Farmers' Cabinet.

House Lamb.

MR. EDITOR,—In the county of Essex, England, and several of the adjoining counties, the practice of *making house lamb*, as it is called, for the London market, is carried on to a great extent and to much profit; and as there is neither secrecy or difficulty relating to the business, there can be no good reason why the plan should not be adopted by us, for the supply of our cities at that season of the year when such a luxury would be sure to bring good prices and form a profitable return to the farmer.

The flock of the "lamb farmer" consists of about 200 ewes, kept as well as his pasture will admit of, and to which a small allowance of grain is furnished, peas being generally admitted the best for the purpose. To these ewes the rams are put in the beginning of June, and by the end of July most of them will have become impregnated, it being natural to this breed of sheep, the Dorsetshire, to go to their kind at a very early season; and this tendency on their parts becomes periodical, so that a better chance of early lambs is had from ewes thus accustomed to breeding, than from those untried. The lambs at a fortnight old are separated from their dams, and placed in small pens, two or three in each, in the *lamb house*, which is by some constructed with three compartments, one being divided into pens for the lambs of different ages, the other two communicating with this, and also with the farm-yard—the one to receive the dams of the lambs which are in the pens, the other to receive the dams of those lambs that have been sold off; and into these two divisions the ewes, as here distinguished, are respectively driven twice a day, when the dams of the lambs which have been sold off are brought out separately, and held, while the lambs suck them; they are then put away, and the lambs are let into the adjoining apartment to their own dams. While the lamb is very young, it is incapable of taking much milk, and the ewe will afford sufficient for its sustenance; but as it increases in strength, assistance becomes necessary, and sometimes cow milk is given, beginning with a quarter of a pint at a meal, and that twice a day, exclusive of the milk from the ewe: the regular practice being to divide the twenty-four hours by four equal periods, and to feed the lambs with ewe's milk and cow's milk alternately, at intervals of six hours. This attention is requisite to insure success, as well as the greatest cleanliness; the best lamb houses having board floors, covered thick with wheat straw always kept dry and fresh. At about six weeks old, they are fit for the butcher, and produce according to their value, some-

times as high as ten dollars a-piece, much depending upon the early state of the market. The ewes should be well supplied with roots during the time of suckling; and the foregoing method includes all the rules observed by the chief farmers in the lamb trade—a practice which has caused much wonder, and the success of which has been imputed to various mysteries, but, except in the contrivance of the barn, the whole is comprised in *regularity* and *cleanliness*.
J. G.

For the Farmers' Cabinet.

Ploughs and Ploughmen.

SIR,—I am glad to find that the committee of arrangement have determined on having a ploughing match at the approaching Exhibition of the Philadelphia Agricultural Society, to be held on the 29th and 30th of the present month. If I had the opportunity, I would urge upon them the expediency of excluding altogether from the trial, all speedy ploughing, awarding the premium to the best ploughman, without regard to the *speed* with which the work had been accomplished. Every one knows that our ploughmen can *beat all nature* in this qualification, but it is as generally known and acknowledged, that the *quality* of the work is deplorably deficient; so that, with the best implements in the world, we are accustomed to do the worst work, because of our national propensity to *go ahead*, which in ploughing cannot be indulged in with impunity. Our furrows are taken too wide also, on the same go-ahead principle;—the best ploughing consists of the smallest furrows well laid, so that the ploughed land shall appear, comparatively, as smooth after the operation as after harrowing, with no large chasms to be left to the chance of being filled up by the harrows.

In the first edition of Tull's Husbandry, there is the drawing of a plough with four coulters, which is said to have worked easily and most effectually, by which a wide furrow was sub-divided into four widths before it was turned over, and on falling off the mould-plate it became perfectly pulverized without the use of the harrow, and yet it was placed in its proper position without the least difficulty—the remark being, "In proportion to the number of furrows and the pulverized state of the land, so will be the yield of the crop, both in quantity and quality." By these means, a furrow 16 inches in width could be reduced to four of 4 inches each, much time and labour being saved in the operation of after-harrowing, and a much better seed-bed provided for the crop. As the first edition of that valuable work is scarce and in few hands, perhaps it might be amusing and instructive to your readers if, in some future number of

the Cabinet, you were to give an engraving of what in those days was considered the *ne plus ultra* of ploughs, showing the great improvements that have since been made in their construction, especially in this land of *essences*, as it has very properly been termed. I have the book in my possession, and it is at your service for this purpose, whenever you may require it.

In the hope that the coming trial of ploughs and ploughmen will be creditable to the Society and beneficial in its results to the cause of *all causes*, I am, your subscriber,

T. W.

September 4, 1841.

We shall be obliged if T. W. will favour us with the loan of Tull's Husbandry; it can be left for us at the office, No. 50, north 4th street. — Ed.

For the Farmers' Cabinet.

The Corn Crop and its Enemies.

WHILE the soil of this country is well adapted to the growth of all the grains which are usually cultivated in this latitude, still, that of Indian-corn may be styled *the crop* of this section; as it is believed by our farmers to be the most certain in its produce, and most profitable in its culture. Yet, within a few years it would seem as if even this crop was doomed to be less productive, by the depredations of certain insects not common in former years. The present season the corn crop with us has suffered perhaps more than in any previous year, by the ravages of the several insects which prey upon it: and if any of your many excellent correspondents have a knowledge of any preventive against the deadly enemies of this valuable crop, I beg they will make it public for the especial benefit of your subscribers in this district.

The first enemy of the corn crop is the "*grub worm*," which attacks the vegetable as soon as it shoots from the grain; but its depredations last only for a limited period, seeming to glut its appetite for the season, and cease its feeding in about ten days. The next and more fatal enemy, is the "*wire worm*," which, upon the departure of the "*grub*," (and sometimes in connection with it,) enters the tender plant inside the blades, cuts off the main stalk, and continues its ravages so long as there remains aught of sap (which seems to be its food) to support it. If the soil is rich, the corn will outgrow the workings of the "*grub*," and if not too severe, the strength of a good soil will sometimes produce good corn, even where the "*wire worm*" has existed; but, generally, these last leave the stalk with the main root entirely cut off, and the plant only receives its nourishment from the lateral roots, and in this state seldom produces full ears. Besides,

corn thus attacked by the above-named insects, appears to be left the prey of yet another tribe of depredators, and the present year we find acres in our richest soils, at this very hour, suffering the gnawings of a *blue louse*, in the lateral roots, (the main root being entirely dead by the workings of the other enemies,) which in many instances prevents the stalk from even setting an ear.

The corn crop of Salem county, the present year, I think, may be set down at one-fourth less than the last, and chiefly from the above-stated causes. I am aware that some farmers think fall ploughing destructive to the eggs and larvæ of the insects, but it proves here no preventive against their depredations. Others think heavy liming destroys them. This last, I think it is conceded, quickens the soil, and is advantageous in shooting the plant beyond the worst effects of the worms; but whether it is destructive to these large armies of little insects, is doubtful.

I think this subject a good one for your scientific and "chemical" farmers to speculate upon. My own opinion is, that a thorough knowledge of chemistry will enable some practical agriculturist ere long to produce something poisonous to the animal, while it shall prove nourishing to vegetable life. G.

Salem, N. J., 8th mo. 30, 1841.

Soils.

THE most productive soil is that which is so constituted as to maintain such a degree of moisture in very dry, and in very wet seasons, only to give a healthy supply of it to the plants. Such a soil gives to the plants the means of fixing their roots sufficiently deep to support them during the period of their growth, and allows them to ramify in every direction in search of nourishment; where they may easily abstract the elements of vegetable life, without being injured by a redundant or a deficient supply of moisture during any period of their growth. A constant supply of air and water is necessary to make and keep the soil permanently productive: when the soil is made and kept friable, it will have the power of absorbing, retaining and decomposing the water, the air, and the organic matter which may be in its composition, by insensible fermentation, and give up a constant supply of the results of this decomposition for the growth of plants, either at seed time, when they are merely vegetating—in summer, when they are growing with the greatest luxuriance—or in autumn, when they are ripening their seed for harvest.—*Selected.*

ALL infallible receipts for the cure of diseases are infallible nonsense.

Geology — Fossil Remains.

THE remains of animals and vegetables in the rocks and earthy strata of the earth, are the true and only means of ascertaining its history and natural changes before the records of man. In all countries, on digging to certain depths and in mining, the remains of fishes, vegetables, quadrupeds and birds, are found in the soil or imbedded in the rocks, except in those of primitive antiquity. The general regularity with which those that are *marine* are laid at one level, and those which are products of *land* are laid at another, and the *alternations* of these marine and land products, lead to the conclusion that the sea has *repeatedly* covered the land for long periods of time, and that the land has at intermediate periods been dry; and what is very remarkable, the remains which are found, consist, and always at certain depths, of species of animals, vegetables, &c., not now in existence, and often of genera not *natural* to the present climate. The lowest rocks, it is inferred, were at one time the surface of the earth, and the seat of organic life; these appear to have been destroyed by some great revolutions, which brought new tribes of organized beings, while their *kinds* prove that the surface was covered with *water*; then, the subsequent appearance of amphibia, &c., prove the development of *dry land*; these then appear to have been swept away; and amongst later solid rocks the monstrous race of herbivorous quadrupeds and gigantic lacerta came into existence, when the earth seems to have acquired herbage for their subsistence; but how long this race kept possession cannot be guessed, but their great length of life is well known. The gypsum, &c., which now contains their remains, is covered with newer deposits abounding in *sea shells*, and *above* this stratum is found a new race of herbivorous animals of the genera of the elephant, rhinoceros, &c., and *above* them is the first loose soil intermixed with *marine* substances—proving second or third immersions of the sea; and *above this* lies the soil which the present race of animals enjoy! What may follow, and when and how, is a most momentous question.

The older secondary rocks contain *aquatic* plants and reeds; then above these, madrepores, corals, &c., all fixed where they lived; then *shell-fish*; and in strata above these, *fishes*, *bamboos*, and *ferns*; in a still higher stratum are more complicate shells and oviparous amphibia, as crocodiles, tortoises, and reptiles; and these are imbedded in the uppermost solid rocks of the oldest *secondary* formation; while in the *newest* solid rock formations, whales, seals, and birds, appear; and above these, *land* animals of enormous

size, birds, and *fresh water shells*, all in *concrete rocks*. Above these again, in the lowest beds of loose soil and peat-bogs, elephants, elks, rhinoceroses of peculiar species, are found; and then, near the surface, are found the remains of the existing races; *human bones* having only been found amongst these.

Bats have been found in limestone; opossums in slate; guinea-pigs, rabbits, rats and beavers, in limestone; dogs, bears, foxes and wolves, in diluvial soils and caves; hyenas and tigers in limestone caves and marl; the teeth of horses, elephants, rhinoceroses, hyenas, bears, wolves, tigers, &c., are found in masses in diluvial soils; oxen in peat-bogs; deer and elks in peat-bogs and marl-pits; one of these, six feet high and nine feet long, was found in the Isle of Man, in marl. Rhinoceroses are found in every part of Europe, and in the arctic circle; the hippopotamus is found in England, France, and Germany, — while mammoths, much larger than either, are found in Europe, America, and Siberia: one 16 feet high, at Abingdon, in England, another in Siberia, in ice, quite perfect in its flesh, skin, hair, and eyes, with a long mane and tail of stiff black bristles; and others have been found in Hudson's bay; and whales are found in Essex, in London clay, and in Bath limestone. Eight species of birds are found in gypsum near Paris; crocodiles are found in blue clay in Dorsetshire; lizards, 24 feet long, equal to the dragons of antiquity, in Bavaria, and at Stonefield one in particular, 40 feet long and 8 feet high! In France, at a distance of 100 miles from the sea, is a single oyster-bed, which in oysters and other marine bodies, is equal to 500 millions of cubic yards! Forests of standing trees have been found in Yorkshire imbedded in stone, and others converted into iron-stone in Lapland and Siberia. Two caves, full of bones, have lately been discovered in France, and in one of them, the remains of rude pottery. A whole mammoth was found imbedded in ice near the mouth of the Lena; it was 9 feet high, and its horns weighed 400 lbs. All volcanoes appear to exist near a sea, and by the matter they eject, to have some communication with it; and Danberry ascribes earthquakes and volcanoes to the access of *water* to the inflammable bases of the earths and alkalies; and when the explosion is single or double, and confined in a cavernous space, it is an *earthquake*; but when fed and supported by water, as in an elevation, it is a *volcano*. Vast quantities of fish are sometimes thrown from craters of burning volcanoes. A person of Verona possessed a cabinet containing 600 fishes of different sizes, many of them of extraordinary size, extracted from Mount Balc, where they are imbedded in the calcareous quarries—a sort of marly schist of a light grey colour—and

afford a fetid odour, like putrefaction; in general they are perfect, and not mere impressions; there have been 94 species found, one 3 feet in length, and a young shark, with its food undigested in its stomach, and another fish has one, half-swallowed, in its throat! — *Selected.*

For the Farmers' Cabinet.

Squirrels.

MR. EDITOR,—I am glad that agriculturists are combining against the race of gunners, more properly termed *loafers*, who wage an eternal war against everything that has life in the shape of bird or beast, be it never so small and insignificant in value; their only object would seem to be extermination, without the least regard to the injury they are inflicting on the harmless animals themselves, or the proprietors of the lands upon which they trespass with impunity. It has often been calculated, that the services of a pair of small birds have been of more real value to the farmer than the labours of many a large animal, and the consideration of the subject seems at length to have awakened them to their true interests: it is to be hoped they will carry out their determination to afford protection to their *little labourers*, by which there is no doubt they will reap advantages an hundred fold. But, although we find many who are ready to advocate the cause of the birds, we never hear any commiseration expressed for the little animal, the squirrel, whose presence enlivens the otherwise lonely solitude of the deep wood, and adds a charm to every landscape, but who is doomed to destruction by wholesale, merely for the sport of the indolent and unemployed of every town and village in the land. I have lately met with a notice of this little interesting creature, which brings its labours into a new view, and by which it would seem that we might be able to account for those extensive forests of oaks which spring up spontaneously on the removal of a growth of pine; a circumstance that has baffled the conjectures of many of the learned amongst us, and has never been satisfactorily accounted for.

In a late English work, it is said: "The truth, that no animal is created but for some wise purpose, is beautifully illustrated in the squirrel. It is a singular but well-authenticated circumstance, that most of those oaks which are called spontaneous, are planted by this animal, in which way he has performed the most essential service to mankind. It is related, that a person walking one day in the woods, his attention was diverted by a squirrel which sat very composedly upon the ground. He stopped to observe his motions; in a few moments the squirrel darted to the top of a tree beneath which he had been sit-

ting, and in another instant he was down with an acorn in his mouth, and after digging a small hole with his fore feet, he stooped down and deposited the acorn; then covering it, he darted up the tree again, and in a moment was down with another, which he buried in the same manner: this he continued to do so long as the observer thought proper to watch him. This industry of the little animal is directed to the purpose of securing him against want in winter, but his memory not being sufficiently retentive to enable him to remember every spot in which he deposited an acorn, he must lose many every year, which are destined to spring up at some future period to supply the place of the parent tree—perhaps a century hence!" B.

Patent Tomato Figs.

"Take six pounds of sugar to one peck (or 16 lbs.) of the fruit. Scald and remove the skin of the fruit in the usual way. Cook them over a fire, their own juice being sufficient without the addition of water, until the sugar penetrates and they are clarified. They are then taken out, spread on dishes, flattened and dried in the sun. A small quantity of the syrup should be occasionally sprinkled over them whilst drying; after which pack them down in boxes, treating each layer with powdered sugar. The syrup is afterwards concentrated and bottled for use. They keep well from year to year, and retain surprisingly their flavour, which is nearly that of the best quality of fresh figs. The pear-shaped or single tomatoes, answer the purpose best. Ordinary brown sugar may be used, a large portion of which is retained in the syrup."—*American Farmer.*

Crowding the Professions.

ONE of the ablest periodical writers in Great Britain, speaking of the ambition of adopting professional life of all kinds, and of the rush into the professions of "law, physic and divinity," thus points the mind's eye to the general consequences:—

"But thousands have died of broken hearts in these pursuits; thousands who would have been happy behind the plough, or opulent behind the counter; thousands in the desperate struggles of thankless professions, look upon the simplicity of a life of manual labour with perpetual envy; and thousands, by a worse fate still, are driven to necessities which degrade the principles of honour within them, accustom them to humiliating modes of obtaining subsistence, and make up, by administering to the vices of society, the livelihood which was refused to their legitimate exertions."—*Balt. Sun.*

If justice is not due to *brutes*, neither is it due to *men*.

For the Farmers' Cabinet.

Agricultural Societies.

MR. EDITOR,—Permit me to copy from an English paper, part of a speech delivered before the Royal Agricultural Society, at Liverpool, the latter end of July, by SMITH of Deanston. Many of his remarks are admirably adapted to our latitude; and on the eve of our own Exhibition, which takes place on the 29th and 30th of the present month, would seem to be perfectly in season: I augur the best effects from these periodical gatherings of our practical men, and fancy that I see around me the beneficial results the whole year after. From what I learn, a very large and interesting meeting might be expected.

D. of C.

“Every farmer well knew there was nothing so profitable in agriculture as the consumption of his own produce at his own door and on his own soil, and the same principle which was good in small things, would also hold good in larger. It was to the advantage of the farmer that the grain he required should be produced on his own land, and there consumed; and it was equally beneficial that the manufacturer should have his manufactures consumed in his own country, leaving its enriching influence on the ground. This country had been able to bid defiance to the *cheap labour* of all other countries on the earth—and so she would continue. It was clear, that in order to have bread cheaper, the best mode is, to produce a greater quantity—because the more is produced, the cheaper will it be to the consumer, and the greater will be the quantity consumed.

“He would urge upon the society, not to discourage persons who came forward with what they might consider *improvements*, nor to be too hasty in rejecting such as were offered to their notice: he had frequently seen things offered to the notice of societies, which at first appeared exceedingly absurd, but in the end turned out to be really the *germs* of the greatest improvements.’ At the same time, he would advise competitors, if at first their implements were not noticed as they might imagine they deserved, not to be discouraged, but to *persevere*, and eventually they might depend on success. In taking a survey of the country, and especially of the surrounding neighbourhood, there was, it must be confessed, great room for improvement; but that meeting would doubtless sow good seed, and in due time an abundant harvest would be realized. In his opinion, there was no principle so well calculated for producing improvements as the *itinerating* principle—it excited a spirit of inquiry, and by converse with others it improved men’s minds; and by competition, faculties were brought into ex-

ercise which would otherwise have lain dormant. It was for this reason, therefore, that he approved of such meetings as the present, its *ploughing matches* and other modes of competition amongst farmers and their servants, which were the means of incalculable good throughout the country. He had had the good fortune to bring forward some implements on the present and other occasions, (the Deanston Plough, &c.) and if his life was spared, he hoped on future occasions to exhibit still farther improvements.”

Bran as a Manure.

I AM desirous of calling the attention of your readers to the consideration of bran (the husk of wheat) as a manure, not only for turnips, but also for wheat and grass. The great facility that every farmer has of obtaining it from his neighbouring miller, and its cheapness, warrant their trying a series of experiments in drilling it with turnips and wheat, and putting it over their grass lands as a top-dressing. Experiments have been tried, but not extensively enough to warrant its being said how much is saved in expense, and what quantities per acre ought to be used to render the best return. It is to this point that I wish attention to be directed, and as Sir Humphry Davy in his “Elements of Agricultural Chemistry” writes—“Nothing is more wanting in agriculture, than experiments in which all the circumstances are minutely and scientifically detailed”—would some of your readers assist this object, and drill a small portion in each of their fields of wheat and turnips, with bran in quantities from 3 to 6 cwt. per acre, and report the result in your paper.

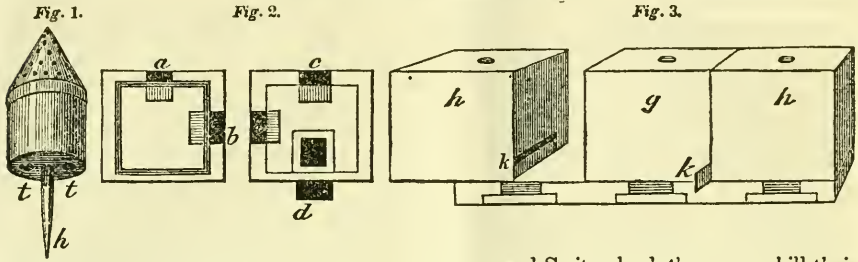
The following extracts from Liebig, would leave, in theory, bran to be at once the cheapest and best manure that could be employed:

“Phosphate of magnesia, in combination with ammonia, is an invariable constituent of the seeds in all grasses. The bran of flour contains the greatest quantity of it.

“The perfect development of a plant according to this view, is dependent on the presence of alkalies or alkaline earths; for when these substances are totally wanting, its growth will be arrested, and when they are only deficient, it must be impeded.

“So likewise none of our corn plants can bear perfect seeds, that is, seeds yielding flour, without a large supply of phosphate of magnesia and ammonia; substances which they require for their maturity.

“It is the greatest possible mistake to suppose that the temporary diminution of fertility in a soil is owing to the loss of humus—it is the mere consequence of the exhaustion of the alkalies.”—*Mark-lane Express*.



Letter from a Bee-Keeper.

Nothing gives me greater pleasure in a country walk than to hear a bee buzzing by my ear, as I pass the fence of a cottage. A row of bees is always a good sign. It shows that the owner takes pleasure in his home. Whenever I stop to have a talk with him about bees, I always get a civil answer, and thanks for any thing I can tell him.

There is an old and true saying, that it is no use trying to help a man who will not help himself. Now the cottager who keeps bees is trying to help himself and his family too; and the help which I can give such a man will most likely come to good. I often hear, that when a man has *good luck* in the swarming time, and when it is *luckily* a good bee year, the money he gets for his honey goes a good way to pay his rent, or get some warm things for winter;—some years are certainly better bee years than others; man has nothing to do with the weather. But I wish to show you how to make the most of good years when they do come, and that a little *common sense*, with pains taken in a good way, has more to do with the matter than what you call *luck*.

In the first place, then, NEVER KILL YOUR BEES. Many of you will say, "Our father and grandfather did so, and why should not we? We think it far the best way to burn the lightest and heaviest. The first would not live through the winter. We may get *something* from them, and *plenty* from the heaviest." This is very well for those who know no better; but I am sure you are willing to try a better way if you hear of one, as every one of you must feel sorrow when you *murder* by thousands in the autumn, those who have worked hard for you all the summer, and are ready to do so again next year. I myself was told by a bee-master, that he always saw the ghosts of the bees the night after he burned them; and have heard of an old woman, who never went to church the Sunday following. She felt she had done a most cruel deed, and she was right in so thinking. But to pass over the cruelty. If I can show that you may get much more honey without killing your bees, the least you can do is to try the plan. In France, Ger-

many, and Switzerland, they never kill their bees. Whenever I asked if they did so, they smiled at my question, and said, "Oh, that would never do; we should never keep up our stock." "How, then, do you get the honey?" "Oh, nothing is easier." And these poor cottagers, without half the means we have, never burn their bees. Some of them make their straw hives with the top to take off, and fasten it down with wooden pegs: in July they pull out the pegs, and, with a large knife cut away the top of the hive from the combs which are fixed to it; they then cut out what honey the bees can spare, never caring for those which are flying about their heads; for they will not touch them if they have a pipe in their mouth. When they have helped themselves, they peg the top down again, and leave the bees to make all straight, and gather honey enough for the winter in August and September. Others put another large hive on the top of a strong stock, in May, which prevents their swarming. This hive they take off when full. Others turn up their hives in July or August, and cut out some of the combs. Others, who know more about it, place square wooden boxes one on another, putting empty boxes below, and taking away full ones from the top. But this gives coarse honey, as I shall soon show. All these ways are clumsy, much worse than those I am going to teach you, but all better than burning the bees. Well, then, let this be your first rule, *Never kill one*.

How to unite weak Swarms by the Fungus or Puff Balls.—You may find in damp meadows a fungus which children call "puff balls." When they are quite ripe, if you pinch them, they give you a dirty powder, like smoke. Pick them when half ripe. The largest are the best. Put them in a bag, and when you have squeezed them to half the size, dry them in an oven after the bread is drawn, or before the fire. The fungus is fit for use when it will hold fire like tinder: keep this dry till the time you take your bees. In the autumn weigh your hives; mark those which are heaviest and lightest. This, of course, you cannot do *rightly*, unless you know the weight of your hives when empty. Weigh them before you put the swarms into them, and mark the weight on the outside,

that you may not forget it. Casts, except they are very early and strong ones, will seldom stand the winter, or they will be so weak next spring, that they will do no good. When the honey season is over, stop up over night all you intend to take up. In the morning, take a piece of the fungus, twice as big as a hen's egg, put it in a stick split at one end and sharp at the other: have a hive, the same size as that you intend to take up, fixed bottom upwards. When this is ready, light your fungus, and as soon as it burns well, fix the sharp end at the bottom of the hive which you have turned topsy-turvy, and place the hive you intend to take on the top of it, and tie a wet cloth round the two hives, that no smoke may get out. You will soon hear the bees drop down: tap the top of the full hive, to make them fall quicker. When they are all down and quiet, lift the full hive gently off, and turn all the bees which have fallen, on a table. They will be quite harmless and still, as if they had been burned with brimstone; but the fungus does them no injury. Look for the queen bee, which may easily be known. It is well to have several persons round the table to search for her, as also to cut out the combs and sweep the *bees* off. If you find her there, keep her safe on one side, and sweep all the other bees back into the empty hive; then cut the combs carefully out, one by one, and if you have not already found the queen, look sharp for her on each comb. She generally does not fall down, but holds fast to the top of the hive in the very middle. Sweep the bees with a feather back into the empty hive, as you carefully take the combs out one by one. In a quarter of an hour, they will "come to." As soon as they begin to crawl about, take a hive which is strong enough to stand the winter, or one which, having swarmed often in the summer, is weak in bees, though heavy, (this, too, must be stopped up the evening before,) and put it gently on the top of the empty hive where the smoked one stood before, keeping the bees of the two stocks asunder with some coarse canvass, such as is used for straining milk. A piece of thick paper, full of pinholes, will do, but a sheet of tin punched with holes, the 16th of an inch over, is best of all. You may slip it under any hive you wish to move, and place it on the top of the empty hive, or elsewhere, without letting one bee out. Keep the bees in the two hives for twenty-four hours apart from each other. On the evening of the 2d day, draw the tin, paper, or canvass, away without disturbing the hives. Tap the empty hive, and the bees which have now forgotten their own queen, which you have taken away, will go up into the full hive, as if they belonged to one swarm. Early next morning, when all is quiet, set the

doubled hive back in its old place. If you pull the tin away too soon, the bees will fight terribly, and kill a great many, and sometimes even the other queen. For fear of this, you must take care of the queen you smoked. The next day after the stock has been put back to its own place, put this queen into the mouth of your doubled hive; if any accident has happened to their own queen, they will gladly take the stranger to reign over them.

The figure No. 1, shows the tin box with holes in the top for the smoke to go through, which is very handy, as it prevents any of the bees falling into the lighted fungus: *t t* are holes in the bottom of the tin box, to let air in, or it will not burn; the top, which takes off, is full of holes to let the smoke through: *h* is the sharp point which is to be stuck into the hive. This way of smoking is very useful to unite a cast to another stock which is weak, or to put two casts together: when you want to do the latter, smoke them *both* as above. Pick out one queen, put all the stupid bees into one hive, (that one which has some comb already made, by choice,) and sprinkle them over with a little sugar and beer. They will take to one another when they have helped each other to clean off the sugar with their tongues. Even if you are lucky enough to have none weak, always unite your casts to a hive which, though strong, has plenty of room; for the same number of bees will do more good together than they will in two hives. A doubled hive will eat no more honey in the winter than a single one. The reason of it seems to be, that where there are many bees in a hive, they can keep warm by hanging close together, instead of eating. So that in a full hive the same quantity of honey goes farther than in a weak one, as each bee eats less. Have all your hives made the same size, that they may fit one another exactly. Some people say, "We have smaller hives for our casts and weak swarms." I say, never have weak swarms or casts; or, when you have them, join them to another. The reason of this you will soon see. Make them also with a hole at the top, an inch and a half over, with a bung to fit it. This is needful for the plan of capping, which I am now going to teach you.

In May, when your hives get full of bees, and they begin to hang out, put a small box, which will hold about 10 lbs. of honey, on the top of the strong stock, (after you have pulled out the bung,) with a bit of glass at the back, that you may see when it is full. The bees will fill it sometimes in a week or ten days. Directly it is full, take it off; it will be white honey. These little caps will give room for the bees to work, who otherwise would hang out idle at the mouth of the hives waiting for

swarming. I have had them hanging out for a month together, for the bees do not know the time when the queen will be ready to swarm. Even when she is ready, they are often kept back many days by clouds or winds; and they are too wise to tire themselves by work on a day when they *may* have a long journey to go in swarming. Not only are they idle, but the other bees are forced to feed them; for every bee that goes off with a swarm has his stomach full of honey, which is taken from the common stock. By means of the cap, you make those bees work who would otherwise be idle. The cap must not be larger than the size I have told you; for if you put on a full-sized hive, you give them so much room, and make the hive so much cooler, that they will not swarm at all. But this cap will not make them swarm one day later than they would otherwise do. Besides, if the cap is too large, the queen will lay her eggs there also; and when you take it off, you will find black combs instead of virgin honey. So much for the stocks which you wish to swarm.

I will now show you, that when you have once got your stock up to its full number, it is much more profitable to prevent their swarming. And as to the number of stocks, few cottagers keep enough: there is hardly more trouble in taking care of twenty stocks than two. In Germany, I saw a man in a good honey country who had 200. On the old plan of burning the bees, a cottager's stock is sometimes large, sometimes small. After a bad honey year, he is often tempted to burn many of his good old stocks, in order to make up by numbers the same quantity of honey which in better years he will get from few. Suppose he leaves three stocks, of which two stand the winter, and the next year turns out a very good bee year, he is then not ready to make the most of it, and of course only gets one-tenth of the honey which he would, if he had twenty stocks, as he ought to have.

Man has nothing to do with the weather, as I said before. All I can do is, to show you how you may make most use of a good year, get a fair quantity of honey in a middling year, and not lose all your bees in a bad one. 290 lbs. have been taken from one stock, without hurting the bees, by a method which I will teach you, whilst the heaviest cottage hive I ever heard of was under 100 lbs. I just now said, it is better not to have swarms. If I with 10 stocks get 60 lbs. of honey, which I easily can, from each, without destroying one of my stocks, am not I better off at the end of the year than you, whose ten stocks have all swarmed, and who, when you take up all the swarms in the autumn, think yourself well off if you get 20 lbs. from each. You get 290, I get 600 lbs. of honey. But I will show you how to be as well off as I am. I have said it is best to prevent swarming: now hear the reason. The queen bee lays from 10,000 to 30,000 eggs in the year. In a stock containing 3000 bees, almost all of them in middling years will be busy in nursing the grubs, for they are such good mothers that they think it their first duty to feed their young; gathering honey is their second. A swarm goes off; you have two queens, each with 3000 bees, busy in rearing the eggs which the two queens lay all through the summer. They have no spare time to gather honey, and so, in a bad year, a stock with plenty of bees in it will be often almost empty and worthless when you take it up in the autumn, and sometimes even die in the summer if it is not fed. Now if you prevent swarming by giving them plenty of room, 3000 bees, who were nurses before to the grubs of one queen, will be enough to do the nursing work to the hive, though it is so much larger; for each hive has only one queen: and one queen cannot lay eggs enough to require more nurses, though two may. The other 3000 will store honey in the spare room you give them,

which you may take as I will show you. But before I fully explain my method, as I am going to speak of bottom boards, I will say that stone and slate stands are very bad for bees. They are too cold; the bees which in the winter come down upon them get chilled, and cannot get up again. Wooden bottom boards are far best, as well as most handy. Look at figure 2: you see a wooden bottom board with the door-way *a* cut in it, (it is better to cut the entrance in the board, and not in your box, for by this means the wet of the box runs down the slope of the wood.) You see it has another entrance *b* on the box side. The dark mark is meant to show where a box will stand on it. The other bottom board is just like it, only the second doorway is on the left side (the two doorways must be made to fit each other when they are pushed close.) As soon as your bees get so strong in May that they begin to hang out, push the two boards close together. In the evening when they are all in, shut up the front entrance *a*, open the right-hand one *b*, and put an empty box on the new board, with a glass in the back, and a hole, one inch and a half over, on the top of it. Its place is marked *thin* in the wood-cut. Each doorway has a bit of tin laid over as much of it as juts out beyond the hive. The bees will find no way out next morning, and will be rather bothered at first by this change; but if you put the new doorway exactly where the old one was, and rub the board with a little honey or sugared beer, they will soon take to it.

As their numbers increase, they will begin to build combs in this new hive. As soon as it is full, you may take it away in this manner. In the heat of the day, when many bees are out, slip a piece of tin or card between the two doorways: shut up the doorway *c*, and open the old doorway *a*, after you have pushed it back into its old place. If the bees go on working the rest of the day all quietly, you will be sure that the queen is in the *old* hive, and all is right. About half an hour before dusk, open again the doorway *c*; and if, as you suppose, the queen is in the old hive, the bees, frightened by their long imprisonment, will hurry from one doorway to another, to join her. As soon as most of them have gone round, take away the full hive for yourself. If the old hive is very uneasy all day, you may be sure that the queen is shut up in the *new* hive; if so, draw out the piece of card or tin, to join them again, and wait till another day. Here you have a good hive of honey made by bees which we have prevented from swarming; from which if they had been parted by swarming, you would, perhaps, have got none.

Figure 4 are wooden hives. *g* is the middle box, into which the bees are to be swarmed, and never after disturbed. It may be as hot as they choose to make it; there the queen lays her eggs, there the nurse-bees do their work, there they lay up honey sufficient to keep them through the winter, there they sleep through the winter; in short, it is their nursery, their feeding-room, their palace, their home, their castle, for they must never be disturbed there. The side-boxes *h h*, are only barns, where they lay up their spare honey, and which you may take as fast as they are filled. (In a good honey year you will often get a box weighing 50 lbs. early in June.) *k k* are the slides, which pull in and out, and which open or shut the way from the centre to the side-box.

Always keep one of the side-boxes empty. As soon as the one on the right hand gets pretty full of honey, and the hive gets so hot that if you do not give them more room they will soon swarm, pull out the slide, and let the bees into the left hand box; this will make them cooler. As soon as they have taken to this new barn, take the full one, empty it, and place it back, to be used again as soon as the left hand one gets full. The boxes must each be about eleven inches clear on the inside by nine inches high. This is the best size for common use. A square box is far better than a round straw hive, as they can make all their combs full sized, without any of the small and useless ones with which they fill up the cottage hives.

Winter Place for Bees.—The place where you put your bees in the winter is of no less matter. If they are left in their summer place, fronting the sun, every bright day, even in December, tempts them out. They find nothing, are of course more hungry, and eat more on their return. Many of them never get back; when they get out of the warm sun into the cold wind, they fall stiff, and die.

The best place to put bees in is a *dry and dark room or out-house*. (Damp cold gives them the rot.) Put your bees there the last week of November, and let them sleep quietly till the flowers begin to come out at the end of February. Put their bottom board slanting, that all the wet may run out at the door; or, still better, hang them up in a coarse cloth: this will let in the air and catch the water. Weigh them before you put them away and when you bring them out, and you will find them much stronger, as well as heavier, than any you leave on their summer stands. If you have no such room or out-house, at least keep the sun away from them, or put them on the north side of your house, if the place is dry. In Switzerland a whole village clubs together, and hires a cold dry room, which they darken, and put all their bees in. If more cottagers kept bees, much of the honey which is now wasted would be gathered. I have taken the trouble to see how much bee-produce is brought into England every year from foreign parts. It is £32,000 in wax alone, besides honey. Every cent of this might go amongst those to whom it is of the greatest consequence, namely, the cottagers. The flowers, too, are all the better for the honey being taken. I heard a farmer say, that his orchard bore double the crop it had done before he took to bees. And what is the reason honey is found in flowers? Its only use, rather its chief use, is not for men to eat, but to draw bees and honey-eating flies to the flowers. They carry the farina, or dust, on their legs from flower to flower, which makes them bear fruit. *If there were no bees or flies, there would be no apples.*

I must repeat, NEVER KILL A BEE. The poor insect has enough enemies to contend with: starvation and damp in the winter; moths, hornets, and robbers of their own kind in the autumn; dry summers, which often press them very hard; cold and backward springs. It has been well said, that man, who ought to be their best friend, is often their worst enemy. They have no defence against the brimstone match, though, with some help from man, they can conquer all their other enemies. Be kind to them, and, like reasonable creatures, they will fully repay you. Do not listen to those who tell you that after two or three years the bees will do no more good; that they get old and lazy; and that therefore they had better be taken up. They do no such thing.

When moths have laid their eggs in the hive, turn it up, and cut freely out the whole of such combs as have the grubs of the moth in them; for it is easier for the bees, if you do it in the spring, to make a new comb than to mend an old one; and you may perhaps leave some grubs, or eggs, unless you do so. But prevention is better than cure. Prevent wasps, moths, or robber bees from coming in, by making the door smaller, when they are about. The bees will be better able to fight for themselves. They teach you what they want by building up little pillars of wax in the doorway. If robbers have taken a hive, use your fungus directly; take what honey is left for yourself, and join the smoked bees to some hive which wants strengthening. Keep them shut up for two days after, till they all get friends. *None but the poorer ones rob; none but the weak are robbed.* So you can prevent robbery, though not cure it: unite all your weak hives, and unite and feed your poor ones. But you say that feeding costs something; so it does. But every pound of food given at the right time, as in a cold, late spring, will be repaid by the bees when the weather changes. Another time when feeding is quite needful, is when the weather comes bad within two days after a swarm is put into a hive. The bees, as I said before, swarm with their honey-bags full. You may have noticed that very few bees go out the day after the swarm. They are then busily engaged in building their combs, of the honey which they carried with them. You will smile at the notion of building combs with honey, but it is true nevertheless. What they carry in on their legs is bee-bread, not wax. The honey goes from their honey-bag into their stomach, and then drops out in little white plates of wax from under the scales of their abdomen, or tail. I have watched it myself, for half an hour, coming out of a bee who was hanging in a cluster, with his belly towards me, close to the glass. I always feed my bees for two or three days after they have swarmed, be the weather fair or foul. It saves time, and helps them to get their combs sooner made. Nothing you give your bees is thrown away; all is repaid with in-

terest. *Not a single ounce of honey has ever been wasted by bees since the world was made.* You do not waste your honey by feeding, but only, as it were, pour it out of one pot into another, where you may find it whenever you want it, and not only so, but you find a peck, where you put a quart. Another time when feeding is needed is in the dry, hot months of summer, when the flowers have no honey, but fade as soon as they blow; feeding will then always cheer your hive, saving the lives of many young bees when their *dry nurses* cannot otherwise feed, and even save a whole hive. Sometimes I myself have seen, in a dry summer, thousands of bee-grubs lying before the hive, which the old bees, unable to keep, have thrown out. This seems cruel, but it is, in truth, kindness; when thus thrown out, they quickly die, whilst, if kept in the hive, they would linger on a long time, half starving. Autumn feeding should not be done later than September. Weigh the hives you wish to keep; if they are 2 lbs. or 3 lbs. short of 20 lbs., give it them all that time; they will lay it all up in their cells; and though feeding in the winter is better than no feeding at all, and has often saved hives, still it murders many bees who come down into the cold. It is as if you had always to go down and dig your potatoes in the frost and cold of December, instead of laying them up safe and handy.—As for food, never press your combs; let the honey drain from them, and so you may get clear honey, which is worth a great deal more, even from common black combs. When all has run that will, put the combs by, till the time when your bees want food in the summer; then put them before your hives; they will clear them in a very short time, and not only thank you, but repay you too. Again I say, *nothing is wasted.* If you feed with beer and sugar, which is next best, do not put more than 1 lb. of sugar to a quart of beer; nor boil it more than five minutes; this melts the sugar; longer boiling would make it thick and unwholesome.

Many people, who would otherwise keep bees, are afraid of their stings. There are some people, it is true, to whom a sting is really dangerous. Many remedies have been given for a sting; above all, pull the sting completely out, as it is barbed, like a fish-hook, and will work into the flesh. Then squeeze the poison out with the pipe of a small key, as you would a thorn, and put a little honey on the place, just to keep the air away; if this is done at first, the swelling will generally be a mere nothing. But, as I have said before, prevention is better than cure. Listen to the words of an old writer, who lived two hundred years ago:—"If thou wilt have the favour of thy bees, that they sting thee not, thou must avoid some things which offend them; thou must not be uncleanly; for impurity and sluttishness (themselves being most chaste and neat) they utterly abhor: thou must not come among them smelling of sweat, or having a stinking breath, caused either through eating of leeks, onions, garlic, and the like; thou must not be given to surfeiting or drunkenness; thou must not come puffing and blowing unto them, neither hastily stir among them, nor resolutely defend thyself when they seem to threaten thee: but softly moving thy hand before thy face, gently put them by; and lastly, thou must be no stranger unto them. In a word, thou must be chaste, cleanly, sweet, sober, quiet and familiar: so will they love thee, and know thee from all other." Above all, never blow on them; they will try to sting directly, if you do. If they come all about you making the noise which you will soon learn to know as a sign of anger, go quietly away, and put your head into a thick shrub, if any is near. This will brush them off.

I have now done. Learn, from the bee, to work hard, and waste nothing. Remember, nothing worth doing can be done without a little trouble; and, above all, *help each other all you can.*—*Yankee Farmer.*

We are obliged to our friends for several fine samples of grain, and other produce, which have been, from time to time, deposited at the Office of the Cabinet; especially for some very large stalks of Corn. Our wish is, to form a sort of Cabinet of this *chief of all grains*, and should be glad to obtain a few of the finest ears of the distinct varieties, presuming, that in this remarkable season of fertility, there will be found samples of unprecedented growth.—Ed.

The Hessian Fly.

When I began to manage the farm where I now reside, which was twenty-one years ago, I had heard much of the ravages of the Fly, and of the different pickles for the seed, to prevent the evil. Some would find a certain preventive in lime-water, others in a solution of nitre, strong brine, &c.; all based on the idea that the egg, or nit, from which the fly came, was carried into the earth in the fuzzy end of the grain. For the purpose of trying the effects of the different soaks, I prepared some seed-wheat in each kind of soak, and sowed it in a lot near the house, the middle of September, keeping each kind by itself: other seed I sowed on cotton, floating on water, in a glass vessel in the house; which vegetated about the time as that sown in the ground. I let all stand until the 25th of October, when I examined the plants from the different kinds of soaks, splitting them from the roots to the tops, and placing them under a strong microscope, when, to my surprise, nearly every plant that came from the lot was perforated near the surface of the ground, having from three to eight eggs, or nits, in each, while those taken from the cotton had neither perforation or nits about them. This satisfied me that the fly was not carried into the ground by the seed. I therefore came to the conclusion, that if I kept my wheat out of the ground until after a few good frosts, which would be likely to destroy what flies there were, I should not afterwards be troubled by them; and from that time to this, I have never sown my wheat until October, and have never found my grain injured by the fly, although I have not omitted sowing for eighteen years. From this I conclude, that the farmer who sows his wheat early, and thereby gets his crop very fine in the fall, offers the Fly a shelter for its eggs, and invites them to destroy his grain.—*Alb. Cult.*

For the Farmers' Cabinet.

Mediterranean Wheat.

The pleasant time for wheat-sowing has again returned, accompanied with its countless nostrums for the cure of diseases, which are to fall out about nine months hence, in the shape of Rust, Fly, Mildew, &c., all which are to be prevented, or cured, by certain steepings and ablutions; to be practised upon the grain before sowing; but although these were all put in operation "*secundem artem*," the past year, how deplorably inferior have the crops of wheat proved the present season! in fact, I have not yet seen a tolerable sample of wheat grown in this neighbourhood—all are defective, and many to a ruinous extent. Numerous inquiries are making for the Mediterranean species, for seed, and certainly, its being, hitherto, found proof against the

Fly, is a strong recommendation; but its diminutive ears, and short straw, its inequality of sample, and inferiority of flour, render it, to me, a very exceptionable variety; indeed, I wonder how any good manager would be content to grow ears two inches in length, yielding only twenty grains, on an average, with straw so weak and short as to fall before the crop is ripe, and diminishing the size of the dunghill nearly one-half. I have examined many crops of this peculiar species of wheat, and am convinced, in my own mind, that it is the real "*Tres mois*," or French spring wheat, which, as its name imports, becomes ripe in "three months" from the time of sowing, and of which I have seen hundreds of acres growing in Europe, particularly in the Channel islands, Guernsey and Jersey, where it is valued, chiefly, on this account, a character for earliness, which it has sustained in this country and climate; coming ripe, under the same circumstances, ten days, or a fortnight, earlier than any other variety known amongst us; thus, probably, escaping the rust, which is pretty sure to fall on the late-ripening wheat: but, wherever it is sown, in Europe, it is considered a very inferior crop, and is cultivated only on land that is either too poor or ill-conditioned to warrant more than half a yield of other varieties. Now it would be easy to test the correctness of this idea—namely, that it is a spring wheat—by sowing it in the spring; and, if my suspicions be well founded, it will bear forcing by manure, at that season, without much danger of its becoming too gross in the straw, or being injured by the rust, provided the dressing so applied be properly decomposed, and well pulverized. In the islands above-mentioned, it is customary to sow it on a soil well dressed with the ashes of sea-weed—perhaps the most stimulating of all manures—which it will bear without rusting; the surface of the land reeking like a boiling pot, many days after the seed is sown.

I have had an opportunity of seeing the Red Cone-Wheat, imported by Mr. Zollikoffer, the present season, a description of which is given at p. 314, of the 5th vol. of the Cabinet, and have no hesitation in saying, if such wheat can be grown in this country, it will, in all probability, supersede the use of all other varieties, on our cold and stiff soils. I shall look with anxious expectation to the time of its ripening amongst us. SUBSCRIBER.

Berks Co.

We have examined a sample of Mr. Zollikoffer's wheat, and have never seen a finer specimen, if the real Red-Cone—we trust the expectation that it is fly-proof—and which, we suspect, will include the term *rust-proof* also—will be realized. The addition to the straw-yard, when compared with the Mediterranean species, will, if it succeed in this warm climate, amount to half the value of a middling crop.—Ed.

For the Farmers' Cabinet.

Pernicious Weeds—Canada Thistle.

It is strange that farmers are not more aware of the injury of allowing pernicious weeds to flourish unmolested on their farms, when by a little attention and labour they are so easily extirpated. I have frequently seen whole farms covered with wild carrot, daisy, &c. A weedy farm, bad fences, and a lazy farmer, generally go together. Weeds are like little debts: a few are not felt, but if the habit of contracting them be persisted in, they soon run up to an alarming amount, and perhaps finally ruin the possessor.

Weeds should be pulled as fast as they appear. If the first be removed, there need be little fear of the second. They increase at the rate of a hundred fold; and it is not merely the space they occupy, but the nourishment they take from the soil. A crop of weeds will impoverish land almost as much as a crop of corn or grass, and wherever they flourish abundantly, it is impossible to have a full crop of anything else. A farmer who allows weeds to grow, will not only injure himself—they are continually encroaching upon his more careful neighbours.

Two years ago, I had a lot entirely covered with St. Johnswort, which had taken such a deep hold of the soil, that it had almost effectually destroyed the clover and timothy. I mowed it about the middle of July, when the seeds were nearly ripe, and when the young shoots sprung up, I turned a flock of sheep upon it, which kept it completely eat down until frost. Last spring there was scarcely a stalk to be seen, a beautiful growth of timothy and clover having taken its place.

But the Canada Thistle is, perhaps, the greatest pest to him who is so unfortunate as to get it on his land. It spreads rapidly, both from the root and seed. It first came into this neighbourhood in a cargo of timothy seed from the northern part of New York, where it has so completely taken possession of some sections, that the land is almost worthless. Many abandon their farms altogether, finding it impossible to reap the wheat; and the cattle will not eat the hay when mixed with the thistles. It is next to impossible to destroy it. I have tried various means, but none seem to answer in a satisfactory manner. I believe the best way is to dig it up, and salt it well, as the least particle that is left in the ground will grow. I have dug to the depth of two feet, and poured brine over the roots, giving the whole a pretty thick coat of salt; this stopped the growth for one year, but the next summer it was thicker than ever. I suppose it grew

from the seeds which were nearly ripe when the thistles were dug.

How effectually to destroy these pernicious intruders should be a part of the study of every farmer. But it is a subject that has received but little attention, generally. We should be up and doing; and now (in September) when we have little of importance to do, we should shoulder the hoe, scythe, and spade, and go forth to the field to meet these common enemies. If once effectually "driven from the plains," it will be some time ere they return again to harass us.

W. C.

Brandywine Hundred.

Horticulture.

OUR Horticultural Society embraces among its members the *young*—this is well.—To create a taste for such studies at an early age, should be the effort of every one who has the true interest of the young at heart:—for we can conceive of no single vice or low pursuit to which the young are exposed, which may not be counteracted by early instruction in the pursuits of the garden or the field, and children and youth are particularly inclined to this branch of easy employment: even the picturesque scenery of your busy city invites to a study of the beauties and wonders of nature. The rare and beautiful wild flowers which now adorn your table, were the humble and happy offerings of youth; and show that the wild banks of the river, the broad meadows, the oaken woods, and even the tall trees of your streets, amidst high piles of masonry, and the diversified flora of your vicinity, are favourable to the study of flowers—and show that the narrow area of your dwelling-houses is capable of affording your children sufficient space for their mimic floriculture; and not a few of the more delicious fruits, even, might be trained to your sunny walls by the careful and curious fingers of those little happy inmates, in whom are centred your anxious wishes and your choicest blessings. The rearing of a few plants in pots may occupy a child's leisure hours; and were the young person of a more advanced stage of life, even, to whom could such an attention to the wonders of vegetation be otherwise than ever instructive and delightful? I hail the efforts of the young, in their votive offerings to Flora, as among the happiest omens of our day.

Nor must I forget to offer the meed of praise due to the *other sex*, who, by the constitution of the society, are enrolled among its most honourable members! Some of the most superb green-houses and gardens in England are the property, and under the management of women of the highest rank,

with whom the mysteries of floriculture, and the higher branches of gardening, are familiar. With the female mind such pursuits are congenial. The parlour is rendered magic in its attractions by the nurture of some superb exotic, under the fair hands of the wife, the mother, or the sister; and whatever lends a charm to *home*, demands our sacred attention! Many a child has been won to the *graces* of life by the ministry of some flower which affection has reared, and which a *mother's* hand has cherished: and who ever can forget what *she* has loved, or pass with an indifferent eye the flower in which she has delighted! Never should the beautiful anecdote of the illustrious CUVIER be forgotten, in his admiration of the red-stock gilliflower, because it was his *mother's flower!* Tokens of enduring affection and of sacred friendship! what more appropriate gift can be offered upon the family altar than these living types of beauty, love, and everlasting remembrance! — *Professor Russell's Address.*

Transpiration of Plants.

IT is found that a sunflower in twelve hours transpires by its leaves one pound fourteen ounces of water (nearly one quart), all of which must have been imbibed from the soil by the roots; water being the vehicle which conveys nourishment to plants. The food which it holds in solution is imparted to a plant in a manner analogous to the nourishment imparted to the animal system by the food which passes into the stomach. Hence, the growth of the plant depends much on the presence of moisture as well as of vegetable matter in the soil, and upon the sufficiency of the roots to take it up and convey it to the trunk:—thus, if a tree is divested of a great portion of its roots in transplanting, it makes new wood only in proportion as these are replaced by a new growth; and thus, also, a plant grows faster in a moist soil than in a dry one—the fertility being both alike—and faster in a mellow soil, where the roots can fully extend and multiply, than in a hard one. These facts suggest—1st, the impropriety of ploughing deep between the rows of corn and other crops while much advanced in growth, whereby the roots might be broken and wounded, and exposed to the drying influences of the sun and winds. 2d, the importance of keeping all crops perfectly clear of weeds and grass, which rob the soil of food and moisture; and 3d, the propriety of transplanting trees while they are young, when the system of roots can be preserved nearly entire, and of surrounding them with a bed of mellow, rich earth. — *Selected.*

WE all receive from society full as much as we give.

Cutting Stalks—Harvesting Corn.

SOME farmers still pursue the old way of topping their stalks, as it is termed, which is cutting off the stalks of corn at the first joint above the ear, soon after the grain becomes turned or grows hard. Many experiments have been made, showing that there is a loss of grain in cutting stalks at the usual time; for when some rows in a piece have been cut in this manner, and others allowed to stand, it has been proved, on harvesting, that the corn which remained uncut yielded the most, in some cases, by twenty per cent. The sap ascends from the roots to the leaves of the plant, and there it undergoes an important change, becoming elaborated into juices suitable to add to the growth of the plant, or fruit, or to form and perfect its seed, and any mutilation of the plant is injurious. We have seen a complete failure of corn when grass-hoppers had eaten off the leaves. Let the leaves be stripped from any plant, and the consequence will be a failure in growth, and in fruit or grain as the case may be.

When corn is so ripe that it may be topped without injury, then it may be cut up at the bottom without loss; and if this be done when the kernel is well glazed, and becoming hard, then the butt, as well as top stalks, will be saved in a good condition; and, after it is shocked, the grain will still receive some more nutriment from the stalk, if it is not perfected. In this way, the grain comes to perfection, the stalks, both top and butt, are saved in a good state, and the harvesting is done at a far less expense than that of topping, gathering the corn, and cutting up the butts. Farmers, make exact experiments, and report the result.

Late corn cut up when full in the milk, will ripen and make sweet bread. We have cut up corn in cold seasons, in this state, just before a frost, and saved it well; when it would have been worthless had the frost struck it. When there is a prospect of a cold frosty night, or in the evening, when the frost is at hand, corn may be saved by cutting immediately and laying it in heaps on the ground, as then only a little at the top will be affected by frost. Fine warm weather generally succeeds the first frosts, and the corn will ripen in the shock. But if it be killed by frost when in the milk, it is not good, even for hogs. — *Farm. Jour.*

LET no man be trusted in his professions of attachment and devotion to the people, who does not show by his own conduct in the relations of private life, that he is just to those that have not a strong arm to enforce their rights; and that he has an ear for the claims of those that speak their wants and distresses only in whispers and sighs.

Agricultural Exhibition.

THE Exhibition of the Philadelphia Society for the Encouragement of Agriculture, will be held at the Rising Sun, on the Germantown road, near Philadelphia, on the 29th and 30th of this instant September. The committee of arrangement would remark, "the premium for the best ox or steer raised in Pennsylvania," will now embrace those that have been fed there also. The notice will now read, "For the best ox or steer raised or fed in Pennsylvania," \$10.

All stock, &c., contributed, must remain on the ground during the two days of exhibition; and all stock intended for sale, will be required to be registered in a book provided by the committee of arrangement, at the following rates: For each horse, \$2—for neat cattle, \$1—for hogs and sheep, 50 cents each.

Trial of Ploughs and Ploughmen.

At a stated meeting of the Philadelphia Society for Promoting Agriculture, held on the first instant, the committee of arrangement were authorized to offer the premiums expressed in the following resolutions:

Resolved, That a premium of Ten Dollars, or a medal of that value, be awarded to the owner of the best PLOW, to be tested at the annual exhibition of the Society, on the 29th and 30th of September instant; and that a premium of Ten Dollars, or a medal of that value, be awarded to the best PLOUGHMAN, on the same occasion.

Resolved, That the Ploughs tried on the occasion, be selected from those exhibited, which are to be new, or used only preparatory to the exhibition.

Resolved, That the owner of each Plough exhibited, shall have the privilege of selecting his own ploughman and horses.

Resolved, That a premium of Five Dollars be awarded to the best SUBSOIL PLOW, to be tested at the foregoing trial.

Competitors are requested to give notice of their intention to compete, on or before the 25th instant.

By order,

P. R. FREAS,
Sec. Com. Arrangement.

Horticultural Exhibition.

THE Pennsylvania Horticultural Society propose to hold its thirteenth Exhibition on the 23d, 24d, and 24th

of this month, at the Masonic Hall. The approaching exhibition is expected to be unusually rich and splendid. Contributions in plants, fruits, flowers, and culinary vegetables, are solicited by the committee. Premiums for the fruits and vegetables to be competed for, will be awarded at 9 o'clock A. M. on the second day (23d,) and for the flowers and bouquets, at 11 o'clock A. M., on the first day of the exhibition.

We have been honoured by the presentation of an Essay, written expressly for our work, by Dr. Darlington of West-Chester, on a subject of the greatest interest to our readers. It is entitled, "Catalogue of a Farmer's Herbarium, or of such Plants as Agriculturists ought to be acquainted with," and consists of the enumeration and familiar description of 150 varieties of plants, both noxious and useful. It shall appear in our next; and will Dr. Darlington accept our best thanks for the valuable donation?

THE amount of subscription for the Cabinet, is, by the terms, payable in advance; yet some of our subscribers, owing to the difficulty of obtaining small bills for transmission, and other causes, have not yet paid for the 5th volume, which was closed two months ago. We respectfully invite the attention of such to the subject;—an observance of the terms on their part, would enable the publishers to fulfil their own engagements with pleasure to themselves, and, they trust, with advantage to their subscribers. The individual amount is small, and all would doubtless wish it discharged. The aggregate is important to the proprietors. The fifth volume of the Cabinet may now be had, neatly bound and lettered, price \$1.25, by application at the office—where also may be obtained complete sets from the commencement, at five dollars, half bound, together with all the standard works on Agriculture, Botany, and their relative branches; Science and the Arts.

BOOKHARD CLOVER.—In answer to numerous inquiries, we have to state that a few papers of the seed of this very rapid growing clover are yet for sale at \$1 per packet. Apply to Mr. R. Buist, nursery-man and florist, 12th street below Pine, Philad.

The quantity of rain which fell during August (8th month), was nine inches and one hundred and two thousandths of an inch 9.102 inches.
Pennsylvania Hospital, 9th mo. 1, 1841.

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THE FARMERS' CABINET, AND AMERICAN HERD-BOOK,

DEVOTED TO

AGRICULTURE, HORTICULTURE, AND RURAL AND DOMESTIC AFFAIRS.

"The Productions of the Earth will always be in proportion to the culture bestowed upon it."

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For the Farmers' Cabinet.

High Wages.

It is often said, and almost universally believed, that the high rate of wages paid for labour in this country is a very serious drawback on the profits of farming. "Yes," it is said, "I, too, would have my fields free from weeds, if I could get the labour done for the price they give in Europe:" and even sensible and well-informed persons are often heard to declare that farming can never pay for hired labour, remarking: "There are few weeds that are worth a dollar a day for pulling!" Then there is no truth in our motto, and agriculture is indeed the only business that will not pay interest for capital invested.

But it ought to be shown that the business of agriculture flourishes in every country in proportion to the rate of wages paid; when that is lowest, agriculture should pay the best—but is it so? Is it a fact that farming is more profitable in England, where labour is 37½ cents a day, often as low as 25? Or in Ireland, where the regular farm labourer in the most favourable circumstances, does not receive more than a dollar a week *without diet*, or seventy-five cents *with it*; showing the nature of that diet which, for a whole week, is valued at 25 cents only; eating meat but three times a year, and a single herring serving a whole family at the dinner meal by way of condiment; with oatmeal, only when the old crop becomes bad, or the new is unfit for use? Or in France, where from 8 to 12 cents are the customary wages for men; and for women, who are by far the best labourers—carrying the dung to the fields in baskets on their backs, and breaking clods on the ploughed land with boards fixed to their feet—the wages are still less? Or in Prussia-Poland, that granary of Europe, where, Jacob says, in travelling through Saxony, Poland, Prussia, Austria, Bavaria, and Wurtemberg, he never saw, either in the hotels, the bakers' shops, or pri-

vate houses, a single loaf of wheaten-bread! where the whole profit arising to the owner of an estate of 6300 acres, in his capacity of owner and tenant, amounted to no more than the clip of his wool; the wages of the best labourers not averaging ten cents a day, with plenty of good land to rent at 28 cents an acre, a larger quantity at 18 cents, and some at 12 cents!—and even at these rents and low wages, the farmers being able to pay no more than their taxes, and often ten years in arrear with them; they themselves often wanting the bare necessaries of life, and feeling happy if they have a surplus to meet the demands annually made for the payment of their local assessments. And thus, on a pattern farm of 3000 acres, managed with skill by the proprietor himself, *with no rent to pay*, no profit had been made for the last four or five years; while on another farm of 4000 acres, within twelve miles of the city of Warsaw, with an excellent road, and renting for seven cents an acre only, on a six years' lease, the tenant is compelled to pay the whole amount of rent out of his private capital! Or is it in Russia?—where, on an estate of 130,560 acres, the agricultural labour, *including the team*, is paid with 12 cents, and other manual labour with 8 cents per day!—where, although the large quantity of produce cannot be disposed of in the country, and in the midst of this plenty, distress is universal, and is felt the most severely *where provisions are cheapest!* There is then famine without dearth, hunger amidst abundance of provisions; farmers without markets, and labourers *without the means to purchase*. In the fall of prices, famine originates; the fall preventing the tenant from paying his rent; the landlord himself, bound by debts and contracts, is unable to make abatement; and then the miserable stock of the wretched tenantry is seized; the labourer is left totally destitute and without employment; and then ensues a scene of famine and despair, of tumult and bloodshed, only to be suppressed by military force! It is in these countries of low wages that the farmers may be seen guiding the plough drawn by a single cow, led by the farmer's wife—a very common team—with implements of the meanest order, the harness without iron or leather; the wagons, mere planks set against upright stakes-

fixed to the sides, and the cattle attached by ropes and straw collars.

Now it may be thought very desirable by some, that farmers should be able to retain all the advantages they here possess, and be subject only to the rate of wages paid in the countries of which mention has been made; but such a state of things would not be natural or rational: all would then cultivate the soil for themselves, and things would soon find their level. It is only by paying wages in proportion to the advantages to be derived from farming, that agricultural labourers can be retained in any country; consequently, wages in this country must and will be high. But, after this, the farmer himself derives an *advantage* from high wages; and to be convinced of this, it is only to go and reside in a country of low wages and watch the system as it works: in France, for instance, where the farm labourer receives scarcely sufficient to procure bread at about a cent a pound for himself and family; for out of a population of 32 millions, 22 millions have but six cents a day to defray all expenses—food, lodging, raiment, and education! He has not, therefore, the means of purchasing any of the comforts of life; he eats no meat, buys no clothes, uses no groceries, partakes of no pleasures, carves his shoes out of a block of wood, and braids his own straw-hat—his children going without either; so that, as the agriculturists in every country embrace the larger portion of its inhabitants, the farmers themselves are deprived of such a number of customers, who would, if they had it in their power, purchase at the market the very articles which are raised on a farm, and by which the higher wages paid by the farmer would find their way back to him, after having afforded the means of a greater degree of comfort, and induced a higher relish for them in future. Then the labourer would say, I can now afford to buy shoes, as well as to indulge in the luxury of animal food; and the shoemaker would be able to do the same, after having fitted himself with a garment, by which the tailor can afford to purchase a new hat, after indulging in a few of the luxuries at the market; the latter also being enabled to *sport* a chicken or a few eggs at his table; and so the system would work, to the benefit of all, but especially to the farmer, the cultivator of the soil, from whence all these things are derived. Now, the low rate of wages in England would at first sight appear advantageous to the cultivator of the soil, but by the time the farmer has paid the poor's rate, which, with the expense of collecting, &c., has sometimes amounted even to the rent of his land, he finds that it would be better for him to afford his labourer the means of living in the shape of wages at once, than support him in

a way that does not permit him to expend any portion of it in the articles which he raises, bread only excepted; and he is at length brought to see that if there are no consumers, there can be no purchasers.

With regard to the advantages to be derived from farming in this country over that of England, that is another and a very interesting subject, which may furnish matter for a future dissertation. VIR.

Turning Down Green Crops.

I TURNED under for wheat-fallow a piece of oats, which, had the crop been harvested, would have given 45 bushels to the acre: the experiment was on about five acres, with the oats removed from two of the contiguous sides of the square; but at the time when the wheat was a fair crop on all the field, no human being could, from the visible effects of the oats turned under, have discovered where the operation began or ended. This is the third experiment which I have made, by turning under a crop of oats just at the time they were beginning to change colour, on recently limed land; and now, being satisfied that it will not do, I shall repeat it no farther: no green crop that I have ever turned under for manure, except clover, has realized my expectations; and even clover, I prefer with the top mown off or grazed. The future effect upon the land I yet desire to witness in the after cultivation; but the oats turned under this season, having been completely decomposed by the great quantity of rain, I do not expect to change my opinion, but expect confidently to remain where I now am, and have been for a long time, a *firm believer in the propriety of surface manuring, rather than turning it under*. I have never been disappointed in weeds or other manure when spread upon the surface and allowed to decompose there, and thus become absorbed by the soil; but when turned under, it bleaches, becomes neutralized, and its effects are lost, going I know not where. It may be, that the direct action of the atmospheric air is essential to give vigour and fertilizing effect and action to these substances—for I know that when turned deep in a thin soil, dark substances lose their colour, and on my land they do not act as manure when thus placed. I have seen an account of the successful experiment of a North Carolina farmer, who, rolling down an oat crop, allowed it to waste on the surface; and this I much desire to see repeated here, for this experiment much better accords with the theory of *surface manuring*, which seems rapidly to be gaining ground everywhere.—*General T. Emory.*

A FELLOW-FEELING with the happy, is happiness.

For the Farmers' Cabinet.

AGRICULTURAL BOTANY.

As there seems to be a laudable spirit of inquiry awakened among the agriculturists, in various parts of our country, respecting the *Plants* which they are most interested in knowing,—and a desire manifested to be able to identify, with certainty, all those which are treated of in the agricultural journals,—I have supposed that the readiest and best mode of accomplishing that object, would be for each intelligent farmer to make a *collection* of all such plants; to have them carefully preserved, and *authentically labelled*, in a convenient volume, to which he could refer, as to a dictionary, or expositor, whenever he was in doubt, or wished to verify any particular species.

A collection of this kind, strictly limited to the plants in which he is immediately interested (whether *useful* or *pernicious*,) would be neither very bulky, nor difficult to procure,—and might be called THE FARMERS' HERBARIUM. One good specimen of each plant, collected when in its most perfect state of developement, would be sufficient. It should be neatly pressed and dried, so as to exhibit its peculiar characters; and each species preserved in a separate sheet of paper,—accompanied with its appropriate *label*, containing the *scientific name* whenever it can be procured from good authority, and also all the *popular*, or *common names*, by which it is known,—designating the localities, or districts, whence such popular names are derived.

The importance of having the *scientific name*,—and, in fact, of knowing and habitually calling each plant by that name,—will be obvious to every one, when it is recollected that the popular names are exceedingly variable and uncertain; and moreover, that the scientific names of plants convey clear and precise ideas of the objects intended, to every well-informed person throughout the civilized world. While there is nothing but endless misapprehension and confusion resulting from the use of local popular names of well-known plants, there is no difficulty at all in comprehending what is meant, when the scientific names are correctly employed. These scientific names can now be readily obtained from the books,—or from respectable botanists, who are always happy to impart information on such subjects. They can be acquired gradually, as opportunities offer; and when once obtained, and committed to writing on the labels accompanying the specimens, will be always at command, even if temporarily forgotten.

With these impressions, and with a view to promote an object which I consider at once useful, interesting, and feasible, I propose to make out a list of such plants as every farmer ought to know, both by sight and by name. Not to swell the list inconveniently, I shall, for the present, limit the catalogue to those plants which daily present themselves to the notice of the agriculturist, in this region, either as valuable occupants of the soil, or as troublesome pests and worthless weeds, in our cultivated fields, meadows, and pastures; omitting those which are usually confined to the gardens. Few persons, I apprehend, will question the utility of an accurate knowledge of the characters, and habits, of both the useful and the pernicious plants. Such knowledge must always be important in the operations of agriculture: and it is just as disreputable for a farmer to be ignorant of the vegetable tribes which claim his attention, as it is for an artist to be unacquainted with the nature of his materials.

The first step towards a knowledge of objects, is unquestionably an acquaintance with their external characters,—an ability to discriminate species, and to recognize each, with certainty, whenever seen. We may then proceed to ascertain their several properties; and, by the use of a precise nomenclature, and accurate definitions, communicate our knowledge to others. This is true of all our researches in the material world, and especially so in what are called the natural sciences. Natural history is emphatically a science of *observation* and *comparison*, by which we learn to identify and distinguish created beings; and no department of the science is more pleasing—as few, if any, are more useful—than the study of the vegetable creation. It is a study peculiarly appropriate to the agriculturist, whose chief concern is with the products of the soil.

As the literary, or professional man, finds both pleasure and advantage in a good stock of classical lore, so our farmers and planters would derive much benefit and gratification from a scientific acquaintance with the objects of their care: and we may indulge the hope that the day is not far distant, when instruction of that kind will be considered an indispensable branch of the farmer's education—when the natural sciences will be regarded as the *classics of agriculture*. To aid in preparing the way for this desirable state of things, is the motive which has prompted this inceptive essay. The catalogue of plants, here furnished, is *calculated*, as the almanacs say, for the *meridian* of Chester county, Pennsylvania; but, with some slight additions and modifications, it may be adapted to any part of the United States. The

scientific names employed, are those adopted in the *Flora of Chester County*—in which work all the plants, here enumerated, may be found described in detail. I have followed the arrangement, also, of that *Flora*—not because it is the best—but because it will be most convenient for those who may choose to refer to it, for the descriptions.

Catalogue of a proposed FARMERS' HERBARIUM, or of such Plants as Agriculturists ought to be acquainted with.

There are some *Cyperaceous* plants, such as *Club Rushes, Sedges, &c.*, which are frequent, and rather troublesome, in low swampy grounds, and therefore ought to be known by name and character to the farmer. The following are the most remarkable, in *Chester County*.

1. *CYPERUS REPENS, Ell.* A very troublesome plant in the Southern States; but happily rare, as yet, in this region.
 2. *SCIRPUS PALUSTRIS, L.*
 3. *S—— OBTUSUS, Willd.*
 4. *S—— TENUIS, Willd.*
 5. *S—— LACUSTRIS, L.* *Common Bull Rush.* There are several other species of *Scirpus* about our low, wet grounds; and all worthless.
 6. *CAREX ACUTA, L.*
 7. *C—— TENTACULATA, Muhl.*
 8. *C—— MULTIFLORA, Muhl.*
 9. *C—— STIPATA, Muhl.*
 10. *C—— SCOPARIA, Schk.*
- } *Sedges.* A numerous family of worthless plants, of which these species are most common, in our wet meadows, —often forming large tufts, or *tussocks*.

The principal *Grasses*, on the farms of Chester county, noted either for their value, or as being worthless and troublesome, are the following:—

11. *DIGITARIA SANGUINALIS, Scop.* *Crab Grass: Finger Grass.* Frequent in gardens and Indian-corn-fields; rather troublesome.
12. *PANICUM CAPILLARE, L.* A worthless grass; common in corn-fields and sandy pastures.
13. *P—— CRUS GALLI, L.* *Cock's-foot Panic Grass.* A coarse weed-like grass; common about drains of barn-yards, and moist places. There are several other species of *Panicum* in our meadows and pastures; and all worthless to the farmer.
14. *SETARIA VIRIDIS, Beauv.* *Green Foxtail: Bottle Grass.* A worthless grass; frequent in corn-fields and pastures.
15. *S—— GLAUCA, Beauv.* *Foxtail Grass.* A common, worthless grass; usually abundant in stubble fields, orchards, and pastures.
16. *S—— VERTICILLATA, Beauv.* Another worthless species; becoming frequent about gardens and cultivated lots.
17. *S—— GERMANICA, Beauv.* *Millet: Bengal Grass.* Affording good hay; and is often cultivated, both for hay and for its seeds.
18. *CENCHRUS TRIBULOIDES, L.* *Bur Grass: Hedge-hog Grass.* A most pernicious pest in cultivated grounds; abundant in New Jersey—but fortunately rare, as yet, in Chester county.
19. *AGROSTIS VULGARIS, L.* *Herd's Grass*, of Pennsylvania, but not of New York and New England: often called *Red-top*. A grass of some value, especially in swampy grounds, and often cultivated; but it is not highly esteemed here. There are several other species of *Agrostis*, and of grasses allied to that genus; but they are not generally considered of much value.
20. *PHLEUM PRATENSE, L.* *Timothy: Herd's Grass*, of New York and New England; a well-known and valuable grass—generally cultivated in company with red clover.
21. *ANTHOXANTHUM ODORATUM, L.* *Sweet-scented Vernal Grass.* Common in meadows and pastures: remarkable for its fragrance; but not very highly esteemed by our farmers.
22. *AVENA SATIVA, L.* *Common Oats.* Everywhere cultivated.
23. *A—— ELATIOR, L.* *Oat Grass: Grass of the Andes.* Sometimes cultivated, but not highly esteemed.
24. *BROMUS SECALINUS, L.* *Cheat, or Chess.* A troublesome grass in wheat fields; well known to every farmer.
25. *B—— ARVENSIS, L.* *Brome Grass.* Frequent in pastures and moist meadows: makes a tolerable hay.
26. *FESTUCA PRATENSIS, Huds.* *Meadow Fescue.* A highly valuable grass; growing spontaneously and abundantly, in all our rich meadows and pastures.
27. *POA PRATENSIS, L.* *Smooth-stalked Meadow Grass: Green Grass: Blue Grass, of*

Kentucky; but not of other districts. This is decidedly the most valuable of all our pasture grasses; and *comes in*, spontaneously, in all our rich, calcareous soils.

28. P—TRIVIALIS, *L. Rough-stalked Meadow Grass*. Frequent in moist meadows and pastures. It closely resembles the preceding species, and is a valuable grass; but not so valuable as that other.
29. P—COMPRESSA, *L. Flat-stalked Meadow Grass: Blue Grass*. Sometimes called *Wire Grass*. Not so much esteemed as the two preceding species; but in good land it affords a valuable, nutritious pasture. It is sometimes rather troublesome in cultivated grounds. There are several other species of *Poa* on our farms, but greatly inferior in value to these, and some of them quite worthless. The *P. Pungens*, which has been spoken of in the journals of late, is mostly a *woodland* species, and not valuable.
30. DACTYLIS GLOMERATA, *L. Orchard Grass*. A valuable grass,—more so for pasture than for hay; and often cultivated.
31. ELEUSINE INDICA, *Lam. Dog's-tail Grass*. Very common in lanes and wood-yards. Cattle and hogs are fond of it.
32. SECALE CEREALE, *L. Common Rye*. Much cultivated in some districts.
33. HORDEUM VULGARE, *L. Four-rowed Barley*. Much cultivated.
34. H—DISTICHUM, *L. Two-rowed Barley*. Ditto.
35. TRITICUM SATIVUM, *L. Wheat*. Universally cultivated; and several *varieties*, both awned and awnless, have been successively preferred.
36. T—REPENS, *L. Couch Grass*. In Virginia called *Wire Grass*. A grass of some value; but so difficult to subdue, that it is considered a pest where it abounds. It is rare in Chester county.
37. LOLIUM PERENNE, *L. Ray Grass, or Rye Grass*. Often found in our meadows, and sometimes cultivated. It is a grass of considerable value; but not much attended to in this county.
38. ANDROPOGON NUTANS, *L. Wood Grass: Indian Grass*. A worthless grass, often abundant in poor, neglected old fields. There are two or three other species, equally worthless, often to be met with.
39. SORGHUM SACCHARATUM, *Pers. Broom Corn*. Well known, and much cultivated. Two or three other species occasionally cultivated.
40. HOLCUS LANATUS, *L. Feather Grass: White Timothy*. A grass of indifferent quality; frequent in meadows.
41. LEERSIA ORYZOIDES, *L. Cut Grass: Wild Rice*. A worthless grass; often rather troublesome along swampy rivulets.
42. ZEA MAYS, *L. Indian Corn*. Cultivated by every body.
43. TRIPSACUM DACTYLOIDES, *L. Gama Grass: Sesame Grass*. A stout, coarse grass, which has attracted some notice in the west; but is probably unworthy of culture. It is but little known in Chester county. The 33 *grasses*, here enumerated, are perhaps the best known in this region. About 20 of them may be ranked among the valuable plants (some 12 or 13 being more or less cultivated); and the residue are regarded rather as weeds.
44. DIPSACUS SYLVESTRIS, *L. Wild Teasel*. A coarse, biennial weed; quite worthless, and rather a nuisance in some neighbourhoods.
45. PLANTAGO MAJOR, *L. Common, or broad-leaved Plantain*. A well-known, worthless weed, in lots, and about houses.
46. P—LANCEOLATA, *L. English Plantain: Buck's-horn Plantain: Ripple Grass*. Cattle feed upon this species, and it has been sometimes cultivated for a sheep pasture; but our farmers dislike it—especially on account of its seeds mingling with those of red clover, and reducing the value of the latter.
47. SYMLOCARPUS FOETIDA, *Nutt. Skunk Cabbage*. A frequent nuisance in swampy meadows.
48. LITHOSPERMUM ARVENSE, *L. Stone Weed*. A worthless weed; frequent in pastures.
49. ECHIUUM VULGARE, *L. Blue Weed: Blue Devils*. A highly pernicious weed; frequent in Maryland; but rare, as yet, in Chester county.
50. ECHINOSPERMUM VIRGINICUM, *Lehm. Beggar's Lice*. A frequent weed in pastures, and along fence-rows; the burr-like fruit often matting the fleeces of sheep, and manes of horses.
51. CONVULVULUS ARVENSIS, *L. Bind Weed*. A worthless vine, introduced into some cultivated grounds, and exceedingly difficult to eradicate.
52. C—BATATAS, *L. Sweet Potato*. A well-known esculent; often cultivated here, but still more in New Jersey, and in the South.

53. *Datura Stramonium*, L. *Jamestown Weed*, or *Jimson*: *Thorn Apple*. A well-known noxious weed; in waste grounds, &c.
54. *Verbascum Thapsus*, L. *Common Mullen*. A worthless biennial, abounding in the fields of slovenly farmers.
55. V—— *Blattaria*, L. *Moth Mullen*. A frequent weed in pastures; but not so troublesome as the preceding.
56. *Solanum Nigrum*, L. *Night-Shade*. A noxious weed, in waste grounds.
57. S—— *Tuberosum*, L. *Round Potato*: *Irish Potato*. Universally known, and cultivated, for its valuable *tubers*, of which there are several *varieties*. The *Lycopersicum*, or *Tomato*, is also much cultivated, in gardens, for its esculent *fruit*.
58. *S. Carolinense*, L. *Horse Nettle*. A most pernicious weed, and extremely difficult to eradicate; happily rare, as yet, in this region.
59. *Lobelia Inflata*, L. *Eyebright*: *Indian Tobacco*. An acrid weed, frequent in pastures. It has been suspected as the cause of *slabbering* in horses, but the fact is not well ascertained. It is the famous medicine of the *Thompsonian Doctors*.
60. *Cuscuta Europæa*, L. *Flax Vine*: *Dodder*. A pernicious vine, frequent among cultivated flax.
61. *Chenopodium Album*, L. *Lamb's Quarters*: *Goose-foot*. A coarse weed, common in gardens and cultivated lots.
62. *Beta Vulgaris*, L. *Garden Beet*: *Sugar Beet*. A valuable esculent; the *variety*, called *Sugar Beet*, much cultivated for feeding stock in winter. The *B. Cycla*, or *Mangel Wurtzel*, is also sometimes cultivated, but not extensively.
63. *Cicuta Maculata*, L. *Water Hemlock*: *Wild Parsnep*: *Spotted Cowbane*. A poisonous weed; frequent in wet meadows.
64. *Archemora Rigida*, Dc. *Cowbane*. A weed, said to be highly poisonous to cattle; frequent in low, swampy meadows.
65. *Pastinaca Sativa*, L. *Common Parsnep*. A valuable esculent; chiefly cultivated in gardens, but often straying into the borders of fields, and becoming a troublesome weed.
66. *Daucus Carota*, L. *Carrot*: *Wild Carrot*. The cultivated *variety* is a valuable esculent; but the *Wild Carrot* is becoming a serious nuisance on many farms.
67. *Sambucus Canadensis*, L. *Elder Bush*. A troublesome shrub, in many enclosures—especially along fence-rows, hedges, and borders of fields; giving them a slovenly appearance.
68. *Rhus Glabra*, L. *Common*, or *Smooth Sumach*. A frequent nuisance, in poor old neglected fields, and along fences.
69. R—— *Radicans*, L. *Poison Vine*: *Poison Oak*. A frequent pest along fence-rows, and clinging to old stumps and trees: poisonous to many persons. *R. Venenata*, Dc., is a very poisonous species, occurring in swampy thickets, along rivulets.
70. *Linum Usitatissimum*, L. *Common Flax*. A plant well known for its valuable fibrous bark, and oily seeds; but sparingly cultivated, of latter years, in this district.
71. *Allium Vineale*, L. *Garlic*: *Crow Garlic*. An obnoxious and troublesome plant, especially in dairy pastures, and among wheat crops.
72. *Ornithogalum Umbellatum*, L. *Ten O'Clock*. A plant which has escaped from the gardens, and is a vile pest on many farms.
73. *Juncus Effusus*, L. *Common Soft Rush*. A worthless plant; common in low grounds, and often forming tufts, or *tussocks*.
74. *Veratrum Viride*, L. *Swamp Hellebore*: *Indian Poke*. A frequent weed in swampy meadows.
75. *Rumex Crispus*, L. *Sour Dock*: *Curled Dock*. A troublesome weed, in moist, rich grounds.
76. R—— *Obtusifolius*, L. *Bitter Dock*. Also a worthless, troublesome weed.
77. R—— *Acetosella*, L. *Sheep Sorrel*. Another worthless species, and often so abundant as to be a nuisance.
78. *Polygonum Aviculare*, L. *Creeping Knot Grass*.
79. P—— *Erectum*, L. *Erect Knot Grass*.
80. P—— *Punctatum*, Ell. *Water Pepper*.
81. P—— *Persicaria*, L. *Lady's Thumb*.
82. P—— *Pennsylvanicum*, L.
83. P—— *Sagittatum*, L. } These two species are commonly called *Tear-Thumb*, and
84. P—— *Arifolium*, L. } are often abundant in swampy meadows.
85. P—— *Convolvulus*, L. *Climbing Buckwheat*. Frequent in wheat fields.
86. P—— *Fagopyrum*, L. *Buckwheat*. The only valuable species of this numerous

} All worthless; and often troublesome about houses, lots, and waste grounds.

genus known here. It is much cultivated in new and hilly grounds, though considered a severe crop on good soils.

87. AGROSTEMMA GITHAGO, *L.* *Cockle*. A troublesome pest among wheat.
88. PHYTOLACCA DECANDRA, *L.* *Pokeberry Bush*. A well-known, coarse weed; frequent in rich soils and new grounds.
89. CRATÆGUS CRUS GALLI, *L.* *Cockspur*, or *New-Castle Thorn*. } Both these spe-
90. C———CORDATA, *Ait.* *Washington Thorn: Virginia Thorn*. } cies of *Cratægus* are employed in *hedging*—the latter to a considerable extent in this county, though the *former* is probably the *better* for that object.
91. POTENTILLA CANADENSIS, *L.* *Cinquefoil*. A worthless little weed; common in poor, old neglected fields.
92. RUBUS OCCIDENTALIS, *L.* *Raspberry*. } These three species of *Briar*, though yield-
93. R———VILLOSUS, *Ait.* *Blackberry*. } ing pleasant fruit, are rather troublesome
94. R———TRIVIALIS, *Mx.* *Dewberry*. } intruders in our fields and pastures.
95. ROSA CAROLINA, *L.* *Swamp Rose*. Annoying weeds, in low grounds.
96. PORTULACA OLERACEA, *L.* *Purslane*. A common weed, in gardens and corn-fields.
97. PAPAVER DUBIUM, *L.* *Field Poppy*. An introduced weed; becoming a nuisance on some farms.
98. HYPERICUM PERFORATUM, *L.* *St. John's-wort*. A pernicious and troublesome weed; common in pastures.
99. RANUNCULUS BULBOSUS, *L.* *Butter-cup: Crow-foot*. Worthless; and becoming a nuisance in some meadows.
100. NEPETA CATARIA, *L.* *Catmint*. A common weed, in waste grounds.
101. N———GLECHOMA, *Benth.* *Alehoof: Ground Ivy*. A frequent weed about gardens, lots, and along fences.
102. LAMIUM AMPLEXICAULE, *L.* *Dead Nettle: Hen Bit*. A common weed, in gardens and cultivated lots.
103. LEONURUS CARDIACA, *L.* *Motherwort*. A troublesome pest about gardens, houses, and in waste grounds.
104. LINARIA VULGARIS, *Mænch.* *Toad-flax: Ransted Weed*. A vile nuisance in our pastures and along fence-rows.
105. VERBENA URTICÆFOLIA, *L.* *Vervain*. A worthless weed, in our pastures.
106. CAMELINA SATIVA, *Crantz.* *Wild Flax*. A weed; frequent among flax, and other cultivated crops.
107. CAPSELLA BURSA PASTORIS, *Mænch.* *Shepherd's Purse*. A troublesome weed, in cultivated grounds and pastures.
108. LEPIDIUM VIRGINICUM, *L.* *Wild Pepper Grass*. A worthless weed; the reddish-brown seeds often occur among *Timothy seed*.
109. SISYMBRIUM OFFICINALE, *Scop.* *Hedge Mustard*. A common weed, in waste grounds, lanes, and borders of fields.
110. BRASSICA CAMPESTRIS, *L.* *Turnip-rooted Cabbage*. A variety of this, called *Ruta Baga*, or *Swedish Turnip*, is sometimes cultivated for stock.
111. B———RAPA, *L.* *Common Turnip*. Generally cultivated. The *B. Oleracea*, or *common Cabbage*, in its numerous varieties—and the *sub-species*, called *Cauliflower*, and *Broccoli*—are also much cultivated; but the culture is chiefly confined to gardens.
112. MALVA ROTUNDIFOLIA, *L.* *Running Mallows*. Common weeds, about gardens, houses, and cultivated lots.
113. SIDA ABUTILON, *L.* *Indian Mallow*. A troublesome weed, in cultivated lots and waste grounds.
114. MEDICAGO SATIVA, *L.* *Lucerne*. A valuable plant for pasture and hay in some regions, but very little cultivated in Chester county.
115. TRIFOLIUM ARVENSE, *L.* *Stone Clover: Welsh Clover: Rabbit-foot: Hare's-foot Trefoil*. A worthless species; often abundant in poor old fields.
116. T———PRATENSE, *L.* *Red Clover*. Highly valuable, and generally cultivated.
117. T———REPENS, *L.* *White Clover: Dutch Clover*. Common in our fields, and much esteemed as a pasture, though rarely cultivated.
118. ARCTIUM LAPPA, *L.* *Burdock*. A well-known nuisance, in waste grounds, &c.
119. CARDUS LANCEOLATUS, *L.* *Common Thistle*. A common pest on good land.
120. C———ARVENSIS, *Smith.* *Canada Thistle*. The vilest nuisance which has yet invaded our farms. Though not common, it has got possession in several localities, and will be found exceedingly difficult to eradicate. There are three or four other species among us, but not so troublesome as these.

121. CICHORIUM INTYBUS, *L.* *Wild Succory.* A worthless weed; becoming frequent in the northern districts of Chester county.
122. LEONTODON TARAXACUM, *L.* *Dandelion.* A common, well-known weed.
123. SONCHUS OLERACEUS, *L.* *Sow Thistle.* A frequent weed, in cultivated lots.
124. VERNONIA PRÆALTA, *Willd.* *Iron Weed.* A troublesome pest, in moist meadows.
125. EUPATORIUM PERFOLIATUM, *L.* *Thorough-stem: Thorough-wort.* A frequent weed, in wet meadows and low grounds. Generally known as possessing medicinal properties.
126. SOLIDAGO, *L.* *Golden Rod.* A numerous genus; of which some of the species abound as weeds, in old fields and along fence-rows.
127. ASTER, *L.* *Star-wort.* Another numerous family; some of which (as *A. Tenuifolius*, or *Ericoides*, *L.*) are troublesome weeds in our pastures.
128. FRIGERON CANADENSIS, *L.* *Horse-weed.* } Worthless weeds; generally abundant in our
 129. F—— STRIGOSUS, *L.* *Flea-bane.* } pastures, and especially in the first crop of
 130. F—— HETEROPHYLLUS, *Muhl.* } upland meadows.
131. XANTHIUM STRUMARIUM, *L.* *Clot-bur.* A common nuisance, in waste grounds, roadsides, &c.
132. X—— SPINOSUM, *L.* *Thorny Clot-bur.* A most vile pest, wherever it appears; rare, as yet, in Chester county.
133. AMBROSIA TRIFIDA, *L.* A coarse, worthless weed; in waste grounds, fence-rows, &c.
134. A—— FLATIOR, *L.* *Bitter-weed: Rag-weed.* A common nuisance; generally abundant in stubble-fields, after harvest.
135. BIDENS CHRYSANTHEMOIDES, *Mx.* *Beggar Ticks.* A frequent nuisance, in swampy meadows, along rivulets, &c.
136. B—— FRONDOSA, *L.* } *Spanish Needles.* Troublesome pests, about gardens and
 137. B—— BIPINNATIFIDA, *L.* } cultivated lots.
138. ANTHEMIS COTULA, *L.* *Stinking Chamomile: Dog's Fennel: Richardson's Pink.* A troublesome, fetid little nuisance; common in waste grounds, lanes, and pasture lots.
139. ACHILLEA MILLEFOLIA, *L.* *Yarrow: Milfoil.* A common weed in our pastures; considered entirely worthless here, though English writers speak of it as being food for cattle.
140. CHRYSANTHEMUM LEUCANTHEMUM, *L.* *Daisy: Ox-eye Daisy.* A vile pest; becoming very abundant on many farms in the north-eastern portion of our county,—and will doubtless soon pervade the whole country.
141. GNAPHALIUM POLYCEPHALUM, *L.* *Life Everlasting.* A frequent weed, in old fields and pasture-grounds.
142. SENECIO HIERACIFOLIUS, *L.* *Fire-weed.* A coarse weed; common in new grounds, especially in and around spots where brush heaps have been burnt.
143. EUPHORBIA HYPERICIFOLIA, *L.* *Spurge: Eyebright.* An acrid little weed, full of milky juice; common in pastures and cultivated grounds. This, like the *Lobelia*, has been suspected of causing the *slabbers* in horses: how justly, has not been ascertained.
144. URTICA PUMILA, *L.* *Rich Weed.* A common weed, in rich moist grounds, about houses, &c.
145. U—— DIOICA, *L.* *Nettle.* A well-known pest, in waste grounds, &c.
146. AMARANTHUS ALBUS, *L.* A coarse, branching weed; about barn-yards and waste grounds.
147. A—— HYBRIDUS, *L.* A coarse, troublesome weed, in gardens and cultivated lots.
148. A—— SPINOSUS, *L.* A still more pernicious species; but rare, as yet, in this region.
149. CUCURBITA PEPO, *L.* *Pumpkin.* Generally cultivated, among Indian-corn, &c., as food for stock.
150. SMILAX CADUCA, *L.* *Green Briar.* A troublesome nuisance, in poor, old neglected fields. The *S. Rotundifolia*, *L.*, is another well-known pest, in thickets and clearings.

The foregoing Catalogue comprises the more obvious of the plants known to our farmers, either for their usefulness, or as weeds and pests. Of the *useful plants*, there are but about 35 species in the list, of which some 25 are more or less objects of *field culture*; leaving the large proportion of more than *three-fourths* of pernicious or worthless weeds, to be extirpated, or kept in due subjection. To do this, requires both skill and vigilance; and every one will admit, that an important preliminary step will be to acquire an accurate

knowledge of the plants to be dealt with—to know them by sight, by name, and by character. Having made himself botanically and practically acquainted with the species here enumerated, the intelligent farmer may gradually and readily extend his knowledge to other less important plants, which he finds on his grounds; and also to the various species usually found in the *garden*; as well as to the several kinds of timber trees and shrubs, in the *woodlands*.

Such knowledge will not only be practically useful, in many ways, but will be found highly interesting to inquiring minds. It will, moreover, tend to elevate the intellectual character of agriculturists to that rank which is due to a noble profession, and to which every American farmer should earnestly aspire.

In conclusion, I will add, that, if the suggestions here made should find favour with any of our Chester county farmers, and they should think proper to commence collections of such plants as they find on their premises, whether of an useful or pernicious character, it will give me great pleasure to assist them, to the extent of my ability, in determining the names and properties of those occupants of the soil.

WM. DARLINGTON.

West-Chester, Penn., August 25, 1841.

For the Farmers' Cabinet.

"Lime Ashes."

An author in a late "Cabinet," who entitles himself "Calx," has, from the experience of "a most respectable and peculiarly correct practical husbandman," essayed to prove that "lime ashes," when placed upon land, has not the power of rendering it more conducive to vegetation. Now, if the above be the fact, why have not most, if not all, of those who are first in order in reference to industry and enterprise, been equally successful in developing the same? I, without hesitation, reply, that their experience, which should be their guide in such matters, has very clearly and satisfactorily expounded to them that the article alluded to is of very considerable value, as an auxiliary in rendering the soil more rich, and consequently more productive.

Quite recently, I heard a confidential friend of mine assert, that his brother had improved his farm as much by the application of "lime ashes" as any other individual ever did by the application of *lime*; and further, I have had the greater part of my life the pleasure of being located in the midst of an intelligent community, and I never before heard its worth contested, for it has generally been known as an article of much value, even as much so as the manure which is formed by putrefied vegetable matter. Many who manufacture lime, either for themselves or others, consider the ashes produced thereby of such great value, that if they possess land whereon they can place it, they are very loath to vend it; for by so doing they realized a greater revenue, than by receiving in cash the price which it demands. Now here is a satisfactory and convincing proof of the ground which I have taken. Well may the author before spoken of refer the subject of his communication to the attention of "some of the scientific correspondents of the Cabinet;" for verily it

would require a scientific person to assign a cause, illustrating why a thing is *so*, which in reality is *not so*; but I must forbear.

I admit there are isolated instances in which few, if any, advantages arise from its application, owing to various causes which it would be fruitless for me to attempt scientifically to explain, further than that I believe they may reasonably be ascribed to the existence of a principle in the soil which destroys that which would otherwise occasion valuable effects. "Calx" evidently attributes the failure of the experiment performed by the "respectable husbandman" to the entire worthlessness of the "lime ashes" as a manure; but that idea is rendered void when the experiment succeeds, which has generally been the case, as I have sufficiently remarked. If the position which I have maintained in allusion to this matter be incorrect, I hope that some interested friend may put me in the right; for it is agreeable to the dictates of sound logic, that in physical as well as moral things, truth should be the sovereign ruler. Q. E. D.

Sadsbury, 9th mo. 5, 1841.

Painting Oil-Cloths.

96 lbs. ochre ground in boiled oil, to which add 16 lbs. black paint; this forms an indifferent black. One pound common yellow soap, dissolved in six pints of water over fire, is mixed with this paint, which is laid on the canvass as thick as can conveniently be done, so as to form a smooth coat. Then, two days after, lay another coat of ochre and black, with but little soap, and after another day or two, finish with black, three days being allowed it to dry and harden, when it may be folded without sticking. This mode of painting saves five dollars on every hundred yards of canvass painted. The paint may be recovered from old painted cloths by burning them, sprinkling the ashes with a little water, and grinding them in oil.

For the Farmers' Cabinet.

Management of a Stiff-land Farm.

MR. EDITOR,—About two years ago I came into possession of a worn-out farm of five hundred acres, bounded on one side by the Patuxent river, six miles from the bay, and by a bold creek on the other, forming a peninsula. The soil generally is a stiff clay, and runs together like pitch, after being broken up and getting wet. The whole farm is level, although not much of it holds water. It is divided into four fields of 50 acres each, and a small lot of 10 acres, the balance being in wood.

Now, my object in troubling you is, to ask your advice concerning the management of this land. The crops are from 10 to 20 bushels wheat, corn and oats, per acre, and from 500 to 1500 lbs. tobacco. I can buy shell-lime delivered at 12½ cents per bushel, and marl at 4 cents per bushel, digging it out of the bank and hauling it myself from three to six miles. I have, I suppose, 20,000 loads of black peat, or marsh mud, but cannot get it out with a team, although a man can walk on it. I do not see any benefit as yet from plaster, although I do from the use of marl. Had I not better farm, say only 100 acres? but then, what shall I do with the balance?—for as this is one of the neighbourhoods where *skinning* land has arrived to great perfection, I should not like to rent it out. Is it not better to mix vegetable matter with lime and marl? How much lime to an acre? how much ashes? I use a quantity of sea-grass, called here sea-ore; would you recommend me to deposit it in my cow-yard previous to hauling out, or put it on the land green as it comes from the river? In the latter case, a great deal dies away from exposure. I hope to receive some information from you through the medium of your valuable paper.

L. S. GILLIAMS.

Leonard Town,
St. Mary County, Md., Sept. 21, 1841.

P. S. It is known here to be a fact, that if you cut a small pine-tree in August, and *lean* it against the largest pine-tree in the woods, it will kill it in a few days. It is said here, if you dip a broad woollen string in fish-oil and tie it around the necks of cattle, it will entirely rid them of lice. The following is a curious fact. Last winter I had some ewes and lambs in a shed, and noticing that one of the lambs did not thrive, I set a watch, and discovered one of my cats to come twice a day to suck the ewe.

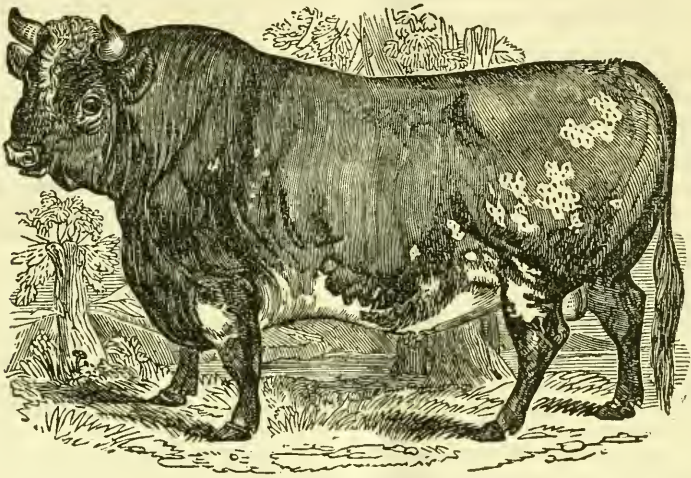
L. S. G.

We would first advise a regular course of draining, for without that, no great improvement ought to be relied upon; afterwards, a regular system of top-dressing the grass lands with a mixture of all the articles enumerated would soon work a perfect renovation in the

soil. The less of such land as runs together "like pitch, when wet," that is kept under the plough, the better; circumstances, however, might demand a change of opinion on this head, but, generally speaking, stiff clay soils in the situation above described, would be found a hundredfold more profitable by being kept in grass, top-dressed, fed, and mown for hay when sufficiently improved to yield a crop; and with such abundance of lime marl, and marsh mud, at hand, what is there to prevent the farm from becoming a mine of wealth, provided a market for the produce be within reach. If there is a residence on the estate, and cattle-sheds adjoining, the raising of cattle first, and after awhile grazing them, with the breeding of hogs, would be far the most preferable farm stock; the dung from them being composted with the marsh mud and marl, and after fermentation turned up with a due proportion of lime, and carried abroad as top-dressing, either in the spring or autumn, provided the land be not liable to overflow from the river, would very soon recover any soil from the effects of the most severe system of *skinning*. Under present circumstances, however, 50 acres of the land appears a large proportion to be kept under the plough, for nature appears to have intended the "peninsula" for a grazing farm; and while with *one half* the land under the plough, a man may easily *contrive* to break the hearts of his men and horses and himself, the *whole* might be managed as a stock-farm with perfect ease and pleasantness.

We have had much experience in the use of sea-ore—called sea-vraik in some parts—during a residence of some years in the Island of Jersey, England, (of which mention is made in the 3d vol. of the Cabinet, p. 183.) It is there used *universally*, either for turning in for wheat immediately on spreading it green on the surface, or as a top-dressing for meadows in the spring, when, if rain fall, it is dissolved into a jelly-like substance and is washed into the soil, or as fuel, after drying; the ashes, being carefully preserved from the weather, furnishing a top-dressing for wheat and other crops in the spring, of the most exciting nature: it is also deposited while fresh in the cattle-yards, where it becomes mixed with the manure, and is then turned together in the spring to further the process of decomposition; after which it is carried abroad as manure for potatoes, which are greatly benefited by it, the worms, bugs, &c., never attacking them while in their growth; and it is from the use of this stimulating manure that the most astonishing crops are raised, the *average* crop for the Island being 29,077 lbs., or, at 50 lbs. per bushel, 580 bushels of potatoes per acre! so great is the fertilizing quality contained in these ashes, the alkaline principle being *soda*, not *potash*—the ashes of sea-plants yielding *soda*, those of land-plants *potash*. It would not be possible to judge of the proper quantity per acre of lime, marl, or ashes, without first knowing the nature of the land, and the component parts of these articles themselves; but as a top-dressing, they might be used to very great extent when well mixed with other substances, without danger of an over-dose.—Ed.

THE heart would sink in adversity and affliction if, amidst a deluge of cares and griefs it could not discern the *bow set in the clouds*—the arch of promise—the token of the Divine presence and love.



"ROYAL GEORGE,"

An Ayrshire Bull, imported by, and the property of, J. Struthers, Esq.

THIS very well-bred animal is three years old; his sire was "GEORDIE," of whom a highly finished engraved portrait was exhibited at the agricultural meeting of the Philadelphia Society on the 29th and 30th September, and not one of the thousands of those who were present on that very interesting and gratifying occasion but will be struck with the faithfulness of our delineation. He was brought to this country, with several most beautiful heifers of the same fashionable stock, having been selected by the owner in person, without regard to expense; and in company with "HELEN M'GREGOR"—whose portrait was given in the Cabinet, vol. 5, p. 193—obtained the first premium, as the best bull and cow of the Ayrshire improved breed of Cattle.

The Ayrshire cattle are not yet sufficiently known, and cannot be procured cheap enough or in adequate numbers to undergo a fair trial; some of them have been tried in the London dairies, but as mere milkers, it is admitted that they cannot compete with the long-established metropolitan dairy cow, the Short-horn; for although they may yield as much milk in proportion to their size and food, this is not in proportion to the room which they occupy and the increased trouble which they give from being more numerous, in order to supply the requisite quantity of milk. They will feed kindly and profitably, and their beef will be good, fattening on farms and in districts where others could not be made to thrive at all, except by being partially supported by artificial food. They unite in a great degree the supposed incompatible properties of yielding milk and beef; at the same time it is admitted, that it is upon the inferior soil and in the moist climate of the west of Scotland, that their superiority as milkers is most remarkable; for on their natural food of poor quality they will give milk abundantly and long, often until within a few days of calving; but when they are removed to richer pasture, their constitution seems to change, and they convert their food more into beef. In their own country, a cow of fleshy make, which seldom proves a good milker, may be easily raised to a good weight, but there is a lurking tendency to fatten about them, which good pasture will bring to light; so that, it is often, when an Ayrshire cow is sent from her own country and into good pasture, she loses her superiority as a milker, and begins to accumulate flesh: on this account it is, that the English dealers who purchase Ayrshire cows for the dairy, generally select the coarsest animals, in order to avoid the consequence of change of climate and food. It may be long before the breed will become favourites with the butcher, for the *fifth quarter* will not usually weigh well with them: their fat, however, mingles well with the flesh, and this gives it a more beautiful and marbled appearance, which ought to enhance the price to the consumer. The circumstance of their being in such demand for dairy stock may partially account for their not being thought to succeed so well for grazing, as they are often kept as milkers until they are too old to fatten to advantage, or for their beef to be of the best quality.

To the Editor of the Farmers' Cabinet.

Chester County Berkshires.

DEAR SIR,—I have received several numbers of the Farmers' Cabinet, and am very much pleased with it. Mr. Tebbs, who was lately at your office, told me you wished my opinion relative to a contemplated cross of the Chester and Berkshire hog. I have seen only a few specimens of the Chester hog; with those I was pleased, though I did not go into a minute examination of them, and am, therefore, only prepared to give you a conjecture upon the subject. My impression from present recollection is, that the cross will be a good one, and that both Chester and Berkshire will be benefited by it. The fault of the Berkshire stock is, that they have flesh of a hard kind that does not readily yield to the deposition of fat, and the cellular substance is not in sufficient quantity. This last position is evinced by the hardfeeling and want of elasticity of the breed when compared with others.

The cellular substance feels much softer and more elastic than the lean flesh, and if there are cells in the lean flesh, it will give to it considerable softness and elasticity: such lean flesh when fattened will have fat thrown *into it*, or what is generally termed marbled. When the flesh feels hard and inelastic, such flesh when fattened will not be marbled, but will throw the fat upon the outside. Now, if upon examination you find that the cellular substance is more abundant in the Chester hog than in the Berkshire, you may, with much certainty, calculate upon an improvement. Although it is a general thing for the Berkshire breed to "handle" badly, yet it is by no means universal, and there are some uncommonly good handlers among them. And if the breeders of Berkshires would (like the breeders of Durham cattle) attend to this matter, they might soon make a great improvement in the stock.

I some time ago made a proposition to have a Berkshire and Woburn fed by measurement by some disinterested person, and report the result. The proposition was taken by two breeders of Berkshires, but from an accident happening to one of them, only one was fed. The trial was only for ten days, as I could not get the advocates of the Berkshire to feed a longer time. They thought they had the advantage in having a hog that would start sooner to fatten than the Woburn. The sow, COURTENAY, weighed, when put up, 123 lbs. more than the Berkshire, so that she had that much more flesh to support out of her allowance. Our experiments (as far as one or two experiments will do it) have proved, 1st, that the Woburns will nearly double the Berkshires in a given time. This

was proved in the trial between Isaac and William Barclay. The Berkshire gained 57 lbs. in 30 days, the Woburn gained 107 lbs. in 30 days. 2d, that the Woburns are the smallest eaters,—(see Mr. Weathers' statement, where PATIENCE was the smallest eater); and, 3d, that the Woburns give more weight for the food consumed. (See Mr. Weathers' statement, where COURTENAY gained 30 lbs. in ten days, upon 52 lbs. of corn.) COURTENAY gained, upon the same allowance, nearly 45 per cent. more than the black Berkshire.

Mr. Taylor's Berkshire gained over two pounds a day upon a little more than five pounds of corn. Mr. A. B. Allen's lost flesh upon ten pounds a day. (See *Cultivator*, vol. 8, p. 67. *Manner of Feeding Stock in Ohio*.) 22 sows had given to them 4 bushels of corn a day; this, at 55 lbs. to the bushel, is exactly 10 lbs. each.

Mr. Solon Robinson was lately at my house, but unfortunately I was from home. I wished much to have taken him by the hand, and added some words of encouragement in his present undertaking. I believe the time for forming a National Society *has come*, and I hope its benefits will be equal to the most sanguine expectations of its friends.

I will subjoin Mr. Weathers' statement of the feeding by measure of the Woburn and Berkshire, which you will please publish if you think it contains anything that would be likely to interest the farming community. Permit me to add my best wishes that you may be eminently successful in diffusing knowledge abroad among the agricultural community. Your well-wisher,

SAMUEL D. MARTIN.

Colbyville, Ky., Sept. 9, 1841.

A trial of the Fattening Qualities of the Woburn and Berkshire breed of Hogs, when fed equally upon a like allowance.

(A COPY.)

THERE were put under my care on the 13th August, by Dr. Martin and Jas. F. Taylor, two Woburn and one Berkshire* sows, for the purpose of being fed; and I received directions to give each one five pounds of corn a day, and to increase the quantity until I should find what quantity the smallest eater of the three would consume.

On that evening I gave to each one of them two and a half pounds of corn, and the next day five pounds each; and on the 15th nearly six pounds to each. One of the Woburns (Patience) failed to eat all of her allow-

* Mr. Duncan was to have furnished another Berkshire sow for this experiment, but from an accident happening to her, she was not brought. M.

ance, and the next day was very lame, (I suppose slightly foundered,) and their food was again reduced to five pounds each per day until the 20th, when (Patience having recovered) it was gradually increased, so as to give each one fifty-two pounds of corn in the ten days, when they were weighed, and the following is the result.

Mr. Taylor's black Berkshire, Belinda, gained 21 lbs.
Dr. Martin's Woburn, Patience, gained 21 "
Dr. Martin's Woburn, Courtenay, gained 30 "

JAMES WEATHERS, JR.

Clarke Co., Ky., Aug. 23, 1841.

For the Farmers' Cabinet.

Top-Dressing.

MR. EDITOR,—I have a few choice plants in pots which I nurse with a parent's solicitude, for I raised them from infancy, and their education and state of health form with me a business of much importance. Two of them are geraniums, twins, cut from the parent stalk and planted at the same time in different pots; one of these has always flourished and looked healthily: the other, although it has made some progress, has ever had a sickly appearance, and would sometimes die back and again shoot forth, as though it were affected with the chills and fever. An article in the Cabinet, where it is said, "all the trees in a cherry-orchard in Kent died, when the roots had reached to a bed of dung that had been buried, with a view of strengthening their growth," first directed my attention to the state of the earth in my geranium pot, and on turning out the plant, I found that the lower part of it consisted almost entirely of unmixed dung—and there was the secret. I immediately reversed the order of things, placing common mould at the *bottom* of the pot and rotten dung on the *surface*, and from that time the plant has flourished like its twin, and is now as green and healthy.

Now, in my mind, this very trifling circumstance teaches a great lesson in agriculture, and if I had the means, I would follow it out; but alas! I am but a business-man in Third street, dried up to a button by close confinement this hot weather, with my plants in a court-yard 25 feet square—my only plantation in the world—but I take the Cabinet, and read its pages with much interest and increasing pleasure, and my leisure hours are occupied in storing up lessons, to be put in practice when the time arrives that I shall be able to leave all and follow my strong propensity—the cultivation of the earth, and the rearing of stock. This is the extent of my wish, and I indulge in the hope, for

"Where is the man,
However wretched or however poor,
That will not feed his mind with hope of bliss
And happiness, reserv'd for him to prove!"

And in view of the experiment above related, I would venture to ask of your intelligent practical readers, what would be the result, if the system of heavy top-dressing were to be adopted *upon principle*, on land confessedly poor, but with a healthy subsoil, neither too wet nor too dry? My opinion is, if such soils were ploughed a very moderate depth, and afterwards subsoiled—that is, stirred in the furrow to a considerable depth but without turning it over, that absolute *fertility* could be communicated most easily and profitably by top-dressing: for I am friendly to the theory put forth in the Cabinet, "that the tap-roots of plants are mainly occupied in sending water from below, while their lateral roots are feeding on the pabulum contained in the surface earth;" that pabulum, however, consisting of matter in solution only, carried down to them by the rains. So the *grit* of the thing is this, if I may be allowed to startle our practical friends with a system so "outré"—it appears to me quite possible that, on some not distant day, it will be found that what are now termed *poor soils*, will become, by subsoiling and top-dressing, equal to the rich—the system of renovation being neither very expensive or laborious. And I am strongly inclined to believe that the different grains can be raised on such soils by superior cultivation of a far better quality than those grown on *deep* and *rich lands*, which are too often relied upon for a heavy return, rather than upon clean and superior cultivation. And to this opinion I have arrived, from a careful examination of the different samples of grain which I every year collect, forming of them a sort of cabinet, when I almost always find that the finest sample has been raised upon the best cultivated soil, without much regard to its native richness; nay, that some of the very best samples have been raised by dint of superior cultivation on comparatively the poorest soils.

It amounts then to this—in all probability the time is not distant when poor soils, within reach of the means of top-dressing, will be found of far more value than the richest, out of the reach of markets—top-dressing supplying all that is required for the production of the most valuable crops, even on poor and sterile soils, provided the subsoil be healthy.

AGROS.

Philadelphia, Sept. 1, 1841.

To declare that you have an implacable enemy, is sometimes to confess that there is one human being towards whom you have not done *all* that the rule of charity requires.

In a well-ordered state, every member of the social body is useful, but the most useful are the most honourable.

For the Farmers' Cabinet.

Speculation.

MR. EDITOR,— You must know that at present I am out of business, but arrangements are making, by which I shall be able to return to that state which alone can give satisfaction to a well-regulated mind—I mean a state of active employment. Some two years ago, I occupied a sweet spot in a distant county, which I had reclaimed from the waste, and by my own hands had made all that I could imagine as pleasant to the eye and grateful to the taste, and could not conceive that I should ever be induced to part with what had been the creation of my own hands and the invention of my own head; but one fatal morning I was prevailed upon, by the offer of a certain sum, to dispose of this Paradise, merely because the purchase-money appeared large, not considering that it was comparatively so only, for to the purchaser, who was rich, it was small indeed for so much comfort, quiet and happiness. Suffice it to say, I could not withstand the temptation, but for a few thousand dollars bartered away my mind's peace and my body's health; so, bringing the wages of my folly into the city, I determined to work *that* instead of my land, which never deceived me, and accordingly purchased with it Bank Stock and Canal Shares, which were at that time low, foreseeing, as I thought, very clearly, that I should soon be able by selling out on a rise, to double my capital; and then, it was only to lay on my oars until a corresponding fall, when, by purchasing with my increased means, I was convinced that I must make money as fast as I could count it, without the labour of ploughing or the drudgery of sowing or mowing; and instead of only one harvest a year, it would be easy to secure a dozen in that time, by *working my capital*: I therefore purchased in haste, and have ever since repented at leisure, for I have never yet had an opportunity to sell—not one harvest have I therefore made in two years, and shall be compelled to come out minus, to a fearful extent.

Nevertheless, perhaps I ought not to count it all loss; I have had experience for my money, although it has been dear bought; and during this state of apathy and inanition, I have at my leisure cast up many cool thoughts, made numerous nice calculations, and worked many long sums in this my school of adversity; and if I do not derive wisdom from the exercise, it is my own fault. I have therefore made up my mind, set the brokers to sell out, and intend to make a virtue of my necessity. And first, to show that I am grown wise by experience, I will not again purchase uncleared land, and have all

the chopping and hauling and grubbing and burning over again—no, I will seek out some spot where its owner has done this for me, and is desirous of leaving it, to commence anew the labour of a horse! Here, I will sit down and make the best of it, contenting myself with half the number of acres I formerly occupied and thought too few, and try to double my crops instead of my land, which I seem now to believe is quite possible; making my animals to work for me, and take the produce to market in the form of beef, and mutton and pork—but not in butter; making the most of my small means by adopting the soiling system—carrying my crops to the cattle, and not them to the crops; ploughing very sparingly, and chiefly confining myself to top-dressing, a system which seems to be commanding much attention from farmers generally, and from whence I have reason to expect that much and lasting benefit will arise, especially when practised upon meadow-land by means of compost carefully prepared for the purpose—a practice which is but little known and too generally neglected or despised. A friend has just informed me, in answer to a question as to his experience in top-dressing, that in South America—near Rio—they are accustomed to renovate their worn-out meadow and pasture-land by a singular mode of management, for instead of ploughing them up and turning over the sod, to be cultivated and cropped in the usual manner, before returning to grass, by which much expense is incurred and time and labour lost, they skim-plough, by means of two sharp coulters fixed one on each side of the beam of the plough and welded to an iron foot, kept sharp also; so that the land is cut off at the sides and bottom—say about two or three inches deep—and is then suffered to fall back, without turning, upon the place from whence it had been cut, after passing over the share; the surface is then heavily top-dressed, and the rains which fall, penetrate to the bottom of the loosened sods, carrying the dung in solution to the roots of the grass, and causing a spring of fresh verdure, quite astonishing to those who never before witnessed the operation, incalculably more advantageous than the plan of cutting up the surface of worn-out meadow by means of the sharpened teeth of the harrow, which is so often advised to be performed.

Now, in the season of my prosperity, I believe if I had heard of such a plan, I should have set it down as *book-farming*; but the time for thought and reflection which I have experienced, and which I hope I have improved, has convinced me that there is as much scope for *both* in farming, as in any other of what are called the *arts and sciences*; and I begin to feel as though it might

be eventually for my good, that I have been chastened: at least, it is my intention to try and see if I cannot make a *virtue out of my necessity*. I have, therefore, renewed my subscription for the Cabinet, and hope never more to go astray.

A SUBSCRIBER ANEW.

Philadelphia, Aug. 29, 1841.

For the Farmers' Cabinet.

The Berkshires.

IN the midst of all kinds of conflicting testimony on the all-absorbing subject of Hog-breeding, and which has most assuredly been prosecuted much farther than the nature of the business demanded, we are quite refreshed by the following very simple and judicious remarks by the author of "The American Swine-breeder," H. W. Elsworth, Boston, which go to show very clearly how much money, time and useless confabulation might have been saved, if we could only have prevailed upon ourselves to look the animal *calmly in the face*, and take his dimensions and weight, his probabilities and propensities into account, without throwing ourselves into a state of fever! But in this, as in many other things, we Americans delight to go the whole Hog or nothing. The excellent writer says—

"Berkshires are a production of *art*, not of *nature*; and, unless the same art is used to *preserve* them that was exercised to *produce* them, they will retrograde much faster than they advanced. The breeder's rule, upon which all his operations are founded, is, that like begets like; he therefore carefully examines every litter, and where he finds a remarkably fine individual, he sets him or her aside to breed from. This, together with judicious crossing, is the origin of every improved breed; but no stock of hogs, or cattle, or anything else, has yet been brought to such perfection that *all* the individuals produced are good and worthy of being made breeders.

"Why, then, it may be asked, cannot any individual take the native stock of a country, and go on to improve it for himself by judicious selection? So he may; but he will find it much cheaper to purchase a hog, which, by the care of others, has already been advanced to a certain state, to begin his crossing with, than to wait for the advancement to that point of his unimproved stock. No stock, in my opinion, affords finer individuals for this purpose than the Berkshire. But I can pick out many individuals from this or any other stock, *totally unsuited for the purpose of improving any breed*. What is the Berkshire valuable for? Simply because it contains a greater number of individuals than

usual of that peculiarity of anatomy valued by the judicious raiser of hogs. But suppose an individual, as there must always be thousands, does not possess that peculiar anatomy, does it avail him, or you, who are his owner, that his mother, or brother, or third cousin does? It is true, that if two individuals possess equal points themselves, he will be preferred whose kindred or *blood*, is most celebrated; and this, because animals not only breed after themselves, but sometimes, also, after their progenitors. But always give preference to propinquity of good points; that is, prefer to have them in the immediate to the remote progenitor. Yet, regardless of this simple truth, we daily see our people sending their money from home, purchasing *anything*, no matter how indifferent in form, provided it may have been the offspring of a *Berkshire sow*. Now I would rather pay fifty dollars for a good selection, than ten for a pair taken at haphazard." Svs.

To the Editor of the Farmers' Cabinet.

The Beet Culture.

SIR,—Your correspondent B., of Chester co., in the last No. of the Cabinet, appears in a bad fix with his Sugar Beets. I strongly suspect that his ill-success has arisen mainly from the circumstance of having lost the fortnight, of which he makes mention, at the commencement of the season, and before the cultivation of the unfortunate crop was entered upon—a very common case, and I have scarcely ever known a man under such circumstances able to *catch up* until Christmas—that is, at the end of the year; nay, I have known many who have been compelled to throw out a portion of their tillage-land for a season to be able to correct the evil—one in particular, who was under the necessity of throwing twenty acres of fallow over to the next year, after having worked it the greater part of the summer for wheat, consoling himself with the hope that he should find a double crop on a two-years' fallow; but after expending a double portion of labour in the next year's ploughing and working, occasioned by a ten-fold crop of weeds which had been suffered to mature their seeds on the first year's fallow, where they had the whole soil to themselves, he found himself wofully disappointed.

But surely, it could not require the whole strength of the farm for a fortnight to give a hoeing to two acres of beets, at the commencement of harvest! Why, every weed might have been removed by the thumb and finger in less time than that: no wonder that the manager got sun-struck—the only wonder is, that all had not in that time been melted down into soap and candles! I am prepared to admit that the cultivation of the

beet is troublesome and laborious, but if the crop will pay for it, that is all that ought to be required; it is a fallow crop, and when well-managed, will be found of superlative importance on a stock-farm, besides lengthening the chain a link in a rotation of crops, by introducing one that is unexhausting and cleansing; and that is all that an active and intelligent farmer should expect; but he must be *both*, to insure the success of such cultivation. Yet, after this, "*to have no crop*," is bad indeed, and the cause ought to be investigated: is it that the soil is unproductive, or was the seed defective? I suspect the latter, for very much of that which was disposed of the last season was extremely light and poor, although generally sold as imported—the truth of which I strongly suspected at the time. Or, was it for the want of deeper ploughing to break up the *hard-pan*—an evil which is seldom suspected, because out of sight, but which is the ruin of thousands of acres of crops, subjecting them to starvation in a season of drought, and mildew and disease in a time of great moisture, preventing the superabundance from passing away through the subsoil, when it remains to chill and putrefy the lateral roots of the plants; and then come diseases of all kinds, bugs, lice, flies, &c.; and to this *hidden cause* is no doubt often to be attributed, the rising of the crops in a time of frost—an evil of incalculable magnitude.

But the greatest of all defects in the system of agriculture practised amongst us is, the neglect of cultivation at the fall of the year, and preparation during the winter;—for we thus throw too much of our labour into the spring months, at which time a fortnight lost can never be regained, for every fortnight has its duties which must be performed and can not be neglected; and on stiff and cold soils, and in such seasons as the past, the evil is increased tenfold by neglecting fall-ploughing. All land designed for corn, oats, and green and root crops, should be ploughed deep during the autumn or early winter, being first spread with long dung, where that is intended to be given, and can be obtained: the oats to be sown in the spring—as early as February if the season will admit—without a second ploughing, harrowing them well into the frost-shaken surface of the land, which forms an admirable seed-bed, by no means so liable to be overrun with weeds as fresh-turned land at that season of the year: and thus a fortnight might be gained, to be devoted to the cleaning of the root-crops in the spring. But this system I confess I do not expect to see practised amongst us for many a long year to come; our necessities do not require such a forestalling of labour, and we can procure the means of liv-

ing easily without it: it is not to be expected from those who can support a family of eleven persons on the third-part of a farm valued at \$4,000 only, according to Professor Colman's interesting account detailed in the same No. of the Cabinet: so I suppose we shall *grumble and go on*.
TYRO.

For the Farmers' Cabinet.

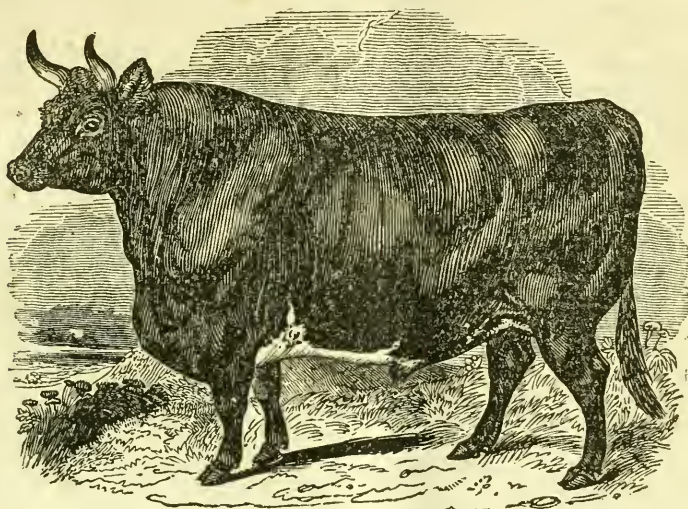
Cheap Roofs.

THE simple mode of roofing out-houses by nailing thin boards on light rafters, may be introduced to very great advantage, particularly in the country. It is only to subject the boards before using to the action of fire, by way of thoroughly seasoning them; nail them on immediately, and cover them with sheathing-paper and a dressing of tar; and a covering, almost for a life-time, may safely be calculated upon.

The rafters, 3 inches deep, 1½ thick; the boards half-an-inch thick, straightened on the edges and closely nailed. The following composition for covering such a roof was employed at Wickham twenty years ago, and is at the present time as good as when first laid. The roof is nearly flat, having a run of one inch only to the foot, the boards being securely nailed and covered with a course of sheathing-paper, such as is used under the copper-sheathing of ships, made fast by small flat-headed nails. To 8 gallons of common tar, add 2 gallons of Roman cement, 5 lbs. of resin and 3 lbs. of tallow; boil and well-stir the ingredients so as thoroughly to incorporate them, and lay on to the roof while hot, with a brush, spreading it very evenly; then sprinkle it while hot with sharp, sifted sand, and when cold, tar and sand as before, after which a single coat of tar once in five or six years will preserve the roof for an age.

To the above may be added, an incombustible, impenetrable wash, prepared according to the following directions. Slake stone-lime with hot water in a tub, covering it to keep in the steam; pass six quarts of it through a sieve, it being in the state of fine dry powder, and add to it one quart of fine salt and two gallons of water, boiling and skimming it. To every five gallons of this boiled mixture, add one pound of alum, half-a-pound of copperas, and by slow degrees half-a-pound of potash and four quarts of fine sharp sand. The mixture will now admit of any colouring-matter that might be preferred, and is to be applied with a brush. It looks better than paint, and is as durable as stone; it will stop leaks in a roof, prevent the moss from growing and injuring the wood, rendering it incombustible; and when laid upon brick-work, causing it to become impenetrable to rain or moisture.

G. D.



THE KINTORE OX,

A cross between the Aberdeen and Improved Short-Horn.

IN the 5th vol. of the Cabinet, p. 249, a portrait of this wonderful animal is given in his last stage of fatness—he appears at the head of the present article when about half fat, and in his prime of beauty and comeliness. In this stage of his life, he was sent from Kirk Hall, Scotland, to London, by steam-boat, and consigned to Mr. Harvey Combe, by whom he was fed another year at his estate at Cobham, Surrey, on ruta-bagas, hay, and six pounds of oil-cake per day during the winter, and cut grass and oatmeal in the spring and summer, and at the end of that time he exhibited an enormous mass of fat, but of beautiful symmetry, for which, and the equable manner in which he had laid it on, and his almost perfect levelness from shoulder to tail, he was universally admired: he was then supposed to weigh 2500 lbs., being rising six years old.

When it is known that the Aberdeenshire breed of cattle are very small, often weighing not more than 350 lbs. at four years old, the importance of a single cross with the Short-Horns will easily be understood; and with an increase of size, there is also the improvement of the beef, the Aberdeen affording quality, the Short-Horn, quantity; both uniting to form the remarkable individual here faithfully portrayed. But since the introduction of the turnip-husbandry into this part of Scotland, even the native breeds have been much improved in size, and are become double their original weight by judicious selections from amongst themselves, without losing the propensity to fatten, and without *growing above their keep*—a matter of the greatest moment, for cattle should never be raised of a larger size than will fatten on their native pastures: the alterations and improvements in agriculture, and the introduction of the turnip-husbandry have contributed to this, as well as to the generally increased quantity of milk, many of the dairies now yielding double the number of gallons that they formerly did; while in the fertile districts, the original breed of cattle of four or five hundred weight, have been frequently made to feed from fifteen to sixteen hundred pounds, without any cross of the stock. The colour of this breed of cattle is usually black, but sometimes very dark brindled; they are now heavier in the carcass, and give a larger quantity of milk than the West Highlanders, but they do not come so soon to maturity, nor is their flesh quite so beautifully marbled; yet, at a proper age they fatten as readily as others, not only on good pasture, but on that which is somewhat inferior; while some of the first graziers in Scotland have preferred them as fatteners to all others of the Scotch breeds. Besides these, there is another breed of cattle in Aberdeenshire; they are polled, or muleys, somewhat of a larger size, although not so handsome, neither is their meat so much valued, at the market: these also have been much improved by judicious selections.

To the Editor of the Farmers' Cabinet.

Corn-Stalk Sugar.

MR. JAMES PEDDER :

Dear Sir,—Knowing the deep interest you have heretofore taken in the growth and manufacture of beet-sugar in the United States, and the pains you were at whilst in Europe to obtain all the information on the subject calculated to instruct and benefit our countrymen,—and although from different causes the manufacture of beet-sugar has not succeeded in the United States, nor has it been near so extensively undertaken or persevered in as in France,—yet your exertions and writings have set the people to thinking; and to them, perhaps, is mainly attributable this successful experiment of my young and intelligent neighbour Webb, in producing from the stalks of the common Indian-corn of our country, the samples of sugar and molasses I send you to-day. I inclose you also Mr. Webb's letter, addressed to me as the organ of our Agricultural Society—it will explain to you his views and *modus operandi*. Suffice it to say, his operations so far have awakened the liveliest interest in the subject, and if only one-half of his hopes and calculations be realized—when working on a larger scale—and *sugar and molasses can be manufactured* upon every farm, adequate to its wants, out of a material most largely cultivated upon it, and that too, if not at much profit, not at great loss—yielding a product of prime necessity and universal consumption, which is now principally imported from abroad and produced in but a limited portion of our Southern States from the sugar-cane—is not the whole subject full of interest and worthy the consideration and trial of “all whom it may concern?” If future experience shall prove to the farmers of the Eastern, Middle and Southern States, that it will be more profitable to them to sell their corn at the market price, rather than convert the stalks into sugar and molasses, may it not be otherwise with the great corn producers of the mighty West, where 12½ and 20 cts. per bushel can only be realized, and where maple sugar and molasses can alone be procured, and that perchance at a higher rate and more trouble? Without being too sanguine, or led away by first experiments, let us give to the whole subject a fair trial and the deliberate consideration it merits.

Your views and judgment on Mr. Webb's success, so far, and the probable results of it in future, would be exceedingly interesting to many of the subscribers of the Cabinet—to none more so, dear Sir, than myself.

Respectfully, &c., Yours, J. W. THOMSON.

P. S. Papers marked No. 1, of sugar, with more molasses in them, contain such sugar,

as Mr. Webb exhibited at our exhibition;—that marked No. 2, has been made since, with some improvement, and has just been brought in whilst I am writing—it is a much fairer sample. Yours, in haste, J. W. T.

Wilmington, September 23d, 1841.

[LETTER.]

To Dr. J. W. THOMSON, *President of the Agricultural Society of New Castle County.*

Having been requested to furnish some account of the process for manufacturing sugar from corn, I cheerfully comply in giving all the information on the subject so far as I am at present acquainted with it. The introduction of every new manufacture must necessarily be a work of time; errors and difficulties continually obstruct our course, even where we have all the advantages of experience to direct it. The making of sugar from beets in the large way commenced in France about 30 years ago; yet not more than one-third of this period has elapsed since the business has become important from its extent and profit. These remarks are introduced as some apology for the imperfect state of the communication I have now to offer. Scarcely one year has passed since the first idea was suggested in relation to this peculiar plan for making sugar; and there has not been sufficient time for those exact experiments necessary to satisfy the careful calculator. In one case I obtained from a small piece of ground at the rate of 100 pounds of sugar per acre, but other experiments made since, have conclusively shown, that had a different mode of planting been adopted, the product would have been increased tenfold. The manner of raising the corn and making the sugar is as follows:

The corn is planted in rows 2½ feet apart, and the stalks are left to stand in the row 3 inches one from another; it is then cultivated in the usual manner. Sometime in August, or as soon as the stalk shows a disposition to form grain, the ears must be taken off; this operation must be carefully attended to, as upon it entirely depends success. After this there is nothing more to do until the crop is ready to be taken up, which will generally happen in September; the stalks are then cut up at the root, stripped of their leaves, and taken to the mill, where the juice is pressed out between iron rollers, in the same way usually employed with the sugar cane. Lime water about the consistency of thin cream is then mixed with the juice, one spoonful to the gallon; it is left to settle one hour, and then poured into boilers, which are covered until the liquid approaches nearly to the boiling point, when the scum must be taken off. It is then boiled down as rapidly as possible, taking off the scum as it rises. As the juice approaches the state of syrup, it is necessary to slacken the fire to avoid burning. The boiling is generally completed when six quarts are reduced to one; it is then poured into coolers or moulds and set aside to crystallize. When this process is gone through, the sugar is to be separated from the molasses; and the whole operation is finished. The process here detailed gives the quality of sugar you see in the samples. If required, it can be afterwards refined as other sugar. The use of animal charcoal and the employment of steam in the process of evaporation, as is common in the manufacture of beet sugar, would, I am confident, produce white sugar at one operation.

From what is known on the subject, I fully believe that an acre of good ground treated as above described, will yield at least 1000 pounds of sugar—probably more. The value of the fodder taken from the stalks, and of the stalks themselves after passing through the mill, will be more than an equivalent for the whole expense of cultivation and keeping the ground up. The fodder produced in this way is much superior to that usually made, from its containing a greater quantity of saccharine matter. And the whole business of making sugar from corn contrasts so favourably with the manufacture from beets, that I cannot but think it will obtain the preference wherever the climate will bring the former plant to perfection. Some of the differences may be enumerated as follows: 1st. the corn is clean and agreeable to work with, while the beet is not. 2d. the machinery for extracting the juice from beets is not only more costly, but is more liable to get out of repair.

3d. the beet juice contains a much greater proportion of foreign and injurious matter, decomposition commences almost immediately after it is pressed out, and if allowed to go on to any extent will entirely defeat the making of sugar. 4th. the proportion of saccharine matter contained in equal quantities of corn and beet juice is as 3 to 1 in favour of the former, therefore the same difference will be found in the amount of fuel necessary in evaporation. 5th. beet sugar when obtained is inferior in quality and loses a larger per cent. in refining. 6th. corn is a native of our country, perfectly suited to the climate, a true American, and is in fact the finest plant in the world; the author of "Arator" (Col. Taylor of Virginia) used to call it our "meal, meat, and manure." We now add *sugar* to the list of its valuable productions. Respectfully yours,
WM. WEBB.

I am free to confess that I have never seen beet sugar prepared by first process at all equal to the samples of corn-stalk sugar forwarded by Dr. Thomson, while the molasses, which, by the bye, contains more than 50 per cent. of sugar, is far superior to that made from the beet by *any* process—indeed I have never known beet-molasses pure enough for any purpose but distillation or the feeding of stock, for which last, however, it is of very great importance. Mr. Webb has the merit of deciding the question, "Can good sugar be made from the corn-stalk?" Whether it can be made to *profit*, is a second consideration, which he will have it in his power to determine. The simple mode of operation which he details would do but little in the fabrication of sugar from the beet; for while there is not the least difficulty in the process by well-appointed machinery, it is readily admitted that a considerable portion of art is requisite in the numerous stages of the fabrication of beet-sugar, to free it from the impurities found in the root. With improved apparatus and experience in the present art of refining, there is no question that loaf-sugar might be made by first process from the corn-stalk.

Mr. Webb's modest and unreserved account of the mode of manufacture will be read with very great interest, for if the corn-grower can be directed to a new channel for the consumption of half his crop in the fabrication of an article of such *legitimate usefulness*, the gain to the community will be of incalculable importance. The pages of the Cabinet will be open for the register of farther information on the interesting subject; would Mr. Webb employ them for the purpose, and oblige its numerous readers. J. PEDDER.

For the Farmers' Cabinet.

Horticultural Exhibition.

MR. EDITOR,—The Horticultural Society of Philadelphia held their thirteenth annual Exhibition at the Masonic Hall, on the 22d, 23d, and 24th of the present month. Nothing could exceed the splendour of the collection, or the elegance of arrangement,—it is but faint praise to say the present exhibition stands unrivalled. The profusion of fruits, flowers and vegetables, was immense; the managers exerted every method of display, and succeeded in their endeavours to render a feast truly magnificent and equal in every respect to the high expectations of the community; and they were richly rewarded by the approbation and admiration expressed by the many thousands who crowded the rooms

during the three days they were opened for exhibition. Many of the vegetables were truly gigantic—the Valparaiso squash of 101 lbs., with egg plants weighing 10 lbs. each; sugar beets of 14 lbs., and others of 8 lbs. each, of most perfect growth, from seed sown on the 19th June, after a crop of peas, and harvested ripe.

It was exceedingly gratifying to find the suggestion of a correspondent of the Cabinet—vol. 4, page 343, "On the naming of Flowers"—in a measure carried out at this exhibition; for many of the very beautiful dahlias bore the names of some of the most elegant females of polished society; and the cultivators of this remarkably diversified and brilliant class of plants need not despair of finding a sufficient choice of names and *attributes* amongst the ladies of Philadelphia and its environs, to suit the most fastidious taste—the superb, the gorgeous, the magnificent, the splendid, the sparkling, the elegant, the chaste, the modest, the lovely, the unassuming, the retiring—all, too, as perfect in form, in native grace and dignity, and correctness of display, as could be found in that highly-prized and much-admired collection of flowers, which took the premium at the first day's exhibition! And it is to be hoped that at the next exhibition we shall meet with all those whom we honour, admire and love, in the semblance of that finished work of Nature's own—the beautiful DAHLIA.

A CASUAL VISITOR.

Sept. 28, 1841.

Thoughts.

They come, when the sunlight is bright on the mountain;

They come, when the moonshine is white on the fountain;

At morn and at even, by minutes and hours,—

But not as they once were, of birds and of flowers.

They come, when some token of past days will rise,

As a link to the present,—and then they bring sighs;

They come, when some dreaming through hopes and through fears,

Rushes on to the future,—and then they bring tears.

They come, when the sea-mist o'er ocean is rife,

And they tell of the shadow that hangs over life;

They come, when the storm in thunder and gloom,

Spreads aloud, and they speak of the earth and the tomb.

They come, when the ripple is low on the lake,

And the plover is nestling by fountain or brake;

And the twilight looks out with a star on its breast,

And they whisper, that all but themselves are at rest.

They come, when the low breeze is fanning the leaves;

They come, when the flow'r-cup the dew-drop receives;

By night's noontide silence, by day's noontide hum,

At all times, oh! deeply and darkly they come.

THE *just man* does all that his fellow-creatures can reasonably claim at his hands—the *good man* does more; he serves them beyond the limits of any law, in cases in which they could demand nothing of him, which is *kindness*.

Letter from Solon Robinson.

To the Editor of the Farmers' Cabinet.

AFTER spending a week in and about your city, I cannot bear to leave it without a parting word to the many warm-hearted friends that I have found here. I am one that holds that self-esteem is a virtue, for it is that which makes us all proud of doing good. It is that which makes me proud of the reception that I have met with among a very large number of the agriculturists of this vicinity. But it is not a kind of self-esteem that makes me proud of the honour conferred upon me personally, for I am a stranger, personally unknown, even by character, except by my writings; but on account of the cause that I advocate have I been most flatteringly received wherever I have been. Oh, sir, the spirit of improvement is abroad. That "band of brotherhood" that I long to see cementing us all together, is forming. That joyful day is coming, when all the agriculturists of the land will feel as though they belonged to one family, and that their occupation was, and of right ought to be, the most honoured of all others.

On Tuesday last, I paid a visit to several of the farms upon the far-famed Brandywine hills of Westchester. If, Nebuchadnezzar-like, I am ever "turned out to grass," may it be upon such fat pastures as I saw there. At the farm of Samuel Worth, I found a most beautiful drove of Ohio oxen—fine, large, red, and upon such grass I need not say, very fat. This I find is a common practice, to drive lean oxen from Ohio, to take on a coat of Pennsylvania fat; and from this source comes the fine juicy beef with which your fine market houses abound. Many of these same cattle are driven into Ohio while quite young, from still further West, so that the places of their nativity and death are often a thousand or more miles apart. And as the great West improves, her almost boundless pastures will furnish an everlasting supply for the Eastern markets.

At the farm of Joseph Cope, I found an excellent specimen of South Down sheep, and a choice Durham bull, selected by himself in England. It would do some of our Western farmers (slovens, rather,) good to visit this farm, to see a place for every thing, and every thing in its place, in doors and out. For be it known that there is one within the house well worthy of the name of "Farmer's wife."

At the farm of Paschall Morris, we—I forgot to say that in this excursion, I was accompanied by Caleb N. Bennet, of Albany, whom I met in Philadelphia—we saw much to admire. A farm under a high state of improvement—a beautiful lot of short-horns—Berkshire hogs, and Bakewell sheep—a very

neat dairy house, with a churn driven by horse-power. Mr. Morris makes butter for the dignitaries of Washington, and here, let me assure them, that they may be assured of the perfect neatness of the manufactory. Mr. Morris is a young Philadelphian of wealth and intelligence, who has devoted himself to a noble pursuit; and his lovely wife is a sweet flower, that adorns her pleasant home, and makes the visitors at her hospitable mansion feel "at home." I have neglected to mention that we arrived in the evening at Westchester, the delightfully situated seat of justice of Chester county, and were soon visited by Dr. Darlington, a well-known agricultural writer, with a cordial invitation to breakfast, which we accepted; after which the Doctor drove us over to Mr. Morris', but was prevented by official engagements from spending the day with us. He however, transferred us to good hands, and a good carriage, in which Mr. Morris spent the day, until late in the evening. And his acts of kindness, similar to which are now everywhere to be seen among the "strong bond of brotherhood" which is forming among the friends of agriculture, did not end with that day, for at an early hour the next morning, his carriage was at the door to take us down to the agricultural fair, at Wilmington, whither we were also accompanied by Joseph Cope.

But the limits of this letter will not permit me to record the high praise that I intend to do hereafter, to Wilmington; not so much on account of the display of stock and implements, as upon the ennobling spirit that seemed to pervade the whole population. The Horticultural exhibition, which is connected with the Agricultural Society, showed the power of "female influence," and the room in the evening, showed a greater amount of female loveliness than is often to be met with upon such occasions.

The excellent dinner of the Society, from which "all intoxicating liquor" was banished, was one of the most pleasant of my life. After dinner, we partook of the "real old Virginia hospitality" of Dr. J. W. Thomson, the President of the society; and in the morning I had to deny myself the great pleasure that I should have enjoyed in spending a few days among the large circle of friends that I found, (although a stranger,) in Delaware. Both at Westchester and Wilmington, the subject of organising the *National Society of Agriculture*, was taken up with enthusiasm, and approving resolutions passed and delegates appointed.

I beg you to assure the numerous friends of agricultural improvement in and about Philadelphia, whom I was prevented from visiting on account of my pressing engagements, that I duly appreciate their good

wishes for the success of the cause I am engaged in; assure them also, that success is on the high road to prosperous completion.

Towards you and your readers, I remain most respectfully your friend—in the language of the lamented and honoured Buel—

“With affectionate regard,”

SOLON ROBINSON.

Philadelphia Sept. 20, 1841.

For the Farmers' Cabinet.

Hygienic Influence of Trees.

MR. EDITOR,—It gives me much pleasure to see the interest that has lately been expressed in the Cabinet, by yourself, and your correspondents, on the subject of the cultivation of trees and ornamental planting around dwellings. That this subject is greatly neglected by a large portion of our agricultural community, may be seen by the most cursory observation; and it is deemed, that any effort the periodicals devoted to the advancement of the farming interest in this country may make, in order to call the attention of agriculturists to this important subject, will certainly be in harmony with their object, and no doubt prove beneficial.

I have long held the opinions expressed by your correspondent, “P.” in the August number of the Cabinet, under the caption of “Ornamental Planting;” and since he has so truly expressed the beauty, neatness, and comfortable appearance, which is added to a dwelling by the exercise of a cultivated taste in the arrangement of the trees, vines, and shrubbery which surround it, perhaps a few remarks on the *utility* of such a course would be acceptable to some of your numerous readers. Permit me, therefore, to follow up “P.’s” suggestion, by adding my humble endeavour to circulate information respecting this important and interesting subject.

Many of the blessings which Providence has so bountifully bestowed upon us, contribute not only to our pleasure and gratification—not only to beautify and ornament the great temple of nature, but are, added to this, of striking and indispensable importance in the economy and operation of its laws. And among this number we may class TREES, although I am aware that the opinion is entertained in many parts of our country, that trees and vines, planted immediately around dwellings, render them unhealthy. That this is not the case, may be clearly seen by examining for a moment the functions performed by them.

In the first place, they *purify the atmosphere*.

On the vital importance of atmospheric air, it would be foreign here to dwell; but the least reflection will show, that its presence is

almost constantly necessary to our existence, from birth to death. There is no external agent of which we can be deprived, the absence of which would be attended with an equal amount of deleterious and fatal consequences. We may be deprived of light, heat, food, and sleep, for, comparatively, a long period; but the absence of *air*, even for a few minutes, is attended with great distress, and, if continued, death is inevitably produced. But it is of equal importance that this air should be pure.

Air, as *inhaled* by the lungs, consists of nitrogen and oxygen in the proportion of four parts of the former, to one of the latter; but when this air is *exhaled*, it is found to have undergone a material change; a considerable portion of the oxygen having disappeared, its place being supplied with an equal amount of carbonic acid gas, formed by the union of the carbon of the blood, with the oxygen of the atmosphere. This gas is exceedingly pernicious to animal existence, destroying life even when present in, comparatively, a very small proportion.

Atmospheric air contains *in maximo* $\frac{66}{100000}$ carbonic acid gas, and $\frac{21000}{100000}$ oxygen. A healthy man is computed to consume in one year, 166,075 cubic feet of oxygen (or 45,000 cubic inches in one day,) a thousand million men, which, according to some authors, is the estimated population of this globe, must consequently consume 166 billion feet in one year; this is equal to $\frac{1}{10000}$ of the quantity which is contained in the air in the form of carbonic acid. The carbonic acid in the atmosphere, would thus be doubled in 1000 years, and man alone would exhaust all the oxygen and convert it into carbonic acid in 303 times that period. We hence see, that man, independent of the quantity consumed in the respiration of animals and by the process of combustion, which of course is far greater, would long since have rendered the air incapable of supporting existence; and thus life, producing the seeds of death, the whole animal kingdom would, ere this, have become its own destroyer.

This evil is obviated by a wise and beautiful provision of nature, appropriating this gas, which is so fatal to animal life, as the food and subsistence of vegetation.

Liebig, in his recent valuable work, has proved by experiments made with the greatest possible accuracy, that the woody tissue of plants is derived almost exclusively from the atmosphere. According to his estimate, 40,000 square feet of land was found to yield 2650 lbs. of fir wood, of which, not more than 91 lbs. taken in the most favourable light, could have been derived from any other source.

But plants not only render the air respira-

ble by consuming all that is deleterious in its composition, but they are also an inexhaustible source of pure oxygen—a gas that is of the utmost importance in the vital process of respiration.

The nutriment of trees is conveyed up the trunk to the leaves, where it is decomposed by the agency of light, the carbon being incorporated with the tree, so as to form its solid matter, while the oxygen is exhaled or thrown off into the atmosphere. We thus see one of the ways by which vegetation contributes to the healthy state of a country, in maintaining that important medium in the atmosphere on which so much depends, and without which, even the most densely inhabited country would soon become desolate.

The cultivation of trees contributes in another way to the health of a situation around which they are planted—they act as a protection against that fruitful and mysterious source of disease, *miasmata*. This peculiar substance, arising from the decomposition of vegetable and animal matter, sometimes spreads itself over whole districts and even continents, bearing with it epidemics and fevers of a most serious and alarming character. The Asiatic cholera of 1832, furnishes us with a striking instance of this peculiar property of *miasmata*. Dr. Reynall Coates, in his treatise entitled “Popular Medicine,” a work of high and deserving celebrity, makes the following remarks on this subject, in the chapter on Hygiene, or the Art of Preserving Health.

“It appears probable, (to speak in the most cautious manner,) that vegetation—which, in its decay, produces by far the greatest amount of miasm—when vigorous, subsists upon and destroys it. This result is no doubt in a great degree owing to the action of the roots in absorbing the elements of decayed plants beneath the soil, but it is at least equally certain that the stems and leaves of living vegetables inhale the same effluvia to an incalculable extent. Our American forests are almost universally remarkable for their healthiness in their primitive state. The most noxious portion of the gases eliminated from the dead leaves is immediately absorbed by their living successors. The tree, the vine, the shrub—even the grave festoons of moss, and the humbler linch and mushrooms, all contribute to preserve the fitness of these gloomy wilds for the residence of savage or adventurous man.”

The probability here spoken of, has recently been satisfactorily established by Liebig, and he thus beautifully concludes the chapter which he has devoted to this subject. “Carbonic acid, water, and ammonia, contain the elements necessary for the support of animals and vegetables. The same substances

are the ultimate products of decay and putrefaction. All the innumerable products of vitality, resume, after death, the original form from which they sprang. And thus death—the complete dissolution of an existing generation—becomes the source of life for a new one.”

Dr. Coates further remarks—“In England every little cottage is surrounded with verdure. The honey-suckle, the eglantine, and the clematis entwine their branches around the door-way, and form festoons above every window, while the ivy covers the blank wall with the best of all protections against the rays of a basking sun. How barren and cheerless in comparison is the aspect of those unmeaning piles of logs, boards or bricks, so often, in our land miscalled a home! But taste and beauty are not the chief recommendation of this species of ornament. Waiving the inestimable moral advantage of cheerfulness, and that expansion of heart, which a fondness for the gems of Flora invariably bestows, the horticulture of cottages is a subject of great hygienic importance. A dense mass of foliage covering the walls of a building in summer, reduces the excessive heat within doors, and equalizes the temperature of the day and the night. In this manner it lessens the risks of disease, and renders an attack less dangerous.”

I have thus endeavoured, briefly to present your readers with other incentives, added to those already mentioned in past numbers of the Cabinet, to devote more attention to this essential, but too much neglected branch of *improvement*. Certainly if the enrichment of the soil, improvement of the stock and seeds of a farm, are matters of so much importance, the comfort, happiness, and health, of those who constitute the “family circle,” are not of less. HOME should be the centre—the grand focal point of all the farmer’s operations, for it is as much a duty to *enjoy* life as it is to *employ* it. CINCINNATUS.

September 22, 1841.

“His were not those lazy, luxurious habits of eating dinners when he should be eating his supper. He was not much of a physician, but he would undertake to say that if they would follow the practice adopted by himself, they would have little to fear from illness. He rose seldom later than five o’clock; he then took exercise, principally on horseback, for an hour or an hour and a half; he then made his toilette, took his breakfast, read the newspapers, and was ready to go to work. In connection with this, he always retired to bed at 10 o’clock; seldom later. If his friends would pursue this course, he would not only insure their health, but would engage to pay their physician’s bill.”—*Hon. Henry Clay*.

To the Editor of the Farmers' Cabinet.

Root Culture.

SIR,—In a late tour which I made during a season of leisure, according to the recommendation of the Cabinet, I have gained experience that will repay me the cost of the journey ten times told. Having seen and heard so much of the barren sands of Jersey, I felt determined to see a little and judge for myself: accordingly, one fine morning, I accompanied a friend from Philadelphia on a gunning expedition up Cooper's creek; and while he was plunging half-leg deep in mud, I had sufficient employment of a very different character to examine the modes practised in these sands, from whence so much *truck* is taken to the Philadelphia market, just across the river. Much of the land in the immediate vicinity is the property of the Cooper family, who, I was given to understand, are at length determined to sell a portion for building purposes—a determination which, had it been indulged in forty years ago, would have created a town at what is called Cooper's Point, of many hundred houses by this time; but my business is now with the *country*, and not with the town. I was going to say, within a short distance from the shore and in the midst of the sand, I saw better management than I ever before witnessed! Why they must realize, by a single year's crops, more than the value of the land, for I found a man who has already taken three full crops from the same field, sold them, and put the money in his pocket. Near by, are the farms of Mr. B. Cooper and his son, over which I confess I cast an envious eye, regretting that I had not an introduction to them, that I might learn a mode by which they secure to themselves and their out-door family that *comfort* which is so visible in all with which they have to do, their horses, cattle, hogs, and even poultry, being all so well bred and well fed.

But the chief end I have in view is, to point out to your correspondent B, whose ill success in the culture of the beet has furnished an interesting and most amusing article for the last Cabinet, a mode, by which he will see how they do the thing elsewhere, for here I saw a piece of remarkably fine sugar beets, after a full crop of garden peas that had been harvested for seed; forming a second crop of great luxuriance, which will obtain a season sufficiently long to bring them to perfect maturity; a portion of the same field being potatoes, following peas also, the two crops having been worked together in the regular way by means of the cultivator, without trouble or much extra labour: these second crops are expected to turn out equal to almost any in the county, where they have formed the

only crops for the season. And here, too, I saw the proposal—to sow the common turnip in the corn at its last cleaning—carried out to perfection: the turnips are now nearly fit for the market, and after the removal of the corn, which will be done by means of the machine described at page 73 of the Cabinet, vol. 5, they will have space to complete their growth and become a most valuable auxiliary in the winter-feeding department of a well-regulated establishment. If our friend B would devote some of his leisure to travel, I think he would neutralize a portion of that acidity which he seems to have imbibed by staying at home to nurse his beet crop; and when the cultivation of that root becomes better understood, I have no doubt much of the contrariety of opinion that is now entertained respecting its value as food for cattle will be reconciled. In hot and light soils, the crop ought not to be sown before June, which gives ample time for the growth and removal of some early crop; or the seed may be planted on a clover-lay after the first cut of hay is carried, with the expectation of perfect success: on cooler and heavier soils, the crop may be sown earlier, but then the plan adopted by Mr. Longstreth ought to be practised, namely, to sow turnips on the land at the last cleaning. Let it always be remembered, *and never let it be forgotten*, that if the sugar-beet gets a check in its growth and starts afresh, the saccharine principle is as effectually destroyed as is that of the sugarcane by a single frost,—nothing can then be obtained from it but *potash*, which at once accounts for the diuretic effect on the cows belonging to the friend of B. We all know the effect of a second growth of the potato crop.

J. JOHNSTONE.

Reading.

NOTE.—We have long been urging upon our agricultural friends the substitution of the sugar-beet as a second crop, and have at length the pleasure to say we have witnessed the result of the practice in heavy crops of the greatest luxuriance. At the Horticultural Exhibition at Philadelphia, there were roots of sugar-beet of the most perfect growth, weighing 8 lbs. each, measuring 18 inches long, and 18 in circumference, from seed sown on the 19th June, on land that had borne a crop of peas that had been harvested ripe; and as every one knows that quick growth is the *all in all* in root cultivation, there is no question but these roots will retain their juiciness and vigour to a late period in the spring, and make good butter to the end. These fine roots were exhibited by Mr. Benjamin Jones, of New Jersey, who deserves a medal "for his crop of sugar-beets after peas harvested."—Ed.

It is in human nature to be indignant at certain vices and crimes, but alas for us! we feel a virtue in our indignation and boast of it as a *merit*!

For the Farmers' Cabinet.

Bee Moth.

IN the first No. of the Cabinet, vol. 6, is an article headed The Bee Moth, which is, I think, calculated to deceive the bee-keeper. I am no enemy to *science*, but I wish to see it based on fair reasoning—then I am ready to become a convert to the theory of any man.

The ravages of the bee moth are notorious in all sections of the country where they have made their appearance, and are calculated to excite the apprehensions of bee-keepers for the safety of their hives, and to urge them to adopt preventive measures against their depredations—but thus far I believe no effectual remedy has been discovered. The theory laid down by your correspondent is, that “the bee moth has no desire to deposit its eggs in a hive, until it knows by instinct that the swarm is unhealthy, and that the labours of its progeny will soon be required to act the part of the turkey-buzzard:” and the only remedy he proposes is, to transfer the swarm to a new box so soon as the moth is observed flitting around the entrance of any particular hive—but it is reasonable to ask, will this simple transfer restore the bees to health? Besides, all experience in the transferring of bees to new hives, goes to establish the important fact, that when swarms are transferred to new hives, it must be done in the early part of the season, when there is time for the bees to collect sufficient honey for their maintenance, or they will die of starvation, unless they are provided with food by their keepers; and no prudent man will transfer his bees to new hives at any other season, after he becomes acquainted with this fact.

But, is it true, that the moth will deposit its eggs no where but *in* the hive? I could produce many witnesses to prove that it frequently lays its eggs on the outside of the hive, particularly if there be crevices or cracks about it, as well as on the bottom of the hive, and in the corners formed by the projection of the top board. The straw-hive also furnishes more proof on this point—it was the custom formerly to place a cap of straw over the hives, the ends extending down the side of the hive nearly to its lower edge, but it was found that the moth crept into the ends of the straw covering to deposit its eggs, and the worms became so numerous that it was found necessary to dispense with the straw covering on this account. Now, in my opinion, it is the nature of the bee moth, like other insects, to deposit its eggs in the vicinity of the food adapted to the wants of its young—the silk worm on the leaves of the mulberry, the green fly on the roots and branches of different kinds of grain,

while the food of the butterfly is as various as its different species; its habits, however, being peculiar in one respect—it always avoids putrid and fetid matter as food; and the bee moth is of this species.

In view of this rational and common-sense aspect of the case, the writer of the present article conceives that he has succeeded in fabricating a bee-box that will obviate at once all these difficulties; meet most effectually all that is required to preserve our swarms in perfect health and vigour, and, by the most simple of all means—the peculiar construction of the bottom of the hive—afford a remedy against the destructive ravages of the bee moth—a desideratum, he conceives, hitherto unaccomplished.

Application has been made for a patent for the invention, and due notice will be given where the hives may be obtained; it being intended to deposit one at the office of the Farmers' Cabinet, for inspection. P.

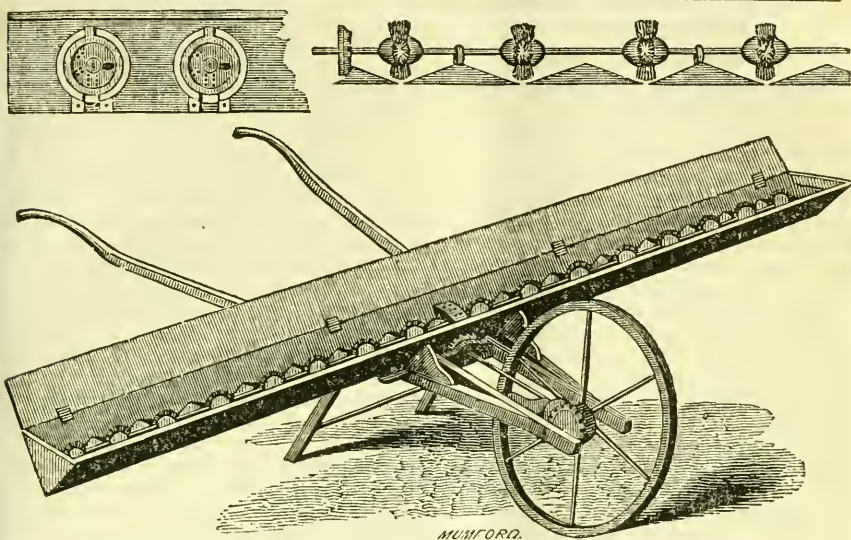
Philadelphia, Sept. 15, 1841.

Homage to Virtue.

WHEN Cambray, the metropolis of the See, and the place of residence of Archbishop Fenelon, was the seat of the war which was carried on by the French and English and their allies at the beginning of the last century, the French army naturally vied one with the other in showing respect to this amiable pastor; but veneration of his name and character was not confined to his countrymen, for he was no less respected by the enemy. The Duke of Marlborough, Prince Eugene and the Duke of Ormond anticipated his safety and his wants by all kinds of civility—they sent detachments to guard his meadows and his grain; they caused the crops to be transported to Cambray, lest they should be seized and carried off by their own foragers; and when any party of the enemy had learned that he was about to take a journey within his Diocese, they sent him word that he had no need of a *French guard*—that they would escort him themselves! Such a commanding power has virtue over all hearts.

Steeping Smutty Wheat.

ARTHUR YOUNG sowed 14 beds with the same wheat-seed, which was black with smut. The first bed was sown with this wheat without washing, and had 377 smutty kernels. A bed sown with seed washed in clear water, produced 325 smutty kernels; washed in lime-water, 43; in ley of wood-ashes, 31; in arsenic and salt mixture, 28; in lime-water, four hours, 2; in ley, four hours, 3; in arsenic, four hours, 1; in ley, 12 hours, none; in the same ley, 24 hours, none; in lime-water, 24 hours, none.



BENNETT'S SOWING MACHINE.

WE have copied from the 4th volume of the Memoirs of the Philadelphia Society for promoting Agriculture, this all-important implement, which ought to be in the hands of every agriculturist in the Union. After many years' experience, we are prepared to say, it is perfect in all its parts, and superior to every other sowing machine, for the purpose of distributing the seeds of grass, turnip and clover, with the most minute exactness, in any quantity required, and with a facility and ease quite inconceivable to those who have never witnessed its operations. We copy the following account, with directions for its use, from Dr. Logan's communication addressed to the president of the Society.

"The cultivation of clover is considered the basis of a rotation of crops on which is founded the improved system of agriculture in the United States, but many of our husbandmen are discouraged from adopting its use, on account of the delay and difficulty in sowing an extensive field with light grasses by hand. It is, therefore, with great pleasure I inform the Society, that I have received from a friend, one of Bennett's sowing machines for sowing grass, turnip, or clover-seeds, which promises to be a most valuable addition to our implements of husbandry. The experiments made with it at Stenton, in sowing clover and timothy seed, exceed my most sanguine expectations; a man, pushing the instrument before him in the manner of a wheelbarrow, will sow twenty acres a day, *uninterrupted by wind or weather.*

"*Instructions for using.* When you get into the field, set the regulator and lay the box across the carriage, setting the regulators behind for dropping the seeds; then put the seed into the box, place three sticks in a straight line to guide, and drive straight across the field; then remove the sticks to the proper width, and drive back, and so continue, leaving the headlands until the last. When you want to turn, take the wheel in your hand and lift the machine off the land, and place it in the line you wish to follow in returning; it is light, and there will be no difficulty in performing this operation: once going over the land will be sufficient.

"*Instructions for setting the machine.* When you want to sow mixed seeds, such as rye-grass, trefoil, clover, or any other mixture of these, let them be well mixed before going to the field; then turn the large hole of the plate opposite the brush in the box: the hole at full size will sow twelve or fourteen gallons to the acre, and half the hole, seven gallons, (there is a difference in the size of grass seeds.) In sowing turnips, one small hole at each brush will sow two pounds of seeds per acre, but of ruta bagea not quite so much, as the seed is larger. If you desire to sow but one pound of seed per acre, put one hole to every *other* brush and a blank to the others; and if the seed be good and the season kindly, it will produce a good crop and come in drills, which will need little labour in hoeing. In sowing red clover, five holes will sow eight pounds of seed per acre; of white clover, about eleven pounds per acre, and so in proportion to all other seeds of the same size. The distance you walk in sowing an acre of land when using the box at full length, is 235 rods."

N. B. The plates are made of brass and are easily turned, so as to submit each hole or set of holes to an aperture in the box, through which the seeds are forced by the brush in its rotary motion; no difficulty is encountered in any part of the operation, and the machine may be used many years without the least danger of disorder, except by accident.

For the Farmers' Cabinet.

Corn Stalks for Fodder.

It would appear that we throw away about one-half our corn-fodder either in the shape of cob or stalk. A writer in the Cabinet has brought the subject of Corn and Cob Meal fully before us, and many of my friends have very fully tested the truth of his remarks; it is indeed surprising that every mill is not provided with the means of grinding the cob as well as the corn, now that it has so satisfactorily been proved to be a most valuable resource to our winter feeding establishment. But I have long been convinced that the stalk of the corn contains a much greater proportion of nutritive matter than even the cob, and am pleased to find my conviction corroborated by a writer in the Frederick Herald, who, under his own signature, relates his experience in corn-stalk fodder, which is highly interesting at the present season, when no man has the power to divine what may be the straits to which he may be driven the coming winter.

Mr. Simmons writes, "In consequence of the great drought that prevailed in the section of country in which I lived the last summer, my crop of corn fell short three-fourths of what I anticipated when I planted; and the pastures being exhausted early in the fall, I became concerned, lest I should not be able, with the produce I had, to support my stock through the winter. Having cut up my corn in the field close to the ground, as had been my practice for many years, I took a notion that I could, after husking the corn and leaving the shuck to the stalk, cut the stalk, blade, shuck and all quite short, and make it go farther as stock-food, doing more good, than when fed in the usual manner by throwing it in the cattle-yard to be picked over and trodden into the dung; and having procured a very strong chaff-cutting box and fitted it to go by horse-power, I found that with the labour of two hands and one horse, I could cut from fifty to sixty bushels of horse-food, from half an inch to three quarters long, in one hour, and from seventy-five to ninety bushels for cows, from an inch to an inch and a quarter long, in the same space of time. The failure of my last crop of rye as well as corn, induced me to try this corn-fodder for horse as well as cow food, and I therefore commenced early in November to feed them twice a day, giving each horse about half a bushel at a time, to which I added two quarts of wheat-bran stirred together and made moist with water, frequently adding a little salt; and to this food my light work-horses were confined during the winter, with only the addition of a very scant portion of hay, doing as much work as usual, appearing to be in

better health, and carrying as much flesh as heretofore, when fed with grain. As food for cows when in milk, cut corn-fodder is excellent, when mixed with bran and a little water; but without the addition of bran, it will keep three head of dry cattle better than the same fodder in the usual way would keep one—and the advantage is not confined alone to the benefit of the stock fed on it, for the article of manure, proceeding from the cut food over that of the long stalk, more than repays the difference in the labour incurred.

"Corn should always be cut from the hill in the field as soon as the ear has thoroughly matured—or at any rate before it is touched by the frost—and put up in good shocks, and as soon as the ear has become sufficiently dry to be housed, it should be husked, leaving the shuck attached to the stalk: the fodder should then be packed close and properly secured from the weather, for there is no kind of provender that is sooner and more heavily damaged by rain and exposure to the weather than corn-fodder—and remember to cut your corn close to the ground, for that part of the stalk which grows below the ear is worth far more than the part above." S.

For the Farmers' Cabinet.

Salting Horses.

A CURIOUS fact is mentioned in Parkes's Treatise on Salt—"A person who kept sixteen farming horses, made the following experiment with seven of them which had been accustomed to take salt with their food.—Lumps of rock-salt were laid in their mangers, and these lumps, previously weighed, were examined weekly, to ascertain what quantity had been consumed, and it was repeatedly found that whenever these horses were fed on old hay and corn, they consumed only from 2½ to 3 oz. per day, but that when they were fed with *new* hay, they took 6 oz. per day." This should convince us of the expediency of permitting our cattle the free use of salt at all times, and it can not be given in so convenient a form as rock-salt, it being much more palatable than the article in a refined state, and by far cheaper. A good lump should always be kept in a box by the side of every animal, without fear that it will ever be taken in excess. E.

WAGE an unceasing warfare with the weeds. It is not too much to say, that in many cases the annual profits of a farm are diminished from one-third to one-half, by this crop alone. Cutting John's-wort and applying plaster to invigorate the grasses will destroy this weed, while others must be pulled by hand before ripening their seeds; others, again, require to be plucked up by the roots.

For the Farmers' Cabinet.

Diseases of Horses.—Hilling Corn.— Agricultural Improvements.

THE charlatanism practised in the medical treatment of horses readily accounts for the unfortunate termination of most of their diseases. At least such is the conclusion deduced from my limited experience.

The first horse I ever owned contracted an inflammation of the lining membrane of the eye, from exposure in severe winter weather, and the action of the reflected rays of the sun when the ground was covered with snow. Every one who witnessed the progress of the film which rendered his vision hourly more obscure, insisted on the immediate and free application of burnt alum. The remedy was tried, persisted in, and in a fortnight the animal was stone-blind. I reflected afterwards how injudiciously I had acted in yielding to current opinions when they were opposed to the principles of nature. Here was a horse, affected with an acute disease of a sensitive tissue, due in a great measure to a constitutional affection, yet treated as though the part was destitute of vitality, and without any reference to the state of the general system. Under different circumstances the application of burnt alum would doubtless have been very proper—that is, when the condition of the affected part demanded increased action. But the case was just reversed.

I last winter had a horse affected in a manner precisely similar, and received identically the same advice from those around me. I determined, however, to act in accordance with my professional judgment. After proper depletion, therefore, the local inflammation was combated by cold applications (Solution of Sugar of Lead, &c.) and the use of necessary precautions to prevent irritation from excessive light. The active inflammation being subdued, the film, which consists of a secretion of fluid within, and thickening of, the *conjunctiva*, or membrane covering of, the eye, was easily removed by a solution of lunar caustic, 10 grs. to the ounce of water, applied by means of a camel's-hair pencil. The recovery within a fortnight was complete.

I cannot understand why a rational method of treating all diseases of horses should not be adopted. It especially becomes the duty of the farmer-physician to investigate their diseases, rather than consign them to the "horse doctor" with disgust. The error of prescribing for a name, in entire ignorance of the proximate cause, of the malady, might soon be avoided. I seldom hear of the death of a horse where the cause of it is *professed* to be known, and still more uncommon is it to hear of an examination being made after

death to clear up the mystery. But it is the physiologist and anatomist alone who can derive much benefit from opening diseased animals after death.

I may, in this place, record the result of my experience the present year in hilling corn. About one-fourth of my crop was ploughed, in consequence of its being overrun with grass. My neighbours insisted upon the necessity of it to support the stalk, or, as one of my black men expressed it, to "expert the corn." From the diversity of soil I am unable to come to any conclusion respecting the difference in vigour of growth between that ploughed, and that cultivated with flukes only; but am satisfied, the quantity was not increased by the former process, which necessarily exacted additional labour. As to hilling the corn affording it any support, I am satisfied of its inefficiency. The corn that was ploughed was more prostrated by winds than the other—a result to be attributed, possibly, to its more exposed situation, for I do not imagine either mode of culture renders it less obnoxious to the effects of high winds.

In conclusion, I cannot refrain from expressing the high gratification we all here begin to feel at the elevated stand agriculture is now assuming. Within the last few years improvements in this county have been constantly progressive, and in an increasing ratio. Despite the malign influences of financial embarrassments and political agitations, superadded to low prices of produce, landed properties have advanced, and are at this time in greater demand, and at higher valuations than at any preceding period in our history, except perhaps for a short period after the war, when speculation and bread-stuffs ran "mountains high." Men of intelligence and wealth now purchase farms to reside upon and improve them, and not for purposes of speculation. The result in a few years in all probability will be to place our lands on a par in nominal value with those in Lancaster and Chester counties. And why not? The soil is as kind, the country as healthy, and more convenient to markets. The impetus this movement has received from the agricultural press, especially the Albany Cultivator, and Farmers' Cabinet, has been most happy. The controlling influence of these publications cannot be fully appreciated.

J. A. LOCKWOOD.

Wilmington, Del., October, 1841.

THE science of agriculture is by no means at its height; in the almost miraculous advance of chemistry, new means may be found from the concentration of known composts, to lessen the cost of culture and to increase its returns.

For the Farmers' Cabinet.

Philadelphia Agricultural Exhibition.

MR. EDITOR,—I was very unexpectedly enabled to attend the Agricultural Exhibition which was held at the Rising Sun on the 29th and 30th of September, and was at once pleased and disappointed—pleased, to find so good an attendance of persons taking an interest in the business before them—disappointed, in seeing the very few horses shown, when compared with the exhibition of last year; and the very poor display of agricultural produce, not too much in the whole to serve up at a good table, setting aside a few large pumpkins—pleased, with the very numerous and excellent machines of almost every kind to expedite labour, especially that noble implement, the PLOUGH, in all its glory, with two of the subsoil variety—with pens of hogs of improved breeds, particularly of those, a cross between the Berkshire and Chester-county breed; and with the peculiarly fine specimens of sheep, showing a vast improvement for the past year;—but *mortified*, to find but two fat steers upon the ground! To be sure we were greeted with the presence of some old friends in the persons of our thorough-bred cattle, and the young stock generally exhibited the improvement which was to be expected from such parentage; but there were others—strangers to be sure—that were not equal to the occasion. On noticing the imported Devon bull in the centre of the inclosure and examining his compactness, I was led to suspect that we are breeding our bulls too large and heavy; forcing their growth while young, by too high a system of feeding; and this evil, I thought, appeared in some of the individuals exhibited, whose enormous growth must unfit them for the service expected from them. Now, in this, as in every thing else, there is a medium, and I suspect that in breeding so costlily and carefully, we are overstepping the bounds of moderation, and unfitting our stock to bear the vicissitudes of climate and a medium degree of exposure, encouraging their growth by over-nursing, with a view to create a fine coat and delicacy of handling.

I should have been content with witnessing the first day's exhibition, had it not been for the desire to be present at the ploughing-match, the thought of which has always a charm for one who has spent much of his time between the handles of a plough, and I was much pleased to find that multitudes besides myself were actuated by the same feeling, for the gathering was far more numerous on the second day than on the first, nor was I disappointed; for although not much was done, it was enough to show that the plough called the CENTRE DRAUGHT, was far prefer-

able for the purpose of *cultivating the soil*, to all its competitors. I had never before seen that plough in operation, but am quite convinced, that in the hands of a good ploughman, it could be made *all but talk*; for although it is said to turn its furrows too flat for *some* purposes, it would be easy with it to lap them at an angle of 45°, and still bury all the sod, manure, or green crops, as effectually as when the furrow is laid flat. Many of the spectators complained that the furrow on the land-side was not cut smooth, but if the coulter was straighter, stouter, and wide at the point, and brought back, so as that the point of the share shall precede it a little, lowering it to the thickness of two fingers only from the share, the land-side would have been cut perfectly smooth: but neither the beam nor the handles of the plough were long enough to *balance*, as they should do, the body of the plough; while the wheel was a libel on a good ploughman.

But the most interesting part of the day's exhibition, was the trial of the subsoil plough; its operations have opened to me a new field for reflection, and I feel an interest about it which I cannot express: it appears to me, that by this opening of the subsoil without turning it up, we secure half-a-dozen advantages at once.—First, it enables the tap-roots of the plants to penetrate and anchor more deeply in the soil. Second, in a time of drought, the moisture can more easily ascend from a greater depth, when it will be retained in the pulverized subsoil as a sponge, and be given out to the plants at a time of their greatest need. Third, in a rainy season, the superabundance of moisture will more readily pass away through the loosened subsoil, especially if the land has been drained. Fourth, by the washings of the manure from the surface-soil, which can now penetrate the loosened subsoil and not be carried away by water resting on the hard-pan, the subsoil will be so enriched, that a small portion of it might be brought to the surface at every ploughing, so that in a little time the depth of the ordinary ploughing may be increased, to the very great improvement of the crops. Fifth, I cannot but believe that henceforth much of the difference of opinion relative to the value of the root-crop will be done away, for the plants will now have the power to penetrate deeper, where they will be followed by the manure in solution, enabling them to support their growth without that lateral spread of the roots, by which they are confined to the surface-soil, exposed to the drought, which is often the cause of a check in the growth of the plants from which they never recover. And the beet and turnip crops may now be grown after rye or wheat, with a full expectation of success, by subsoil-

ing the land, and dressing the top surface with well-composted manure, drilling in the seed and covering it by a slight harrowing—which, together with rolling, might be performed by means of additions to the drill; then, the complaint of the depredations of the plant-louse on the ruta-bagas would no longer be heard—that disease arising chiefly, if not entirely, from defects in the soil or the subsoil; the crops doubling in quantity and trebling in quality, preserving the saccharine juices through the winter and until late spring, without deterioration. And, sixth, although last, not least, is the consideration, that at the time of frost, the crops will not be so liable to be lifted and the roots be broken, for the land being loose and comparatively dry to a great depth, it will not be easily penetrated by the frost; while the roots of the plants, having a much firmer hold of the ground and more out of the reach of frost, will be able to exert a greater resistance and hold on more firmly. Thus, the *rising* will be in a very great measure prevented, and consequently, the *subsidence* of the soil at the passing away of frost—the most trying time by far, for by it the plants are left standing naked on the surface, and then come disease, and its concomitants in every shape. In the usual shallow ploughing, the frost soon penetrates to the hard-pan, and lifts the whole surface at once, its power being increased by a superabundance of moisture, which is often found to rest upon the unbroken surface of the subsoil at that season of the year. So that, had the subsoil ploughing been the only part of the exhibition, I should have been richly repaid for my time and the small amount of expense incurred.

No doubt, many of these subsoil ploughs will be in request: would you inform us where they may be obtained, and at what cost?

JOSEPH STILLÉ.

Luzerne Co., 2d Oct., 1841.

Mr. Prouty, the maker of the Centre Draught Plough, who furnished the Subsoil Plough, is preparing to construct them, and we will take the first opportunity to state when they may be obtained and at what price. It is much to be regretted that the large Subsoil Plough imported by the late James Ronaldson, was not brought into competition; but the great power necessary to work it could not be procured upon the spot, neither was the accompanying apparatus calculated for the common teams and harness of the country. It is a most effective instrument on compact and strong soils, capable of turning up rocks of 200 lbs.; but much of the land in our region can be subsoiled with a lighter tool, the beam and handles of which, however, must be longer and straighter, forming levers to the *body of the plough*, which might be denominated the *fulcrum* of the instrument. Mr. Hulme, the gentleman who sent it for trial, has the thanks of the community: he informs, that it might be seen and examined at the Franklin Institute, South Seventh Street. — Ed.

Philadelphia Agricultural Society's Exhibition.

REPORT OF COMMITTEE OF ARRANGEMENT.

THE Committee of Arrangement, in making their Report of the Annual Exhibition of the Philadelphia Society for Promoting Agriculture, held on the 29th and 30th of September ultimo, do so with feelings of more than ordinary satisfaction.

Taking all things into consideration, this Exhibition was more gratifying than any which has preceded it. The display of Horses, it is to be regretted, was not equal to that of former occasions, though it is admitted that the stock of fine Horses has rather increased than diminished during the past few years. Of Neat Cattle, the supply was full, there being only three or four of the long range of stalls unoccupied; while the quality, condition, and appearance, were never surpassed at any Exhibition of the Society. Of Sheep, although they were not as numerous as formerly, they were extremely fine specimens of the breeds to which they respectively belong. The number of Swine was unusually large, embracing some of the best specimens of Berkshires and mixed breeds, and betokening an increased interest in this important branch of farm stock.

Much attention was attracted to the large and handsome display of Agricultural Implements. It appeared, indeed, from the number, variety, and excellence of the utensils in this department, that there was little room left for farther improvement. This means of displaying, by inventors and manufacturers, improved implements of husbandry, before the agricultural public, enables it to form a proper familiarity with their character and value.

Although the amount and variety of the products of the farm, were probably greater and better than usual, yet it would have been more satisfactory to have seen greater interest evinced in this respect. It would certainly have been pleasing to all, if there had been displayed and systematically arranged, the finest samples of all the different kinds of grain, vegetables, &c., with all the necessary information appended, incident to their culture, yield, &c. It is to be hoped that by another year, this deficiency will be fully supplied, and thus one of the most interesting and useful portions of the Exhibition be properly sustained.

The trial of Ploughs and Ploughing, was witnessed by a large concourse of people, who showed, by their anxiety for the result, the deep interest they felt in this most important of all the utensils in agriculture. Tests of this kind cannot but prove serviceable to the farmer.

It is known that the funds of the Society are quite limited, and barely sufficient, by observing the utmost economy in the ordinary expenditures as well as the rate of premiums, to carry it successfully through, without burthening itself with debt. The Committee would therefore beg leave to recommend, as a sure and unobjectionable mode of increasing the funds of the Society, that certain improvements be made in the Exhibition Grounds, and that a small admission sum be hereafter exacted from each visiter. By this means a handsome revenue could be raised, which, while it would prove of the utmost advantage to the Society, in enabling it to enlarge and extend the premiums, would be contributed with pleasure by the thousands of respectable yeomanry, honouring the Exhibition with their presence.

In conclusion, the Committee of Arrangement feel much satisfaction in being able to say, that the Exhibition just closed, attracted a largely increased number of visitors, over the preceding ones, who seemed to evince an unusual degree of interest in, and admiration of, the splendid stock there concentrated from the counties of Delaware, Chester, Montgomery, Bucks, and Philadelphia; and that during the entire two days there was great propriety of conduct observed by the vast concourse of people present, and nothing occurred to lessen, in the least, the gratification which all appeared to feel on the occasion.

The Reports of the different Judges are subjoined. All which is respectfully submitted.

KENDERTON SMITH,

Chairman *Committee of Arrangement.*

P. R. FREAS, *Secretary.*

HORSES.

The undersigned having been appointed Judges of Horses, at the Exhibition of the Philadelphia Society for Promoting Agriculture, award the following premiums:—

To Col. Wilkinson, for the best thorough-bred Stud Horse, Torpedo, Ten Dollars.

To John Weaver, for the best Stud Horse, adapted to the field and road, Gen. Jackson, Ten Dollars.

To Mr. Craven, for the best Blood Mare, adapted to the field and road, Ten Dollars.

To N. Biddle, for the best Horse Colt, between two and three years old, Dan. Webster, Eight Dollars.

For the best Filley or Mare Colt, of same age, Eight Dollars.

For the next best do. do., certificate of merit.

To Mr. Cardwell, for the best Horse Colt, between one and two years old, Tippecanoe, Five Dollars.

To Mr. Alexander, for the best Filley, of same age, Bonny Black Bess, Five Dollars.

September 29, 1841.

DAVID DORRANCE,

GEORGE McCLELLAN,

OWEN SHERIDAN,

CORNELIUS S. SMITH,

NEAT CATTLE OVER TWO YEARS OLD.

The Committee on Neat Cattle over two years old, respectfully submit the following award of premiums:

To Mrs. Roach, for the best Durham Bull, over three years old, Bruce, Ten Dollars.

To Dr. Uhler, for the best do., between two and three years old, Sam Slick, Eight Dollars.

To Mr. Webster, for the next best do., Nicholas I., certificate.

To R. T. Potts, for the best Devon Bull, Merion, Eight Dollars.

To Mr. Nicholson, for the next best do., certificate.

To John Struthers, for the best Ayrshire Bull, George, Eight Dollars.

To N. Biddle, for the best Alderney Bull, Stanley, Eight Dollars.

To James Gowen, for the best Durham Cow, over four years old, Pocahontas, Ten Dollars.

To Paschall Morris, for the next best do., Bessy, certificate.

To J. W. Roberts, for the best do. do., between two and three years old, Victoria, Ten Dollars.

To James Gowen, for the next best do. do., Rosanna, certificate.

To R. T. Potts, for the best Devon do., Isabella, Eight Dollars.

To C. Magarge, for the next best do. do., Cherry, certificate.

To John Struthers, for the best Ayrshire do., Helen McGregor, Eight Dollars.

To G. Uhler, for the next best do. do., Effy, certificate.

To N. Biddle, for the best Alderney do., imported, Jeannie Deans, Eight Dollars.

To A. S. Roberts, for the best Cow of any other breed, Queen of Chester, Eight Dollars.

To James Gowen, for the next best do. do., Kitty Clover, certificate.

To J. W. Roberts, for the best Ox or Steer raised in Pennsylvania, Ten Dollars.

To R. T. Potts, for the next best do., certificate.

To James Gowen, for the best Durham Cow, over two years old, that has not produced a calf, for his "Cleopatra," Eight Dollars.

To Paschall Morris, for his Cow, Belle, for the next best, certificate.

In addition to the fine stock to which premiums have been awarded, the Committee take pleasure in noticing many others on the ground that have given great interest to our exhibitions for several years past, and done great good for the country, as is evident from the astonishing improvement manifested in our young stock. Among those most worthy of particular notice, we would mention the thorough-bred Durham Bulls, Colostra, Prince of Wales, and His Grace, all animals possessing the finest qualities, but having heretofore taken premiums, are now excluded from competition.

Mr. Gowen's splendid cow Dairy Maid, Mr. Paschall Morris', Dr. Uhler's, and Mr. A. S. Roberts' fine cows, many of which had taken premiums, were excluded from offering at this time, but deservedly attracted universal admiration.

Some fine Devon Cattle were shown by Mr. Washbon, on their way from Maryland to New York state. Also, some fine Devons, by Judge Longstreth, which the Committee regret were removed from the ground yesterday, through mistake. Many Cattle were presented by other gentlemen, highly worthy of notice, and which the Committee would take great pleasure to particularise did room permit.

Sept. 30, 1841.

AARON CLEMENT,

BENJAMIN SERRILL,

THOMAS S. WOODWARD,

HENRY CHORLEY.

CATTLE UNDER TWO YEARS OLD.

The Judges of Cattle under two years old, at the Exhibition of the Philadelphia Society for Promoting Agriculture, award the following premiums:—

To W. Robinson, for the best Durham Bull, between one and two years old, Traveller, Six Dollars.

To R. R. Levick, for the next best do. do., Furbelov, certificate.

To G. Fisher, for the best Bull of other improved breed, John, Six Dollars.

To J. Struthers, for the next best do., Bruce, certificate.

To A. S. Roberts, for the best Durham Bull Calf, between four months and one year old, Pa. Darling, Five Dollars.

To James Gowen, for the best Durham Heifer, between one and two years old, Darby Kate, Six Dollars.

To Owen Jones, for the next best do. do., Ellen Kirby, certificate.

To John Struthers, for the best Heifer of other improved breed, Galloway, Six Dollars.

To John Turner, for the next best do., Media, certificate.

To James Gowen, for the best Durham Heifer Calf, between four months and one year old, Juno, Five Dollars.

To P. Morris, for the next best, do. do., Fanny Kemble, certificate.

To H. Neuman, for the best Heifer of other improved breed, do., Fanny Elssler, Five Dollars.

To I. W. Roberts, for the best Steer, between one and two years old, Five Dollars.

The Committee feel it their duty to add, that the young cattle which came under their notice, though not numerous, were of fine quality and evinced great care in the selection of stock by their breeders. Beside those to which premiums were awarded, a number of excellent and beautiful animals were exhibited, and in several cases vied closely with their more fortunate competitors. There were also some handsome calves under four months old, which by the regulations of the Society were excluded from premiums.

September 30, 1841.

ISAAC W. ROBERTS,

JOHN M. JUSTICE,

JOHN WORTH,

EDWARD WARTMAN,

JOHN KIRK,

ISAAC NEWTON.

SHEEP AND SWINE.

The undersigned were appointed by the Philadelphia Agricultural Society as a committee to examine the

Sheep and Swine, offered for premium at the Exhibition, held at Rising-Sun this day—and after a careful examination do adjudge the following, viz. :—

To J. Bradley, for the best long-woolled Buck, Four Dollars.

To P. Morris, for the next best do. do., certificate.

To J. Shallcross, for the four best do. do., Ewes, Five Dollars.

To do., for the four next best do. do., certificate.

To A. Hoopes, for the best short do. Buck, Four Dollars.

To O. Sheridan, for the next best do. do., certificate.

To A. Hoopes, for the four best do. do., Ewes, Five Dollars.

To J. Shallcross, for the four best Lambs of any breed, Four Dollars.

To H. Hill, for the best Berkshire Boar over one year old, Four Dollars.

To C. Magarge, for the next best do. do., certificate.

To E. Hicks, for the best do. do. under one year old, Three Dollars.

To H. Hill, for the next best do. do., certificate.

To Thos. White, for the best do. Sow, over one year old, Four Dollars.

To W. Oxley, for the next best, do. do., certificate.

To H. Hill, for the best do. do., under one year old, Three Dollars.

To Thos. White, for the next best do. do., certificate.

To E. Hicks, for the best brood of Pigs, not less than five, Four Dollars.

To H. Hill, for the next best do. do., certificate.

To W. Webster, for Russian Boar, Four Dollars.

To J. Hill, for second best Boar of other breed, certificate.

To G. Uhler, for best Sow of mixed breed, Four Dollars.

To do., for second best do. do., certificate.

The above named Stock must have been owned and kept in Pennsylvania, six months (if of that age) previous to Exhibition, to be entitled to compete.

The Committee were much pleased with the display of Hogs in particular, and noticed improvement over last year's Exhibition. The Berkshires were fine, and the crosses from them showed a decided improvement in the mixed breed. The Sheep exhibited were of fine blood, both of the long and short woolled kinds, and showed great and increasing care in the breeding of that useful and valuable animal.

A few fine sheep, not entitled to premium, were exhibited by Mr. Barnes, of Delaware; they were of the long-woolled kind, and fair specimens of that stock.

September 29, 1841.

GEORGE UHLER,	JOSEPH CRAWFORD,
ABNER HOOPES,	ISAAC ROBERTS.
THOMAS WALMSLEY,	

AGRICULTURAL IMPLEMENTS, &c.

The Committee appointed by the Philadelphia Society for Promoting Agriculture, to examine the Agricultural Implements and Products, at the Exhibition held this day, respectfully beg leave to submit the following award of premiums, viz. :—

To D. O. Prouty, for the best Drilling Machine, Three Dollars.

To do., for the next best do. do., certificate.

To S. Slater, for the best Straw and Hay Cutter, Four Dollars.

To D. O. Prouty, for the next best do. do., certificate.

To J. G. Neavil, for the best Corn Sheller, Five Dollars.

To D. O. Prouty, for the next best do., certificate.

To D. O. Prouty, for the best display of Agricultural Implements, Six Dollars.

To A. S. Roberts, for the best display of Agricultural Produce, such as Grain, Butter, Plants, &c., Six Dollars.

To J. Gowen, for the next best do. do., certificate.

To N. Biddle's farmer, for three pounds very superior Butter, made from Mr. B's Alderney Cow, Three Dollars.

There were some fine Sugar Beets from Mr. C. Alexander, Mr. N. Biddle, and Mr. Leviak; a large Pumpkin from Mr. Benner, weighing 132 lbs., and another from G. W. Roberts, weighing 125 lbs. There was also a fine display of the Sweet Potato or White Pumpkin, and the "Yankee Squash," from Mr. R. T. Potts; Mr.

C. Waters exhibited some fine Corn; Mr. A. Clement, some superior Squashes, Parsley, Butter, &c.

Mr. Norton exhibited a Patent Iron Wagon Hub and Axle, which the Committee would recommend to the notice of mechanics.

There was a number of other articles exhibited, which, although not coming under the notice of the Committee, were creditable to the contributors.

September 29, 1841.

ANTHONY T. NEWBOLD,	JACOB SHALLCROSS,
JAMES THORNTON,	ROBERT T. POTTS.

PLOUGHS AND PLOUGHING.

The Committee on Ploughs and Ploughing, report—

That there were three Ploughs entered for premiums, and after a fair trial, they award the premium of Ten Dollars, or a medal of that value, to Mr. D. O. Prouty,

for his Centre Draught Plough, which required less draught and performed the work better than the others.

The work was done in good, tough sod, but cannot be considered a test of their quality or adaptation for general purposes, which can only be ascertained by a trial in various kinds of ground.

Of Ploughmen, three entered for competition, with separate ploughs and horses, and performed their work with skill and neatness, but as they worked with different implements, the Committee had much difficulty in arriving at a conclusion on their respective merits.

We however give the preference to Mr. John Adam Strang, and Mr. George Blake, and recommend that the premium of Ten Dollars be divided between them equally.

A Subsoil Plough was exhibited, and the Committee are well satisfied with its performance. They think, under many circumstances, this Plough may be used with advantage, and recommend the Society to award a premium of Five Dollars to the owner, Mr. D. O. Prouty.

September 30, 1841.

NICHOLAS RITTENHOUSE,	JOHN L. WILLIAMS,
AARON JOHNSON,	DAVID GEORGE.

To Subscribers.

THE amount of subscription for the Cabinet is, by the terms, payable in advance. To each individual this amount is small, and apparently trifling: the aggregate is important to the Publishers, inasmuch as from it, the expenses of the work must be met. The Proprietors intend to spare neither pains nor expense, in making it creditable to themselves, and practically useful to those among whom it may circulate. The low price at which it is put, and the manner in which it is executed, make it obvious that a large subscription list, and prompt payments only, can sustain the Paper. To our numerous subscribers who have complied with our terms, we tender our acknowledgments. We respectfully invite the attention of others to the subject—such of them particularly, as have not yet paid for the 5th volume, which was closed three months ago. The general kindness of Post-masters, and their franking privilege, open every facility for the transmission of money from subscribers to this Office. All would doubtless wish their small bills discharged: the carrying out of that wish, would impart a fresh energy and gratification to the efforts of every one connected with our Periodical.

Single vols. of the Cabinet may be had, neatly bound and lettered, price \$1.25, by application at the Office: where also may be obtained, in 5 vols., complete sets from the commencement, at 5 Dolls., half-bound,—together with all the standard works on Agriculture, Botany, and their relative branches.

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AN opportunity of doing good, is rarely wanting where there is the will.

Notices.

The Chester and Delaware County Agricultural Society will hold its fourth annual Exhibition and Cattle Show, in WESTCHESTER, on the 15th October. Farmers and others interested, are invited to forward for exhibition, their stock, agricultural implements, and vegetable productions. It having been concluded to dispense with a public sale, and adopt the principle of private sales, as is customary in England, persons who intend offering stock to sell, will please give notice to the secretary of the kinds of animals and number, so that they may be entered in the catalogue, that is now open.

PASCHALL MORRIS,
Secretary.

2d Oct.

We have received from Mr. Kenworthy, Frankford, a bunch of the finest Carrots that we have seen the present season; his specimens of Ruta-Bagas are excellent, although the seed was sown so late as the 15th of August. Why were not his agricultural products exhibited at the meeting of the Philadelphia society, on the 29th September?

OUR agricultural friends are informed that a model of a DRILL has been left at the Office for inspection, which appears likely to supersede the use of all others; it operates on a principle so simple, and with so little friction, that a drill to sow five rows at once, can be made to perform the work of wheat, sugar-beet, turnip, and corn-drilling by the same machine, merely by withdrawing the wooden delivering slides, in a moment of time; so that five rows of wheat may be drilled at 10 inches apart, or, by removing two of the intermediate slides, three rows of peas, beans, sugar-beets, or turnips, at 20 inches; or, by removing the *three* interior slides, two rows of corn, at 40 inches apart; the grains deposited in any quantity, at any required depth, and dropped at any distance, with the most perfect precision—the machine covering the seed and rolling it at the same time. Application for a patent has been made, and it will give us pleasure to inform our readers in our next, when and where they may be obtained. The ingenious inventor is Mr. Joseph Jones, coach-maker, Camden, New Jersey; who informs us that he will deposit for inspection, at the Office of the Cabinet, a Drill of the full size, as soon as it can be got ready.

We have received from Mr. T. Affleck of Cincinnati a copy of the "Western Farmer and Gardener's Almanac, for 1842," for which he will please accept our thanks. It appears well adapted to that meridian, and contains a large mass of agricultural information.

Mr. Affleck's little work, "Bee-breeding in the West," is much approved; will he send on a number of copies for sale, addressed to the proprietors of the Farmers' Cabinet, No. 50, North Fourth Street? Another newly-invented Hive is in preparation, and will be exhibited with those already deposited at the Office, in a few days, at the same place.

We perfectly coincide in opinion with our correspondent W., that far too little attention has hitherto been paid to the all-important business of Ploughing. It is the greatest and most momentous of all our operations, and yet it has been performed by us with a hurriedness of execution almost setting steam at defiance. Instead of taking up the furrow and laying it over with mathematical precision, few ever think any more about it, than to throw it up and let it fall as it will—whether to an angle of 45°, horizontal, or vertical, is to them all *Latin*. We thank W. for his interesting paper on the subject; it will give us pleasure to insert it, with as many more as our practical friends will furnish on the same topic, in our next. Our correspondent's proposal is excellent, and, singular as it at first appeared, is no doubt feasible, and would be productive of incalculable good: we have ever been of opinion, that the operation of ploughing is of sufficient importance to warrant the exclusive attention of our Agricultural Societies, and a day devoted to it at our seasons of leisure, even if it be three or four times in the year, would command and richly repay the attendance of thousands. But let it be understood that the trials be made at a distance from taverns, and the interdiction of all refreshments upon the ground be rigidly enforced; no practical man would require any other *refreshment* than to see a number of ploughs and ploughmen all intent upon the business that had called them together—a noble emulation, worthy the days of Cincinnatus!

The quantity of rain which fell during September, (9th month,) was one inch and eighty-nine hundredths of an inch..... 1.89 inch.
Pennsylvania Hospital, 10th mo. 1, 1841.

THE FARMERS' CABINET,

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THE FARMERS' CABINET, AND AMERICAN HERD-BOOK,

DEVOTED TO

AGRICULTURE, HORTICULTURE, AND RURAL AND DOMESTIC AFFAIRS.

"The Productions of the Earth will always be in proportion to the culture bestowed upon it."

Vol. VI.—No. 4.]

11th mo. (November,) 15th, 1841.

[Whole No. 82.]

KIMBER & SHARPLESS,
PROPRIETORS AND PUBLISHERS,
No. 50 North Fourth Street,
PHILADELPHIA.

Price one dollar per year.—For conditions see last page.

For the Farmers' Cabinet.

Under Draining.

MR. EDITOR,—This is the season for making under drains; the leisure of autumn and the open weather of winter cannot be so well employed as in this most necessary and all-important operation: by this means, too, labour is found for our helps at a time when, otherwise, they would be suffering privations from the want of employment; and when the business is judiciously conducted, it is sure to pay a percentage upon the cost, far greater than any other that can be devised, as that land which has been reclaimed by draining will oftentimes require no manuring for an age; the herbage, too, being of a peculiarly different species from that hitherto produced, and far more nutritious. It must be observed, however, that drains cut at this season of the year should be filled and finished immediately, lest the frost might shake the sides of the newly-cut earth, and render the labour in a measure abortive, by partially filling them, before the stones, or other articles used, are placed.

On land that has been drained, the system of subsoil ploughing can be adopted with tenfold advantage, which is an object of the highest importance, for there is no doubt, the use of the subsoil plough will ere long be in very general requisition on almost all soils, having been found as valuable on light lands with retentive bottoms, as upon those of a more compact and stiffer surface—rendering, as has been observed, all soils drier in wet weather, and more moist during a season of drought. On this all-important subject, I find some interesting remarks in the Southern Planter, a new agricultural periodical, published at Richmond, Virginia, which stands high in public estimation, and deserves the liberal support of the country through which it circulates. It is said,

"We are inclined to believe *the very greatest improvement* in modern husbandry is, the

CAB.—VOL. VI.—No. 4.

system of complete and thorough draining, now insisted on by the best agriculturists of the day. That a tenacious and impervious subsoil must be relieved from the water collected and retained on its surface before the earth can be fitted for the growth of vegetable matter, we think has been most clearly and satisfactorily ascertained; the best mode of effecting this object may be a question, but although it is, probably, the most costly, we believe that under-draining will, in the end, be found the most economical. The mere expense of cutting the ditch is the same, probably, whether a blind or open way is used, but in the covered ditch there is the additional expense of that arrangement, by which the bottom is kept open whilst the top is closed; and this is considerable, varying with the means used, which will be different according to circumstances. Intimately connected with this system of draining, is the plan of subsoil ploughing; by this is meant, the breaking up of the earth to a greater depth than is usual in the ordinary process of cultivation. A very singular fact has been discovered in the practice of modern husbandry—a stiff clay, impervious to water, when once broken up in this way, never runs together again—this may be true with respect to all, except a particular species which is known as *pipe clay*, and advantage has been taken of this discovery to run a plough of a particular shape, called a subsoil plough, in the bottom of the furrow made by an ordinary plough, so as to loosen the soil without turning it: by this means, the excess of water, which would otherwise have been retained stagnant about the roots of the plants, to their serious injury, is now distributed to a much greater depth, and by the conjunction of open or under drains is entirely carried off. The relief thus afforded to a soil of this character has been known to double and even quadruple the product; and there is very little soil that, in its natural state, would not be greatly benefited by the operation; consequently, a man had better, if it be necessary, sell one-half his land, to enable him to drain the other."

There are many articles used in the filling of under-drains. On the old and low meadows of England, it is usual to cut drains 18 inches deep and 12 inches wide, and in the middle of the bottom of these, to sink a foot

deeper, only 3 inches wide; then, to take the turf that had been cast off at the first opening and turn it, sod downward, on the shoulders of the drain, and fill the mould upon them; and these drains have stood in perfect order for an age. Then again, on other meadows it is the custom to sink a deep and narrow drain, and place in it the branches of beech, osier, or other aquatic timber, covering them with straw, &c., and filling in the earth, and these also stand and perform well. But when stones of proper size can be obtained, a preference is due to them over every other material, for if the drains are carried so as to have a slight declination only, and carefully filled, they will run for any length of time: where stones are not to be had, however, tiles are used very extensively; and two pine boards nailed together and placed in the bottom of the drain, so as to span it, the aris edge upwards, has been found a cheap and very excellent substitute for them. But, upon the principle of the working of the subsoil plough, if land be cut into wedge-shaped deep drains, and these be filled again with the matter that has been thrown out, after it has had time to dry, they will be found to keep open and run, perhaps for any length of time, even for an age. In any view, therefore, draining in some form or other ought to be practised very extensively on land requiring the operation: it is the *ne plus ultra* of good husbandry. VIR.

To the Editor of the Farmers' Cabinet.

Subsoil Plough.

SIR,—I, too, was so fortunate as to be present at the trial of Ploughs at the late Exhibition of the Philadelphia Agricultural Society, and can bear testimony to the superiority of the centre-draught plough for the purpose of cultivating the land preparatory to sowing, but whether it is equally suitable for stirring fallowed land, when it is necessary that the furrows should be set more on edge that the drag might take a greater hold upon them, remains a question, which ought, however, to be solved. Why does not Mr. Prouty take means to show the powers of his plough under various circumstances and in different soils? The premiums he has obtained, and the desire which it is natural he should feel to bring his plough into notice and competition with others, ought to operate as a strong inducement to him to use every means in his power for this purpose.

But my present object is, just to say, the subsoil plough, with its operations, have convinced me that the system of stirring the hard pan is about to become the value of the rent of our land to us; and the thing is at once so complete and manifest, that it must

have struck every beholder with surprise. Many had their doubts as to the feasibility of turning the next furrow-slice on to the loosened earth of the subsoiled furrow, thinking it probable that the work may be harder and the land might not lie so smoothly; but such was not the case, for the furrow was turned as easily and laid as evenly as though no subsoiling had been practised. But, only just think for a moment of the effect which the system will have on the tap-rooted plants; and more especially on the growth of the potatoe, when deposited on the loosened soil of the furrow and covered with manure, which will be carried down by every rain to the tap-roots of the plants imbedded in it, instead of the sets being laid upon the hard pan of the soil, at the depth of a few inches only, as they now are. I should expect that it will be the means of adding many thousand bushels to our crops, especially in a time of drought, enabling us to cope with "the Green mountain boys," who find it by no means an uncommon occurrence to turn up from 1000 to 1800 bushels to the acre! Where are these subsoil ploughs to be obtained!

JOHN DAVIS.

Lancaster County.

Fruit Trees.

THE practice of draining, so necessary for the well-being of every species of vegetables, is found of superlative importance to orchards having unhealthy subsoils, the presence of which is easily shown by moss growing on the branches and a coarse and open bark. The Boston Cultivator states, that a Mr. Chinny has found by experience that the water in a retentive subsoil was so injurious to the growth of his trees, as to justify the expense of ditches cut from two to three feet deep to carry off the water, which, collecting in the subsoil, paralyzed and corrupted the tender roots. At the bottom of these drains is left a water-course about eight inches deep, covered with flat stones; on these some brush is thrown, and the whole is filled with the earth that had been dug out in forming the drains. Thus has he secured the most entire success on land that before had baffled all his attempts to raise an orchard. A periodical lining is of the greatest benefit to an orchard; so also is the washing of the trunk and branches of the trees with strong soap-suds, which also might be applied to their roots, opening the ground for the purpose. Pruning should be attended to, and practised annually, sparingly at first, or great injury may arise from the infliction of large wounds and the exposure of the trees to violent winds during winter, before the young wood had shot forth to protect them.

For the Farmers' Cabinet.

Proper Articles for Exhibition at Agricultural Shows.

MR. EDITOR,—The remarks by Joseph Stillé, in the last No. of the Cabinet, on the late Exhibition of the Philadelphia Agricultural Society, contain matter for serious reflection. Although not present on that occasion, I have seen the same propensity for large cattle exercise an undue influence on the minds of many elsewhere, and in no place, perhaps, are persons wholly free from that partiality. The most likely thing to convince of the error that almost all have imbibed is, to impress upon them the axiom in stock-breeding, to begin with *dam the best*; relying more upon the female than the male for the production of large cattle of good proportions. It is easy to obtain large calves from overgrown bulls, but unless the cows be large also, the offspring is scarcely ever well-formed; often indeed are they found of a cross-bred, coarse, lanky character, as disgraceful to the breeder as to the sire. And these remarks were exemplified at the late Exhibition at Syracuse, where some of the smallest and neatest of the thorough-bred Devon bulls were best known and most highly prized, as stock-getters of the greatest value; and I must say, I consider the breeders of short-horns peculiarly blameable in this respect—pushing on their animals by means of the highest keep to mammoth size—all wrong, depend upon it.

I have been much pleased with some very judicious remarks contained in a late number of the *New England Farmer*, on this subject, and believing that a large proportion of your readers would coincide with the writer in the view which he has taken, if they had the opportunity to become acquainted with them, I have copied them for publication, should you approve. The editor says—

“Is there not reason for supposing that people are accustomed to exhibit at these fairs the *largest* squash, pumpkin, or ruta bage—the *largest* calf—the *largest* steers, and every thing the *largest* of its kind? Is size the principal thing regarded? And do the members of committees make size the criterion of merit? Such questions should find no place in our columns if we did not suppose they must, in too many instances, be answered in the affirmative. Now, what we wish to see is the *best*, not the *largest* merely. And it often happens—it *ordinarily* happens—that the very large calf is a coarse-made animal, unfit for a breeder. There are exceptions to this remark, and yet it is true as a general statement; many members of committees regard form and fineness of make in fixing upon their awards, still we never

attended a show where we could feel satisfied that size was not too much regarded. If in our judgment we are correct, the influence of cattle shows tends, in some degree at least, to the introduction of a large and raw-boned breed of cattle, which no well-wisher to the farming interest would ever desire to encourage. Other things being equal, we should prefer, as a matter of profit, to be the owner of a cow or bull that was but little above the medium size, rather than of one extraordinarily large. Fineness of bone, symmetry of form, apparent thrift and hardness of constitution—these are the important points. And in relation to young animals, intended to be kept as breeders, we should regard it as highly important to know something of the pedigree, so that we might *guess* whether the good points were merely accidental, or whether they were fixed in the blood, and would be likely to reappear in the offspring. A very finely formed bull, which happens to come from coarse parents, will, in but very few instances, produce his like; and for this reason we should make the parentage a matter of importance; not that we should be anxious to encourage in a region of short pasturage, the general introduction of “Herd Book” animals—but we should like to know that the parents for two or three generations back had been well-formed and profitable in our climate, and upon such feed as is usual here.

“When we come to fruits and vegetables, the matter is still worse. If a squash, from some mysterious and un conjectured cause, happens to become a *mammoth*, or to be curiously distorted in form, that is the one that must be carried to the show, while the cart-loads that are finely-formed, of good quality, and the causes of whose excellence can be explained and reapplied by the producer and others—these are left at home. So it is, to some extent, in relation to many other vegetables and to fruits.

“Now what we wish to see is, a fair specimen of a good crop, and accompanying that, we desire a statement of the mode of culture, so that we may obtain instruction that will be of service to us in our own agricultural and horticultural operations in future years. The mammoths, the dwarfs, the deformed, which nature has made in sport, and which cannot be produced again by any particular processes of cultivation—these things are mere curiosities, and convey no useful information. The fairest, finest and best specimens (not in all cases, the *largest*) are the proper ones to be exhibited on these occasions.”

Nov. 10, 1841.

Z.

SUFFERING innocence is a spectacle which the heart cannot bear.

For the Farmers' Cabinet.

Hiving Bees.

I AM glad that due attention is likely to be paid to a very profitable and pleasing branch of husbandry—I mean Bee-keeping, and cannot but approve many valuable articles that have lately appeared in the Cabinet on that subject—the letter from a Bee-keeper in No. 2, for September, in particular. But is it not strange that so little has been said by any of them on the best mode of securing the swarms on leaving the hive, as also on offering them facilities of colonization by which they might be induced to “pitch their tents” nearer home, and thus prevent the loss of hundreds of the finest and strongest of the swarms, which are continually escaping into the woods, or enriching our distant neighbours with their treasures? At best, all the directions which I had seen or heard of, were most clumsy and uncertain, until I happened to meet in an eastern paper with the following, which are deserving record in your pages, and will, I have no doubt, be practised the next season with profit to many of your readers.

The author says: “As the season for swarming approaches, I cut an evergreen, such as fir or spruce, about 6 or 8 feet high, and trim off all the branches on one side close to the tree, so that it may be laid flat on the ground; the lower end, or butt, is sharpened like a stake, and set in a hole made by an iron bar in the ground about 10 or 16 feet in front of the hives. Swarms will very seldom seek any other resting-place, when a bush like this is at hand. When a swarm leaves the hive I say nothing, but stand and look on, until they become still and quiet on the bush. I then carefully raise the bush from the hole, and lay it flat on the ground, and place the hive over them. If the limbs on the upper side interfere, I press the hive down and lay a stone or some heavy substance on to keep it in its proper place, till the swarm takes possession, which is generally in ten or fifteen minutes. In this way I have never lost a swarm, and have frequently hived a swarm and removed them to the bee-house among the old hives in one hour from the time of their leaving the hive.

“Another way is as simple, and, as far as I have tried it, equally sure. I take a board wide enough to set a hive on, and 2 or 3 feet long; bore a hole in the centre, and drive in a pin, 1 or 2 inches in diameter, and 8 or 10 inches long. I then take two small cords, and fasten the end of each to the corners of the board, so that they form a loop at each end of the board, about 2 or 3 feet long. This board, thus prepared, I suspend from two stakes in front of the hives, with the pin

pointing downwards; taking care that the stakes slope towards each other, so that the board may not touch at the end. Around this pin the bees will cluster, and when they get still, unhook the cord from the stakes, turn the board over carefully, lay it on the ground, and set the hive over it. In this way much time and trouble may be saved; for there is no need of watching for swarms—only provide such resting-places, and there you will find them. I have left a swarm suspended under the board, as last mentioned, through the day, and found them safe in the evening, and hived them after the other labour of the day was past. I think, on the whole, this method the best, as they seem more contented under cover of the board than when more exposed, and not so likely to take wing before they are hived.” B.

English Experiments, to show the Proper State of Wheat for Reaping.

OBSERVING that the prices which a certain individual had obtained for wheat were nearly always above those of the neighbouring markets at the same time, he informed me that he was in the habit of commencing harvest a week or ten days before the generality of his neighbours, it being his practice to reap his wheat before it became quite ripe. I therefore determined to take the first opportunity to give the system a fair trial, and of this trial the following are the details and results.

Having selected a field of red wheat, I cut a sheaf on August 4th, 1840. At this time it was *quite green*, that is, both straw and ears were in full vigour and full of sap; and although the grain appeared perfectly formed, the chaff still adhered so firmly to it that it was scarcely possible to separate them by friction in the hands; when separated, it was large and plump, but so full of milk that the slightest pressure reduced the whole to a juicy pulp: this sheaf stood in the field for a fortnight, when it was housed.

August 18th, I cut another sheaf; the wheat was yet green, or not ripe, being, what farmers commonly term *raw*—that is, the straw, although appearing green at a distance, was of a hue fast approximating to yellow, when examined closely, while, for a foot upwards from the ground it was *quite yellow*; the ears, too, were more open, the chaff tinged with various shades of yellow and green, and the grain itself, when separated, soft and pulpy, but not near so full of fluid as before: the judgment of the farmer will better tell him the condition of the wheat, when I say, that in another fortnight the whole field was *ripe*—therefore, at the end of this fortnight, September 1st, I housed

the sheaf cut on the 18th of August, and cut a third. This I have said was ripe, but by that term I do not mean *that* degree of ripeness when the straw breaks, the ears curl, and the grain shakes out; but that condition in which it is customary to commence cutting it; when the straw from the roots to the ear is uniformly yellow, and has lost all symptoms of vitality. On the 14th September, the third sheaf was housed, and on the 1st of November I selected 100 ears from each sheaf and put each parcel into a separate bag, the straw from each parcel being carefully preserved. The ears in bag No. 1—that cut very green—were now threshed, the chaff carefully separated and the gross weight of the grain which was yielded ascertained by an accurate balance; after which, the weights of a fixed measure of a *certain number* of grains were found; No. 2—cut *raw*—and No. 3—*ripe*—undergoing the same process; and for the results see the following table.

Time of reaping and condition.	Gross Measure.	Equal Measure.	Equal No. of Grains.
1. Aug. 4, very green	576	568	19½
2. " 18, raw	736	580	23½
3. Sep. 1, ripe	650	570	22¾

As this table is merely comparative—the weights used being in parts, and decimal parts of the same, for the convenience of minute experiment—it may not be unnecessary to give the following table of the weights of each sample in ounces, drachms, scruples and grains, Troy.

Gross Produce.				Eq. Measures.				Eq. No. Grains.			
oz.	dr.	sc.	gr.	oz.	dr.	sc.	gr.	oz.	dr.	sc.	gr.
1	4	0	0	3	7	1	13	0	1	0	5½
2	5	0	2	13	4	0	0	13	0	1	17½
3	4	4	0	6	3	7	2	0	1	0	15¾

The straw was now weighed, when the following was the result:

No. 1, green, = 450
 " 2, raw, = 475
 " 3, ripe, = 450

The next thing to be ascertained was, the quality of the produce, or the comparative worth of each description. An extensive corn-factor and miller gave his valuation as follows, and that he was willing to give for

No. 1, 61 shillings per qr. of 8 bushels.
 " 2, 62 do. do.
 " 3, 61 do. do.

Thus, the wheat reaped a *fortnight* before it was ripe, has the advantage of the *ripe* in every point, viz., in the weight of gross produce—equal measure—equal No. of grains—quality and value, and weight of straw. The sample, No. 3, was very bold, but rather coarse: No. 2, quite as bold, but very fine and thin in the skin: No. 1, good and clean, but much smaller than either of the others.

Now, suppose we have three acres of wheat, the difference in value, when cut at the three stages of ripeness, will be

No. 1, green, £11 11 10½
 " 2, raw, 13 7 3½
 " 3, ripe, 12 17 3¼

Showing a *loss* of £1 5s. 5d., or about 10 per cent., by cutting *very green*; and a *gain* of 10 shillings per acre, or nearly 4 per cent., by reaping in a *raw state*, or a fortnight before ripe; and it would therefore appear that it is the farmer's interest to cut his wheat before it is thoroughly ripe, by which he secures, 1st, straw of a better quality; 2d, a better chance of securing his crop from rust, &c.; 3d, a saving in securing it—thus obtaining an *increased return without an increase of outlay.*—*Quart. Jour. Ag.*

For the Farmers' Cabinet.

Cheap Steaming Apparatus.

AMIDST a variety of expensive and complicated machinery for steaming food for cattle, I beg leave to make mention of one which has long been found fully to answer the purpose, and which might be erected for one-quarter the cost of some of those lately invented, with large pretensions. It is, merely, a cast-iron boiler with a cover, from the top of which rises a tube of wood or iron, perpendicularly at first, then turns and enters a wooden box having a perforated false bottom—the steam rises through the holes in this false bottom and mixes with the potatoes, &c. while the condensed steam and water which may issue from them, drops through the holes and lodges on the solid bottom of the box, from whence it may be let off occasionally, by means of a tap. A box 8 feet long, 5 wide, and 3 deep, will serve for steaming in one hour a quantity of potatoes sufficient for the daily supply of fifty cows. The cover of the boiler should be furnished with a valve, and the box must have a tight lid, with a valve also, which might be merely a square trap-door, going on hinges—say a foot in length and width—and falling into a shoulder or groove. The cover must be made to lift off, for the convenience of emptying and filling again, but it might be made steam-tight, or sufficiently so, by laying cloths several times folded on the edge of the box before the lid is fixed, which may be kept down by a couple of uprights of wood, extending to a cross beam, or perhaps to the roof or floor above. Nothing can be cheaper or more convenient than such an apparatus, the iron boiler being at all times ready for other purposes, by merely removing the cover having the tube, and substituting for it any other. I agree with a correspondent, that the time will be, when we shall no more think of feeding our cattle with raw food than ourselves.

S. JONES.

For the Farmers' Cabinet.

Farming.

MR. EDITOR,—For several years I have been a subscriber to three of the agricultural works of this country, and to the "Cabinet" from its commencement: I have not, of course, failed to read them, and I am free to say that I have done so with equal pleasure and instruction; and I may add, that the interest I feel in agriculture has been greatly enhanced from the time I began regularly to peruse these publications. I am entirely ignorant of the *practical* operations of farming, having been brought up in the city, and a constant resident thereof; but of the *theory*, it may be presumed I know some little from my readings. I have always been disposed to think, and now more than ever, that the pursuit of farming is as honourable and ennobling to man as it is conducive to pleasure, health and contentment; and when contrasted with the pursuit of mercantile affairs in the city, with all their exciting, perplexing, and harassing career, leaves them far in the shade; but of the profits of tilling the earth I am not so certain, and as they belong to the *practical* part of farming, I confess I am not able to form any correct idea of them, in order to contrast the two. You, or some of your subscribers, can enable me to do so, by furnishing me with some data to serve as a basis on which to make my calculations. I incline to the belief, that the same amount of capital judiciously invested in the pursuit of agriculture, would, at the termination of a series of years, say 20, show quite as great profits as it would if invested in the pursuit of commerce. There are exceptions, of course, in some cases of extraordinary success in commerce, but I desire to contrast the mass. I have myself been engaged in the commercial business for the past 15 years, having commenced in 1827, with good connections and a capital of \$15,000, and have been looked upon and am now deemed a successful merchant; and I can assure you so great have been my reverses at one time or another, and so numerous have been our convulsions and crises, that I am not now worth any more than when I began, if so much. I have had my living out of my business, of course, but that has been all my profit.

Now I can assure you, seriously, that I am much inclined to quit this and buy a farm, before I am rendered unable to do so; and if from those who can speak practically on the subject of farming, I can have any encouragement, I think I will add another to the list of those who profit by experience. G. M.

WE cannot break the connexion in our own ideas between *gentleness* and *goodness*.

From the Western Farmer.

Medium Sized vs. Large Hogs.

MR. EDITOR,—You are aware that I am now, and have been ever since 1820, extensively engaged in pork-packing in this city; and I feel that I may without presumption, lay claim to not a little experience in the business. It is fully as much to my interest, and that of every one else engaged in curing pork for market, as the interest of the farmer, that the very best breeds of hogs should be scattered over the country.

When I first entered into it, the pork brought to us was produced from the same miserable race yet to be found through much the greater part of the West. It yielded us little lard, and the sides were unfit for mess or clear pork—too thin, and only fit for bacon. The first improvement we had was the little chunky China hog—a perfect mass of lard—hams light and too fat—though the waste of offal was trifling. The next we had was the large Warren county hog, requiring years to mature, and then coming to us of an enormous weight—great waste of offal—the hams too large and badly shaped, as was also the shoulder—and the sides, nevertheless of their great size, were thin in proportion. They were still a great improvement. The crosses of these and the Russia and Byfield, in the hands of some of the more judicious breeders, produced a very excellent hog—and we who were the purchasers, were anxious for any improvement on the unprofitable wood hogs usually raised.

Though, as I have remarked, so long engaged in the business of packing, I had paid but little attention to the breeding of hogs, though always keeping a few of the best I could find, on my farm, and improving them to the best of my ability. It was not until some of the part-bred Berkshires were brought to us from Butler and Warren counties, that I was struck with the great improvement they were on any thing I had yet seen. The perfect manner in which they were fattened—their extraordinary length of body, and the thickness of the side meat—their small, yet thick, fleshy shoulder—the great weight and handsome form of their hams—the great yield of lard, and little waste of offal, either of inside waste, or head and bone, proved to me that they were a something entirely different and altogether superior to any other breed within my knowledge. On making further inquiry respecting them, I found them equally advantageous to the farmer and drover, as to the pork-packer. Prolific and easily kept; maturing early and fattening kindly to as great weights as were desirable; stamping their own character strongly on any other breed with which they might be crossed; and

travelling well to any reasonably distant market.

I had before this been breeding hogs for sale, and seeing at a glance, the great advantage it was going to be to me in my packing business, to have such a hog as the Berkshire in general use, I at once engaged it largely.

True it is, that I cannot give up my farm, and my attention and capital, to the breeding of fine stock, without a prospect of making money by it; but that was the secondary object I had in view—my pork-packing business was of the first importance to me. I saw and dreaded the efforts that were made to introduce an extremely large hog into Kentucky, for I had about this time transferred my pork business to that state, and had gone to very great expense in erecting an extensive establishment back of Covington, and intended making my entire purchases in the state. We can make no use in this market, of animals weighing from 400 to 600 lbs., even though they may be well fattened. A hog of the proper form and quality of meat, that matures at ten or twelve months old, so as to fatten properly, and then weighs from 200 to 300 lbs., is the sort for which we will give the highest price, because it yields us the greatest profit. And most assuredly it will also pay the farmer best. We have no population to supply, that will consume large, coarse, indifferently cured meat. Our principal demand is for city and family use, both here and in the cities of the south and east. The ham is with us the most valuable part of the hog, and the celebrity of those cured in Cincinnati is now great. This part must be heavy without being large—round, thick and plump; the flesh, though principally lean, yet marbled with fat. Next to the ham the lard and side meat yield us the greatest return—the former must be abundant in quantity and fine grained, which never is the case with any hog until he has somewhat matured; the latter must carry its thickness throughout, having no thin flanky parts, and must be fat—and last we rank the shoulder and the jowl.

Many of the Boston and Richmond dealers, and those from the other cities in the east and south, come here annually to have meat packed; they all prefer such a hog as I have described, and will buy no other if they can help it. How the drovers, who are represented as driving to Richmond and Charleston, and as preferring the largest sized hogs, can possibly dispose of such animals there, I cannot understand. Nor how meat of a size that I know from experience cannot be cured, even with the aid of cool cellars, *here*, can be kept *there*, surprises me. Think of a pair of hams, Mr. Editor, weighing 148 lbs. in the climate of Charleston, or Richmond, or Bal-

timore! They would indeed require to be cut in two—and then what a sightly object!

Still some regions of country *may* require a larger hog than others; and to supply those who may think so, Mr. A. B. Allen, now on his way to England, will import for me some of a size sufficient to suit any taste. For my own part, and for my use for packing, I want neither an extravagantly large hog, nor yet a very small one. A hog that has to be fed two winters, never will pay first cost; if he can be had of sufficient size without wintering at all, so much the more profit. A spring pig killed in the fall at 200 lbs. nett, will evidently pay better than if the same hog had been kept over winter, and reached the second fall 500 lbs. nett.

I have been speaking now as a pork-packer, not as a breeder; and what I have said, I say in all sincerity. I have no desire to injure the business of any other breeder of improved hogs, nor to prevent their continuing their improvements to as high a point as they please. But I do regret to see gentlemen of science and experience going back to a large, coarse hog, such as the Woburn, Irish Grazer, or Leicester, when they can procure a breed so infinitely superior—the *improved Berkshire*.

JOHN MAHARD, Jr.

Preparation of Food for Hogs.

GRAIN is worth far more, as food for animals, ground than unground. Cooking food, also adds greatly to its value. Some have estimated cooked meal at fifty per cent. more in value than uncooked. There can be no doubt that grinding and cooking grain will make an improvement, far excelling in value the cost of these operations. They will probably add nearly 100 per cent. to the value of the food.

It is well to have a mixture of food for hogs; it is less cloying, and induces more thrift. Roots of various kinds, with apples and meal, make an excellent and cheap food. Pumpkins may be added, or pumpkins, meal and apples, may be used, if no roots are at hand; sweet pumpkins and sour apples, with meal, form a very palatable and nourishing dish.

All these kinds of food, excepting the meal, and that may be used sparingly, are very cheap, and yield a large amount to the acre. Apples are produced with little labour, after the trees once attain a good size. They are probably the cheapest food that can be produced in New England or the Middle States. And even in the West, where grain is raised with little expense, apples may be produced with little expense also.—*Far. Jour.*

Mr. Allen has returned with specimens of the finest breeds of hogs and cattle.—*Ed.*

For the Farmers' Cabinet.

Native Stock.

MR. EDITOR,—I am much pleased with the beautiful portraits of remarkable cattle of the different and very distinct breeds which you give us, and most readily do I join in the praise which is so generally awarded to the Farmers' Cabinet for bringing us acquainted with their peculiarities, so faithfully executed, as well in the drawing as the engraving. The experience which has been obtained from that source will turn to good account, in our future progress in stock-breeding. But I cannot help thinking, that much good would be done, were you to give us from time to time, the portraits and particulars of some of our native breeds, of which there are great and very distinct varieties, some partaking largely of the Alderney blood, and which, with care in keeping and selection in the breeding, might come near to rival those which have lately been bringing \$200, as imported stock of that peculiar breed. The last time I visited the drove-yard, I saw a small cow of that description, with which I would not have feared a trial with the best, for she was as thin and poor as could be desired, with a capacity for milking, equal in appearance to the Ayrshire, at p. 251 of the 5th vol. of the Cabinet.

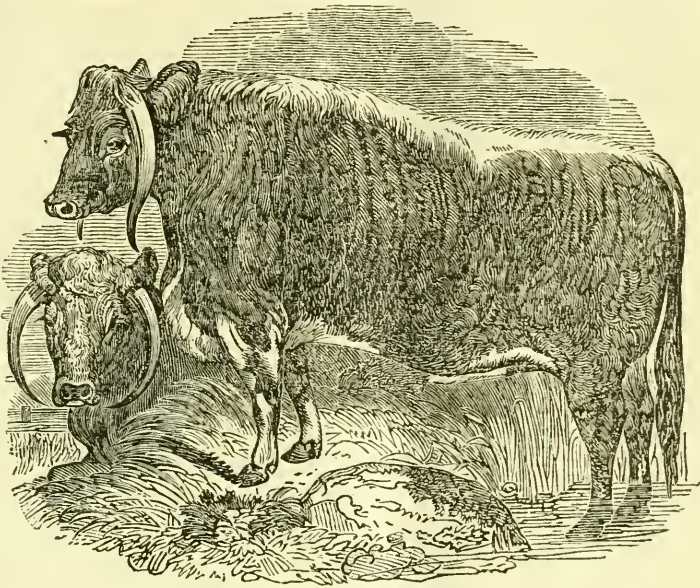
I find some very sensible remarks on this important subject in a late number of the Southern Planter, which would, I conceive, be acceptable to your readers. In that southern climate, they have suffered immense losses amongst imported cattle, brought from the more northern parts of the country, as well as from Europe; and under these circumstances, I think the advice "to improve the native breeds by judicious crossing," highly to be commended.

It is said: "Now we ask our readers, if it is not better by careful selection and judicious crossing, to raise a stock which will be acclimated, than to rely upon northern or western importations? When we consider the mysterious and fatal disease to which all imported cattle are subject in Eastern Virginia, we hazard the assertion, that home production is the only course to which we can ever look for permanent and valuable improvement in our stock of cattle. It seems to be a principle recognized, that cattle degenerate with a change of climate, with few exceptions; accordingly, every district in England has its peculiar stock, which is generally the native breed improved by judicious selection. So valuable is acclimation, that the judicious breeder seldom discards the native stock, but builds upon it by careful selection and crossing; and poor as our native stock of cattle may appear, we are little aware how much

of that appearance is owing to indifferent keep and bad management, or what vast improvement may be effected by a more judicious course. We once knew a physician in country practice who had a fine eye for a cow, and who, when he met with one that pleased his fancy, would purchase her, perhaps for eight or ten dollars, and by judicious keep and management, increase her milk from a quart, to several gallons at a milking; she then became the wonder of the neighbourhood, and was soon purchased by some less judicious person at a very high price; another, purchased in her stead, showing the same results. And this person, who was a man of great observation and judgment, and devoted to agricultural pursuits, often declared his conviction of the ability, if his professional engagements permitted, to raise from our native cattle a stock for the dairy equal to any that could be imported. The fact is, that for producing a good stock of our own, the material is not so much wanting in our cattle, for nature everywhere affords favourable specimens of her work; we only require more information and discernment amongst our breeders. What avails it, to advise the selection of the best individuals, if those are ignorant of anatomy, and of points indicating the qualities to be desired?

Cattle are used for three purposes, as oxen for draught, as producers of milk, or for the food they afford as beef: there are certain points of form giving activity and endurance to the ox; there are others, indicating a milking propensity in the cow, and there are others again, denoting a tendency to convert food into fat; the marks of each are certain, and easily understood by observation and study, but they no more come by *nature* than do reading and writing. We then advise our farmers to make themselves acquainted with these points of form, by resorting to the best works and obtaining the best advice they can procure on the subject: let them select a certain number of our native cattle, according to the information they shall obtain, and keeping them in the best manner, let them select from their offspring those individuals only as breeders, having the points they have learnt to esteem: every year they will find the produce coming nearer their standard of perfection, and they would venture to confer a *high-sounding name* upon them, which will be all that is wanted to enable them to rival the "imported." C.

INNOCENCE, meekness, purity, integrity, and faithfulness have *each* a power over evil, but when united and crowned with benevolence, they exert a power by which evil is, almost of necessity, overcome.



IRISH CATTLE.

THE above cut represents the large variety of Irish Cattle, evidently identical with the Craven or Lancashire breed, and they are indeed a most valuable breed of cattle. Whence these long-horns came, is a question that has been much disputed; they very much resemble the English long-horns, but whether Ireland or England was the native country of this breed will never be determined, for ancient records are silent on the subject, and in both countries we can trace the long-horns to a very remote period. As, from very early times Ireland has materially contributed to the supply of the British capital and the navy, and thousands of these beasts yearly traverse every part of Britain, many persons conclude that the English long-horns sprung from some of these, arrested in different parts of their journey; while others, finding the middle-horns in every mountainous and unfrequented part of the country and the long-horns in the lower and more thickly inhabited districts, regard the first as the pure native breed, and consider the other to have been a stranger race, introduced probably from Lancashire, where a breed of cattle of the same form and character is found. There were, however, even at that time, either two distinct breeds of long-horns in Ireland—the one capable of rapid improvement, while the other, in a manner set at defiance every means to add to the size or give a tendency to early maturity; or there were found too great a proportion of agriculturists who obstinately refused to adopt the proper means for the amelioration of their stock, afforded in many instances gratuitously by the large land-owners and breeders of the country; for, from some cause or other, there are at the present moment, two kinds of these cattle in Ireland, in character essentially different; the larger—which our cut faithfully describes—and a smaller, prevailing principally in the north of the island.

At first view, perhaps, these may appear to be the same cattle, only smaller, from poor keep and bad management; but their horns, long out of all proportion, their clumsy heads, large bones and thick hides, their bulkiness of dewlap contrasted with their lightness of carcass—in fine, an accumulation of defects about them, clearly mark them as being of far inferior value; but thousands of these find their way into the midland counties of England, in order that some attempt may be made to prepare them for the market, but the purchase is quite a lottery; occasionally they will thrive to a degree not much inferior to the Welsh cattle, while at other times a lot of them may be put on as good fattening pasture as any, and be continued there the whole of summer, consuming as much food as the largest oxen, and yet scarcely improving at all in condition. The first attempt at crossing the long-horns with the improved short-horns failed in a great measure, for although it was found that the first cross was evident in the early maturity of the progeny, and that they weighed as much at three years old as the pure long-horn at five, yet the breed rapidly declined, and it was found that while the cattle bred back to the native Irish character, they never fully regained their hardihood, or their reputation as milkers: the pure short-horns answering only when the farmer had the means of housing and feeding them well, the Irish husbandman had too much to alter in the system of treatment to which he and his forefathers had been accustomed, often not having the means to effect the change, or if he had, his prejudices forbade him to use them.

For the Farmers' Cabinet.

Ploughs and Ploughing.

THE immense concourse of persons who assembled together on the second day of the Exhibition of the Philadelphia Agricultural Society, to witness the trial of Ploughs, showed very clearly the intense interest with which the subject was viewed by all classes; indeed, there is no object which at the present time is at all comparable with it in novelty, usefulness, or general importance. Now, here is a new and legitimate excitement of the public mind—a tide in our affairs, which if taken at the flood would lead to fortune, in the best acceptation of the term: it only needs to be taken up by some competent and spirited individual and turned into the proper channel, to become a source of the greatest national advantage. We have societies almost innumerable for the encouragement of science, art and manufactures; for the furtherance of political, moral, and religious purposes, and the general improvement of mankind, both at home and abroad; but can any of them be of more real interest than that, which should have for its single object “the improvement of the plough and the encouragement of ploughmen?”—an object of primary importance, to which it is not possible for any one to bring the shadow of objection in any shape; it is unattended with expense, danger or difficulty, and is calculated to bring into one bond all interests; a subject of universal application, certain of obtaining the approbation of all men, and, what is more, of women also! for it admits of the union of all classes, forming a pure, unadulterated source of pleasure and amusement, unaccompanied by a single drawback, even on the score of inutility and inexpediency; interesting all and benefiting all, and creating an emulation of the most unexceptionable character. I would therefore propose, that a society be formed for the purpose of *encouraging the art of ploughing and the trial of ploughs*; the members to be real, practical men, who can handle the instrument, and, by experience, judge of its merits; not confining the operations of the society to any particular state or part of the country, but opening its exhibitions to every one who will bring a well-appointed team and a person to guide it; the premiums to consist of certificates of merit, rather than of pecuniary rewards.

Mr. D. O. Prouty was again the successful competitor at the exhibition, as the maker of the best plough. That gentleman appears to me bound to show us the real and intrinsic value of his plough for all kinds of work and on various soils; and it would not be too much for him to give us a day's ploughing for this purpose, devoting six or eight hours to the

business, and convincing us that the centre-draught plough can be made to carry a medium furrow over to an angle of 45°, or to lay it flat; to work as well as any other plough in gravelly soils, sod, or stubbles, and at the same time requiring less power of draught under all circumstances. He should be prepared with a first-rate span of plough horses, suitable harness and ploughs of different sizes, with the dynamometer, all ready for immediate operation, with a ploughman of superlative ability to show the best that can be done; at the same time encouraging any respectable and practical man present, to judge for himself by guiding the plough a sufficient length of time to become acquainted with its “going.” If I were that gentleman, I should not fear the result, and I would take effectual means to make my plough known throughout the country, by sending it to different parts for trial; employing for this purpose a competent agent to travel with the instrument, constructed of two or three different sizes, with a handsome pair of horses well accustomed to the work, which could in an instant be transferred from the wagon containing the ploughs to one of them with the dynamometer attached, inviting a competition with other ploughs throughout the country, and making a point of being present at every exhibition of agricultural societies, and entering for the premium on “Ploughs and Ploughmen.” The plan would be by no means impracticable, but be productive of the most important results to all parties; for if the plough be, what I fully believe it is, its introduction to general notice would be hailed throughout the country; and to prove this, it would only be necessary to give every practical man an opportunity of judging for himself by actual experience. This is by no means more than its very general success would warrant, or than, in my opinion, it deserves; but, as was observed by several practical men on the ground at its late exhibition, the handles should be longer and straighter, and the point of the share might be sharp instead of flat, thickening it a little as it extends upward, so as to give it additional strength: this could easily be done, and would, in all probability, do away with the objection that is made to cast-iron ploughs in general, namely, the tendency of the point of the share to wear away on the land-side, by which the ploughman is incapacitated from guiding the plough aright. W.

Philadelphia County.

A CHARACTER that is sound in principle may be habited in a rough exterior—but the covering is not becoming. We make allowances for such a character, which proves that there is something defective.

For the Farmers' Cabinet.

Agriculture in France.

MR. EDITOR,—Your description of the state of agriculture in France is correct, and shows conclusively that low wages are not *all* that is necessary to insure a profitable result in the cultivation of the soil in any country; it is doubly to be deprecated in this, for the object here ought to be, to produce as great a quantity as possible, and by rendering the price low, to induce a greater consumption—by far the best method of obtaining the desired end.

In a late number of the Quarterly Journal of Agriculture, there are a few remarks upon the present state of agriculture in the Normandy provinces of France, which are, I think, applicable to our present purpose; it is said: "The quality of the soil is fine, in many parts highly calcareous; the farms may be said to average sixteen English acres in extent, and when rented to tenants they are generally held under leases of nine years certain. But one half the farms are held by the proprietors, who also sometimes rent other adjoining lands; but these proprietors, even under such circumstances, are, in the majority of instances, poor farmers of the lowest class, and living as meanly as it is possible to imagine. Many of them, like the common labourers, dine upon a few apples or pears and a bit of bread, without the formality of sitting down to a table, and are content with a drink of their home-made and most miserable cider. It is not easy to conceive how men can labour on such washy diet which is so general in France; we have seen men cutting up wood for fuel from morning till night, and in the severest weather, without more nutritious food than indifferent fruit and a little bread; the soup taken perhaps for supper at home, or for early breakfast, is, if possible, worse as a means of support, for it consists merely of cabbage and hot water, with a little grease or kitchen stuff stirred into it; it distends the stomach with wind, and is, therefore, totally unsuited to a working man, who requires solid food to enable him to labour, not a liquid diet."

I have, myself, seen twelve ploughs going in one field at the same time, with three teams harrowing; and when the dinner hour arrived, the men would turn the horses towards the fence, give a small bundle of hay to each pair, retire themselves to an adjoining brook, and by the side of it take their dinner, consisting of a lump of bread and an apple or an onion, slaking their thirst in the rivulet, and receiving for their labour from 12 to 15 cents a day; and with all this economy and the advantages arising from such low wages, the proprietors and occupiers of

the land were scarcely able to make both ends of the year meet. With regard to the expense of pulling weeds, so often complained of, I think the best advice would be, not to grow them in the way we do, by permitting them to ripen and shed their seeds in our wheat stubbles. It is, I know, objected, that as the wheat is generally seeded, we are precluded the opportunity of mowing our stubbles after harvest; but this is not the fact, for a man can go over three or four acres a day with a scythe hung high and wide, and take off the weeds and a part of the stubble without cutting scarcely an inch of the young grass, the after-growth being encouraged by the operation ten-fold, having been relieved from the presence of the weeds and the shade occasioned by their growth; the stubble and the weeds placed at the bottom of the winter straw-yard paying a hundred fold the labour incurred—"tis but to try it," as my neighbour Grojan says. JOSHUA DAVIDSON.

October 22, 1841.

Berkshires.

A WRITER makes complaint that the Berkshires do not come up to the weight of pork which it was stated they would, when first introduced. This seems to be a general complaint among the pork raisers at the West. It is true that there have been instances of individuals of that breed, that have been made to weigh 400 and even 600 lbs. when slaughtered, but it is also a fact that the average weight is not more than 300 lbs., and a good many fall short of that. Now, for all useful purposes we would venture to say that 300 lbs. is large enough, yet such is the taste among our pork buyers, that a 400 hog will bring more per lb. and sell quicker than a 250 or 300 pounder. Besides, a farmer who lives at a distance from market, had rather haul 600 lbs. of pork to that market packed into one carcase than in three. Still, the Berkshire is an invaluable breed. They are the very "*beau ideal*" of a hog. We do not know how the shape of a genuine Berkshire could be improved. All that is wanting is to enlarge it. It is an artificial breed, that is, no such breed is found in a natural state. It was produced by judicious crossings, and like all other breeds will go back to the original shape, if not carefully kept up by close attention. A. B. Allen, Esq., of Buffalo, N. Y., who has become celebrated as a breeder of Berkshires, is now in England for the purpose of examining the best breeds of cattle, hogs, &c., which that country can produce, and he has pledged himself to the Western breeders that they shall have Berkshires of a size that will suit them if any such can be produced in Great Britain.—*Maine Far.*

Systematic Cultivation.

AGRICULTURE is the oldest art of which we have any account; by it, nations and communities are held together; it is the bond that unites society, an art more conducive to health and more strictly united with religion and morality than any other—it is important then, that it be well understood. Inquiries into the principles of agriculture, are like the key of knowledge, that will open to us an extensive field for inquiry; intelligent and patient observation will disclose vast riches for the mind, and add immense resources for physical happiness—what a fund of knowledge then may agriculturists acquire!

Many farmers are content to proceed, without the attempt to investigate the science or principles of their business, by which they may be led to adopt improved modes of practice; but although such men may succeed in obtaining a living by labour, they can never experience the true happiness, dignity, and independence which their calling, under intelligent and systematic direction, is so well calculated to produce. Practice, to be beneficial and profitable, must be in accordance with natural laws; it is not enough that a man was born and bred a farmer, to enable him to secure the most desirable results, for it may be, that his breeding has not been of the best order; the experience of others, and the knowledge obtained from reading agricultural works—the record of scientific and systematic experiments—will be found highly serviceable; for when a man of genius applies himself to any of the sciences, experience shows that he does it with greater ability, force of mind, industry, taste, and more invention; whereas the man who confines himself servilely to the common road and to ancient custom, after many years of patient labour still continues the same, and makes no progress in the profession he follows. And this is one reason of the small produce of farms, and the small returns, even to many an industrious man; agriculture is not generally regarded by them as an art that requires rules, reflection and study, but has ever been esteemed as a mere manual occupation—a man is called a farmer, and is thought to have performed his part, when all that he does is to plough, plant and harvest, without regard to rule or system; and it is passing strange that farmers who, above all others, ought to understand the theory of soils, and the production of plants, and to observe the phenomena of nature in these particulars as a *means*, not only of adding to their knowledge, but to their ease and profit, should neglect them most. Experience is above all precept, and makes even the faults we have committed conduce to our advan-

tage, for from doing *wrong*, we often learn to do *right*: the experience of the thousands of intelligent minds, who have elucidated and brought out truths on subjects directly bearing upon agriculture, should therefore be highly regarded. We must lay our foundation well, commence with primary principles, and the results must be successful.—*Yankee Farmer.*

For the Farmers' Cabinet.

Horn-Ail.

MR. EDITOR,—Having persuaded myself that the practice of boring the horns and applying spirits of turpentine, &c., in the disease called Horn-Ail, (which is so very prevalent in America,) is entirely wrong in principle and has the most pernicious consequences in practice, I deem it not improper to recommend, by the means of your valuable periodical, a system of cure by which, during a long veterinary practice, both in France and in Philadelphia, New York and Harrisburg, I have been successful in most cases; while by the common way of proceeding *no animal is saved*, some either not having been attacked by that disease, or getting cured by nature itself.

This disease is also called the “Red Water,” or blood in the back or loins, and arises principally from the cattle being at grass during the summer on lots which are very dry and without shade, and from their being exposed to excessive heat of the sun, and to great cold in winter time; there are various other causes, as moory pastures, moist weather, &c., to all which cattle in this country are generally exposed; sour and mouldy hay, the exclusive feeding on corn-stalks, also contribute a good deal to this disorder.

As this disease is of an inflammatory character, the application of spirits of turpentine and the like, which *produce* inflammation, is entirely wrong. This is shown by the strong throbbing of the heart, the mixture of the urine with blood; if you stir with the forefinger in the nostrils of the animal, a good deal of blood will be discharged from them, and if you insert your hand into the straight-gut, you may bring out whole lumps of blood. Boring the horns is at most curing *symptoms* and not the *disease*; the farmer is unfortunately confirmed in this proceeding by the fact, that matter sometimes is discharged from the bored horns; but it is neither recommended by any experienced veterinarian, nor mentioned in any scientific work on the veterinary art. I therefore feel myself bound to recommend to every owner of cattle the following mode of cure, tried by me a good many times with success:

When an animal is observed to be suffer-

ing from this disorder, one or two quarts of blood, according to the size of the animal, are to be drawn immediately from a neck-vein; then two table-spoonsful of the following powder are to be given three times every day, the powder being previously dissolved in a pint of lukewarm water; this is to be continued until the animal recovers.

Glauber's Salt.....	6 ounces.
Cream of Tartar.....	2 "
Purified Saltpetre.....	2 "
Powdered root of Althea..	1½ "

It is necessary besides, to rub the animal frequently during the disease, principally on the back. But if the animal should be costive, either of the following clysters is to be given:

Take a handful of camomile flowers, two handfuls of flaxseed; boil them in two quarts of water, strain them, and add eight ounces of linseed oil and three table-spoonsful of common salt. This clyster is to be applied by the means of a syringe.

Should these articles not be at hand, take one quart of wheat bran, pour two quarts of boiling water on it, strain, and add eight ounces of flaxseed oil and two ounces of common salt. This clyster is to be lukewarm when applied to the rectum, or straight-gut, by the means of a syringe or a fit funnel.

N. B. The above cure is described in a small work, published by me last year, in the English and German languages, entitled, "A short General Adviser in the most common Diseases of Horses and Cattle, &c."—which may be obtained at the corner of Callowhill and Second streets, Philad'a., price 50 cts.

JOSEPH FIEHRER,
Veterinary Surgeon.

Harrisburg, Oct. 6, 1841.

Pruning Raspberries.

RASPBERRIES should be pruned in autumn or the early part of winter, shortening them to the height of about four feet, and then tying them to stakes. By pruning down to the height of about four feet, according to the strength of the stem, it has fewer branches to support in the following season, and all the nourishment from the root being turned into these, they grow more vigorously and produce larger fruit with finer flavour: not more than four stems should be retained for each root, sufficiently wide apart to admit the air, and to be kept clear of weeds.

INTEGRITY is of known influence in society; it is a virtue so obviously beneficial to mankind, that no one can help seeing and admitting its excellence: the power of an honest character has grown into a proverb.

European Farming.

I THINK that the superiority to be observed in British and Flemish agriculture is to be attributed to the nice adaptation of crops—the perfect system that prevails in every department—the free outlay for manures to invigorate the soil—the patience that never tires in the completion of a task once undertaken, and the industry that in no kind of weather, at no season of the year, fails to remember and perform its tasks and duties.

England is remarkable for confining to certain districts, the productions which flourish best in those soils. Thus the light sands of Norfolk are best adapted to turnips, fed off and followed by barley and clover; therefore in that country the rotation of turnips, barley and clover prevails. It was by this course that Mr. Coke (Earl of Leicester,) reclaimed from perfect barrenness his splendid estate at Holkham. Warwickshire is famous for beans as a first course, followed by wheat. Lancashire for potatoes as a first crop, wheat and timothy following.

Not less perfect is the *system*: each one has his part and his duties assigned to him—he is *there* at all times, and in all weathers, and he stipulates to be *only* there. And this system pervades all things on the farm.

Upon a farm in Surrey, where I spent six pleasant and agreeable months, I had opportunity to see the use and the profits of systematic farming. It was a hay farm, of less than two hundred acres—the rent paid, about \$2000. The whole farm, except the garden, was mowed. After the hay was taken care of, the fields were all shut up until there was a good feed upon them. Then Mr. R. went to the nearest fair and purchased large beeves nearly fat. In these fresh, luxuriant pastures, where the grass grew almost fast enough to render not fabulous Sir Boyle Roche's story of the kite thrown into an Irish meadow over night, hidden by the grass next morning, the beeves became in a very short time fit for Smithfield or Old Leaden-hall. After a few days' rest, the fair was resorted to for a second drove of cattle of smaller size, but in good flesh, which soon shared the lot of all fat oxen, and became the roast beef of old England. The fields were no longer in a condition to make beef, and therefore were to furnish the predicament "nearly fat" to take the "first bite" in some unfed meadow. The fourth course was a herd of small Welsh cattle to be merely improved. Fifth and lastly came sheep to be kept till the meadows began to start in the spring, when they were sold, and the meadows shut up.

To recruit this farm, the carts which took the hay to market returned laden with manures to be used as a *top-dressing*. When

not bringing back provisions for farm use, I think I may say they always came back with manures. I had some years ago in my possession a book, which was borrowed by some kind friend or other, who liked it so well that he forgot to return it. This book gave the best account of the English practice with respect to manures, of any I have ever seen. It was said in that book that five thousand tons of manures had been applied in one year on a single estate. I know that the quantities are immense, and that the lands in that country are kept in a high state of fertility by the axiom impressed on the husbandman that *food is as necessary to the earth as to the human body*. But do not think that I have selected a pattern farm for the subject of the foregoing remarks. It was in all respects only a medium farm. There could not be the same opportunity for the more elaborate practices of husbandry that there is in large Yorkshire farms. It is my opinion that some of the best managed farms in England were on the estates of the Duke of Buckingham at Stowe, in Bucks. It is, however, the *fashion* in England to patronize agriculture: heaven grant it may become so here. You can form no idea with what ease an American can introduce himself to the English, if he is fond of farming. The gift of a few ears of Indian corn to the Horticultural Society, brought me tickets and invitations without number to their gardens and fetes at Chiswick.—*Far. Mon. Vis.*

Autumn.

On! there is beauty in the dying year!
 'Tis sweet, at quiet eventide, to gaze
 Upon the fading hills, when the dim haze
 Hangs like a pall above old Autumn's bier.

These ancient woods! how beautiful in death!
 For see, the vivid green hath left the leaf,
 And brighter hues are there; yet they are brief,—
 Their pomp will vanish at the cold wind's breath.

There is a breeze amid the leaves! it swells,
 Far in the solemn wood-paths, like the peals
 Of music o'er the waters. Hark! it steals,
 Sweet, as the distant sound of evening bells.

It is the voice of Autumn!—the low dirge
 Sung mournfully within its ruin'd halls.
 It stirs the fallen leaves, and sadly falls
 On the hushed air, like whispers from the surge.

The summer-birds have sought a sunnier shore;—
 They lingered till the cold, cold wind went in
 And withered their green homes—their din
 Is mingled with the rivulet's song no more.

Rich flowers have perished on the silent earth,
 Blossoms of valley and of wood, that gave
 A fragrance to the wind, have found a grave
 Upon the scentless turf that gave them birth.

Pale, faded year! thy dying hour hath come!
 Oh! there are crowds, that with a joyous brow
 Welcomed thy birth, whose mirthful voices now
 Are hushed in the long silence of the tomb!

NEITHER in nature nor in society is any thing good that is violent.

For the Farmers' Cabinet.

French Dairies.

MR. EDITOR,—Every one who was present at the Dinner Table of the Philadelphia Agricultural Exhibition will join in praise of the Butter which was furnished by Mr. Biddle on that occasion; we were given to understand that it was made from his imported Guernsey Dairy, one of which animals was exhibited, and very deservedly took the premium for stock of that class. I had often heard that the butter made from these peculiarly thin and disreputable-looking breed of cattle was very different from that produced by cows of any other breed, and have now had an opportunity of testing the truth of the observation; it was indeed of a "marrowy consistence," and I can understand how it is that such butter is not so soft in summer or so hard in winter, the cause being, you have, contained in the butter, the flesh of the animal, as might be seen by examining the little creature on the ground, for indeed there was but little as a covering to her bones, the person who had charge of her declaring it was in vain to endeavour to put it there, for it would not stay, running all into butter; adding, "the more food is given, the more milk will be received."

Now, without regard to the appearance of the animal, are not such cows just what we want for the dairy? It is said, but not believed by any one who has had the only opportunity of judging—namely, by experience—that they eat as much food as larger animals; but even if this were true, what then? why, do we not grow our produce with a view of its being consumed, and if we are paid for it, is not every purpose answered? or are we like the boy, who wished to eat his cake and keep it too? But this is not the fact—experience convinces that four of these little cows can be kept with the food that would be consumed by three of a larger breed, while they are as hardy, healthy, and far more conveniently housed and cared for than any other breed whatever. Nor is the remark, that they cannot be fed to profit after they go dry, less wide of the truth, for the reverse of this is the fact, and with this remarkable advantage, the beef even of the oldest cow when well fatted, is superior to all other of the same age—for why? *the flesh is young*, and is always in the state which is most valued and of readiest sale, a marbled consistency, and peculiarly juicy, although it must be added, of a yellow colour, which is naturally to be expected.

A traveller through Normandy, where these cows are uniformly kept for the dairy, says, "The management of their cows is not much better than that of the sheep, yet the cream

and butter, which are prime in quality and abundant in quantity even in the midst of winter when frost and snow pervade the land, put us entirely to shame; instead of having a few thin slices of well *salted* butter at the breakfast or tea table, as is so general in this country (England) through the winter season, the markets of Normandy as well as those of the more southern parts of France, afford ample supplies of the most delicious fresh butter imaginable, at less than half the London price. The cream is churned twice a week, this only being put into a churn, and it is owing in a great measure to the shortness of the interval which it is allowed to stand that the butter is so finely flavoured. The cows yield from eight to twelve quarts of milk per day during the whole year, seldom going dry any portion of the time. Nor is the excellence of the butter effected by any artificial feeding, unless may be considered such, for except *very partially* beets are not cultivated for cattle, and potatoes, turnips and corn are never given to those cows which yield this fine butter. It is there considered that dung imparts in *spring time* valuable qualities to dairy pasturage, but the grasses in summer give, on dunged land, a rank flavour to the butter." **JOSEPH DAWSON.**

29th October, 1841.

For the Farmers' Cabinet.

A Trifle.

MR. EDITOR,—It is said that economy may be shown in trifles—here is one which I offer to your readers' acceptance. I found, at the commencement of last winter, that the bottom of the iron coal-scuttle belonging to my family was eaten into many holes by the rust, and instead of sending it to be newly bottomed, I cut a perfect circle, the exact size of the inside of the scuttle, out of $\frac{3}{4}$ inch elm board, placed it close to the old bottom inside, and fixed it there, by a row of small flat-headed nails driven into it through the sides; and there it still remains, as perfect as the day when it was placed, having already served time enough to rust out a new sheet-iron bottom. And why may not the wooden bottom be substituted for the iron one at first, I should be glad to know; it would be cheaper and by far more lasting.

Every housekeeper knows that the flue, or smoke-pipes of a stove when taken down and packed away for the summer, are often found at the commencement of another winter, eaten into holes with rust, having, probably, suffered more in this way by lying out of use, than they would have done had they been in constant service; this arises from the acid and corroding nature of the soot, which is often packed away in them, and the evil is

augmented by the dampness of the air in the cellar, the place to which they are generally consigned for the summer. Now, I have often thought, that if all smoke-pipe (except a length or two immediately in connexion with the stove) were to be made of the tinned sheet-iron which is used for roofing, they would be found to last very much longer under usual circumstances, than if made of iron of so thin a substance as it is customary to construct them; would our friends put the idea to the test of proof. **G.**

Philadelphia.

Our correspondent G. is fortunate if he have met with domestic help that can be trusted with a coal-scuttle with a *wooden bottom*; some of us would soon be burnt in our beds by fire originating from such a cause, for every one must have observed how customary it is to take away the ashes from the grate or stove in the coal-scuttle, without inquiring or even caring, if it have a wooden bottom. The arrangement is economical certainly, but then there is such a thing as "saving at the tap and letting run at the bung"—a coarse proverb, but nevertheless true, as has often been proved, to many a man's cost. — Ed.

Interesting Discovery in Vaccination.

AN English paper mentions that Mr. Creeley, a surgeon of Aylesbury, has demonstrated the important fact, that small pox and cow pox have the same origin, the latter being small pox communicated to the cow. Mr. Creeley inoculated cows with small pox matter; the vesicle produced in the animal had every appearance of the vaccine pox. To ascertain the point, children were inoculated with the matter taken from the cow thus artificially infected: the result was a fine, genuine vaccine vesicle. To establish the fact satisfactorily, these children were submitted to small pox disease. Twenty-five successive inoculations have now been performed with this new virus, which may truly be named *variola vaccina*, and it continues to produce the most satisfactory vesicle; the matter has been employed in Bristol with perfect success. The importance of this discovery cannot be too highly appreciated. Small pox often breaks out in countries where cow pox cannot be procured; now, it is only necessary to inoculate a cow with the small pox, and this virulent morbid poison, so fatal to human life, will be converted into a mild fluid capable of protecting all inoculated with it from that dreadful malady, the small pox.

For the Skent or Looseness in Calves.—Break two eggs into a basin, beat them up, and pour them, by means of a tin funnel, down the calf's throat: repeat this twice or thrice—it has been found an almost infallible cure.

To the Editor of the Farmers' Cabinet.

French Frock, or Blouse.

SIR,—I am indebted to the Farmers' Cabinet for many things, particularly for the introduction of the French Frock, or Blouse, which is first mentioned at p. 276, of the 4th volume, but which I did not notice so soon as I ought. Why, sir, it is the greatest comfort I have, for, either at home or abroad, in the hottest or coldest weather it is my constant companion. My business is to attend market twice a week with farm-produce, and before I had furnished myself with one of these frocks, the dust of the road had spoilt many a good suit of clothes for me; and then I was never fit to be seen in the town until I had changed my dress; but now, it is only, in very hot weather, to put on one of these frocks, without coat or waistcoat under, button it loosely and pull it round me, and before reaching the city take it off, give it a good shake and tie it in a handkerchief, put on coat and vest, and then I am as neat as if I had come to market in a band-box! The weather is now cold, I have therefore taken to my woollen frock, putting it *over* coat and waistcoat, thus enjoying the comfort of an extra garment, as well as a safeguard to my bettermost clothing. Then again, every one knows how often it happens that just before leaving home, some little thing or other demands the attention of the farmer—the harness to be adjusted, the wheels of the wagon to be examined, a sudden call for inspection amongst the cattle, another package to be made up to take along—all requiring perhaps but a few minutes, but in that time great damage is often done to one's clothing, especially in wet and dirty weather. Again, while on the road the harness may break and require repairing; a shoe might become loose, and a thousand other things happen, to attend to which a good coat or pants may soon be injured, far more in cost than the first price of a blouse. And then, on a Sunday how often is a farmer called forth amongst his out-door family for a short time, when he may not think it worth the while to change his dress, but it is pretty certain he will have to repent not having done it; and even the fire-dust on a good suit of clothes will soon change its appearance. But in a time of storm and tempest, when every kind-hearted man finds it impossible to sit quietly in the house until he has seen that his cattle are sheltered and cared for, the blouse, made of woollen and put on over a coat, or even a great-coat, will be found to turn the water far better than any other garment that can be devised, warding off the dirt and protecting the knees; and on entering the house, it can be thrown off and spread before the kitchen fire to dry, to be ready for

use again in an hour at any time—I tell you it is the greatest of all luxuries to the man whose business lies much abroad, and I am greatly indebted to the Cabinet, where the use of it was first recommended.

But now, I wish that some of your readers would inform me how I can clean and revive black cloth; the fact is, I spoilt a good suit of black before I got a frock, and wish to know how to recover it. Would not a decoction of logwood and walnut-shells, or something of that kind, be suitable? I fear that copperas and nut-galls would give to a liquid too much body for the purpose, and thus prove injurious to the texture of the cloth; the same article may be useful when applied to a rusty hat. A few instructions on the easiest and best modes of cleaning clothes would be very acceptable to those who are so much exposed to the climate, compelled to weather it early and late, with so much of the rough to mix with the smooth; would, therefore, those who have the ability do us the kindness, and oblige one, who would be grateful for the favour?

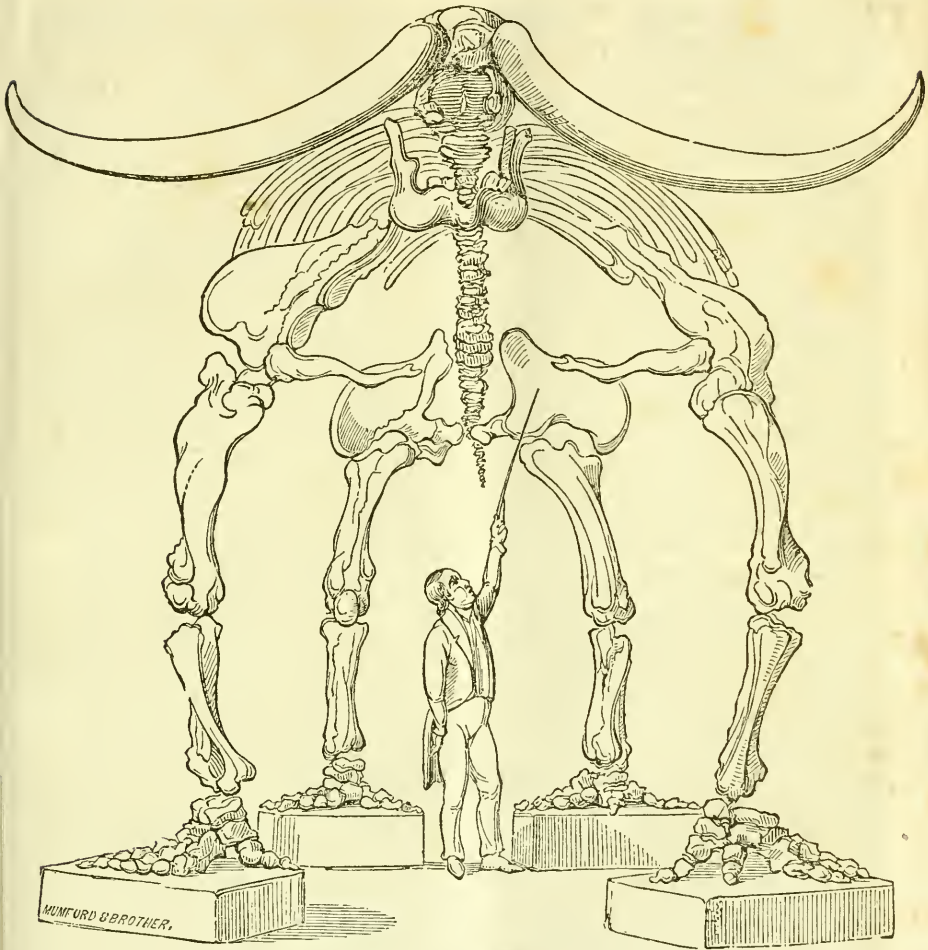
X.

Oil Soap.

I HAVE lately noticed advertisements and communications of oil soap, for destroying insects upon rose-bushes, small trees, &c. It ought to be known to those who cannot obtain the oil soap, that strong suds made of common soft soap will answer most of the purposes attributed to the former. It kills the snail, keeps off the rose bug, and I have preserved my plants by it, for several years, against the attacks of the curculio. In sprinkling the plant, it is necessary to do it early in the morning, while the dew is on, because it is difficult to wet dry, green foliage.

Willis' brass syringe is recommended for using the soap. I would not willingly be instrumental in discouraging the use or sale of that almost indispensable implement; but for the purpose of throwing suds upon small single trees or shrubbery, a smaller syringe than any I have seen of Mr. Willis' make, is much more convenient and economical. Go to a tin-shop and get a tube made 10 or 12 inches long, which will hold from a gill to half a pint, with three or four small holes in the end to produce as many streams, and the jack-knife of any Yankee of common ingenuity, will make a good piston in a few minutes. This will save your suds, is managed more readily, and with equal if not greater effect upon the trees.—*N. E. Far.*

Your enemy is against you, because he thinks you are against him—an expression of sympathy or an act of compassion disabuses his mind, and lays his suspicion to rest.



THE MISSOURI LEVIATHAN.

WE succeeded, one day previous to the closing of the exhibition of the Missouri Leviathan, in obtaining a correct drawing of that wonderful work of the ALMIGHTY, which, with the engraving of the same, has been executed expressly for our pages; thus placing upon record a faithful representation of that gigantic result of the labours of the geologist, before its final departure for a foreign land. It is exceedingly to be regretted that the glorious specimen is not retained in the country which gave it birth, but the next best thing we have secured to our readers, by perpetuating in our work a perfectly correct delineation of its wonderful anatomy. A front view of the monster has been given, as it shows more strikingly than any other could do, the peculiar conformation of its parts, forming, as it were, two arches of stupendous magnitude, with which nothing that has hitherto been discovered can at all compare for grandeur and magnificence. We are witness to the faithful delineation of the *enormous skeleton* as it appeared on exhibition, and cannot but feel pleasure in being instrumental in preserving the remembrance of it by a drawing made on the spot.

Subjoined are some interesting particulars, extracted from a pamphlet published by the discoverer and proprietor of these noble relics, Mr. Albert Koch, who will, we trust, be successful in obtaining that regard and consideration in a foreign country which are so justly due to his indefatigable zeal and perseverance in a pursuit to which he has devoted himself for many years; and may he return, to make still further discoveries in the exciting and all-absorbing pursuits of geology and natural science. — ED.

**Description of the Missouri Leviathan,
Together with its supposed habits, and In-
dian Traditions concerning the location
from whence it was exhumed.**

BY ALBERT KOCH.

This gigantic skeleton measures 32 feet in length and 15 in height; the head measures, from the tip of the nose to the spine of the neck, 6 feet; from one zygomatic arch to the other, 4 feet; from the lower edge of the upper lip to the first edge of the front tooth, 20 inches; from the front point of the lower jaw to the first edge of the front tooth, 8 inches; from the edge of the upper lip, measuring along the roof of the mouth to the socket of the eye, 3 feet; from thence to where the Atlas joins the head, 10½ inches. The whole number of teeth is eight—that is, four upper and four lower, not including the two tusks. The two upper fore teeth are 4 inches broad and 4½ inches in length, and are situated in the head in such a manner that they slant towards the roof of the mouth, inasmuch that their outer edge is 1½ inch higher than their inside edge. The back teeth in the upper jaw are 7 inches in length, and where they unite with the front teeth, they are, like those, 4 inches broad, and from thence run narrower back until they end almost in a point. The formation of the nose is very peculiar: it consists of a bony substance interwoven with cells, and presents a broad, flat appearance; it projects 13 inches over the lower jaw, and ends in two nostrils, which are somewhat raised on the face. This nose rests partly on the roof of the mouth and partly on the upper lip, which latter is somewhat arched on both sides, and forms a ridge in the centre.

As I was successful in finding the right tusk solid in the head when I first discovered it, and as it remained fixed in its socket during its excavation and transportation over a very rough and wilderness country, I am enabled to give a correct and indisputable description of the position and situation which the tusks occupied in the skull of the animal during its life. They were carried by him almost horizontally, bending somewhat down, and coming with their points up again; their length is 10 feet, exclusive of 1 foot 3 inches, which forms the root, and is hidden from the eye of the observer, as it is concealed in and under the skull. It is necessary here to remark, that the tusks are remarkably large in proportion to the size of the head, and, also, that their roots are perfectly firm and solid, so as to leave only space for the nerve. The body of those tusks has been a formation of coarse ivory, partaking somewhat of the nature of bone—so much so, that it will again unite and become whole after an injury; which is proved by the fact of the right tusk having a large scar, where it had been severely injured. As soon as the tusks leave the interior of the head, which takes place opposite the chin, they run parallel on each side of the nose, sinking down to the edge of the upper lip, until they reach the outer edge of it; from thence they make a sudden bend and run from both sides in a horizontal position, each forming somewhat of a semi-circle. Measuring those tusks from the point of the one to the point of the other, following the curvature, is 21 feet; the distance across the head in a straight line, from point to point of the tusks, is 15 feet.

Especially remarkable on the lower jaw is a protuberance; which is immediately situated over the *posterior mental foramen*, from whence it proceeds out of the *ramus* in a horizontal position; its point is somewhat bent down, including back; its length is 2½ inches; its diameter at the root is 1½ inches. I consider this protuberance peculiar to the Missourium, as I have never seen a similar one on any of the great number and variety of fossils I have disinterred or examined, or of animals of the present race, and as yet I have never heard it mentioned by other naturalists. Another peculiarity of this protuberance is, that it possesses points resembling thorns. I am of opinion that the above-described protuberance was the location of some remarkably strong muscles attached to the lower lip, that gave it in a great measure the strength and faculty of a proboscis. This wise provision of nature has been necessary to the animal, as the upper part of the head is destitute of this appendage, or, at most, has had a snout not larger than that of the South American tapir. The whole length of this, the lower jaw, is 3 feet 1

inch; the greatest height to the condyle, 1 foot 7 inches; the extreme height to the coronoidal process, 1 foot 5½ inches; the height of the ramus, 7½ inches; the length of the posterior molar, 7 inches; its breadth, 4½ inches; the length of the second molar, 5½ inches; its breadth, 4 inches.

Measurement of the different Bones contained in the Skeleton.—Each clavicle, 2 feet ½ inch; and 7½ inches in its extreme breadth. The first rib, 2 feet 3 inches in length; 6 inches in its widest part; the longest rib measures 5 feet 6½ inches in length; the shortest rib, 2 feet 4 inches in length; the largest of the dorsal vertebrae, 2½ feet; the scapula, or shoulder blade, 3 feet 1 inch in length, and 2 feet 7 inches in breadth; the humerus or fore arm, length 3 feet 5½ inches; its greatest circumference 3 feet 3 inches, and its smallest part measures 2 feet 7 inches in circumference; the ulna is 2 feet 7½ inches long; the radius is 2 feet 3½ inches long; the carpal articulating surface is 5½ inches broad; other articulating surface, 6½ inches. The pelvis measures from the anterior superior spine to the edge of the pubis, at the symphysis, 3 feet 7 inches, which gives a total breadth of the pelvis of 7 feet 2 inches; the circumference of each bone of the pelvis is 13 feet 4 inches.

The femur, or thigh bone, is 4 feet ½ inch long, 8½ inches in diameter; in the middle of its shaft the neck of the thigh bone is 7½ inches in diameter; the head of this is 8½ inches in diameter. The transverse diameter of the articulating surfaces or condyles of the femur, is 10 inches; that is, each condyle measures 5 inches.

The tibia and fibula, or Leg Bones.—The tibia is 2 feet 4½ inches long; 11 inches broad at its superior portion, and 8 inches at the inferior part; its diameter in the middle of the shaft is 5½ inches. *The fibula*—the whole length of this bone is 2 feet 6½ inches.

There is a process connecting the tail with the os sacrum, which is 1 foot 8 inches in length; the said process is composed of six joints, which are inseparably joined together. Each of these joints is 3½ inches in length; the one adjoining the os sacrum is 7½ inches in breadth, but the remaining five joints of the process are rather narrower. The tail is composed of thirteen vertebrae, and is very short in proportion to the body of the animal, its whole length measuring only 2 feet 7½ inches, but has been very broad and flat, and possessed of great strength.

The fore-foot has four toes and a thumb; the longest toe measures 1 foot 8 inches; the shortest, 1 foot; the thumb, 7 inches. Each toe is possessed of four joints, and the thumb of two. The smallest and last of the joints of each toe, shows plainly that it was armed with a nail; the nails of the right foot turned out towards the right, while those of the left were reversed, and turned towards the left. The hind-foot is much smaller than the fore-foot; it has also four toes, but is destitute of the thumb. It longest toe measures 1 foot 2 inches; its shortest, 9½ inches. Both the fore and hind-feet have been webbed.

Peculiarities of the Bones.—All the bones, without exception, are firm, and contain no marrow; I believe the marrow was superseded by an oily fluid, which circulated through the bones.

All the vertebrae are remarkably narrow, and must have given the animal a superior degree of action in the back; this is more particularly observable in the vertebrae of the neck, which gives it the appearance of being very short. The two posterior vertebrae adjoining the os sacrum are united in one, which appears to have given the back more elasticity.

The ribs are remarkably slender and short, in proportion to the size of the animal, and have had a great deal of cartilage attached to them: the six first are the strongest, and all have the singular peculiarity of standing half-reversed in the body; that is, the edge of the rib bends in towards the intestines, and the opposite edge outwards, showing great lateral action.

Comparison of the Leviathan with the Mastodon.—The most striking difference between the Leviathan and the Mastodon, are, 1st, the Leviathan had no trunk, therefore could not be classed under the Proboscis genus; 2d, its toes were armed with claws or nails, and this circumstance prevents its being classed with the hoofed animals, to which class the Mastodon belongs; 3d, the Leviathan has 24 dorsal vertebrae and 48 ribs, together with two collar bones or clavicles; whereas the Mastodon has 19 dorsal vertebrae and 38 ribs, and no clavicles; 4th, the scapula or shoulder-blade is materially shorter in the Leviathan than in the Mastodon, also

the ribs are much smaller; 5th. the dental system at the first view somewhat resembles that of the Mastodon, but upon a close examination, the observer will perceive that the teeth of the Leviathan are much smaller in proportion to the maxillary bones than those of the Mastodon, and also better calculated for masticating softer substances.

Supposed Habits and Nature of the Animal.—The animal has been, without doubt, an inhabitant of water courses, such as large rivers and lakes, which is proven by the formation of the bones: 1st. his feet were webbed; 2d. all his bones were solid and without marrow, as the aquatic animals of the present day; 3d. his ribs were too small and slender to resist the many pressures and bruises they would be subject to on land; 4th. his legs are short and thick; 5th. his tail is flat and broad; 6th and last, his tusks are so situated in the head that it would be utterly impossible for him to exist in a timbered country. His food consisted as much of vegetables as flesh, although he undoubtedly consumed a great abundance of the latter, and was capable of feeding himself with the fore-foot, after the manner of the beaver or otter, and possessed also, like the hippopotamus, the faculty of walking on the bottom of waters, and rose occasionally to take air.

The singular position of the tusks has been very wisely adapted by the Creator for the protection of the body from the many injuries to which it would be exposed while swimming or walking under the water; and in addition to this, it appears that the animal has been covered with the same armour as the alligator, or perhaps the megatherium.

The location and excavation of the Bones.—The bones were found by me near the shores of the river *La Pomme de Terre*, a tributary of the Osage river, in Benton county, in the state of Missouri, latitude 40 and longitude 18. There is every reason to believe that the *Pomme de Terre*, at some former period, was a large and magnificent stream, from one half to three-fourths of a mile in breadth, and that its waters washed the high rocky bluffs on either side, where the marks of the rolling surges are now perfectly plain: they present a similar appearance to that of the Missouri and Mississippi. It appears from the different strata, that since the Missouriium existed, six or seven different changes have taken place here, by which the original bed of the *Pomme de Terre* was filled with as many different strata, which are as follow:

The original stratum on which this former river flowed at the time it was inhabited by the Missouriium, and up to the time of its destruction, consisted of quicksand; on the surface of this stratum, and partly mingled with it, was the deposit of the above-described skeleton. The next is a stratum from three to four feet in thickness, consisting of a brown alluvial soil; in this all the remainder of the skeleton was contained, and covered by it. This stratum was mixed with a great quantity of vegetable matter, and most of this is in a wonderful state of preservation; but what is still more surprising, all the vegetable remains are of a tropical or very low southern production. They consisted of large quantities of cypress burs, wood and bark; a great deal of tropical cane and tropical swamp moss; several stumps of trees, if not logwood, yet bearing a very close resemblance to it; even the greater part of a flower of the *Strelitzia* class, which, when destroyed, was not full blown, was discovered imbedded in this layer; also, several stems of palmetto leaf, one possessing all the fibres perfect, or nearly so.

The time when the revolution of the earth took place, during which this animal lost its life, was between the 15th of September and 20th of October, which is proven by the fact just mentioned of the cypress burs being found; from which circumstance might be inferred, that they had been torn by force from their parent stem before they had arrived at perfection, and were involved in one common ruin with the trees which bore them, these having been torn up by the roots, and twisted and split into a thousand pieces, apparently by lightning, combined with a tremendous tempest or tornado. There was no sign or indication of any very large trees, the cypresses that were discovered being the largest that were ever growing here at the time.

Through this stratum ran several veins of iron ore—sufficient evidence of the antiquity of this deposit. Immediately over this was one of blue clay, 3 feet in thickness; the next was one of gravel, from 9 to 18 inches in thickness, so hard compressed together that

it resembled pudding stone; the next was a layer of light blue clay, from 3 to 4 feet in thickness: on this was another stratum of gravel, of the same thickness and appearance of the one first mentioned; this was succeeded by a layer of yellowish clay, from 2 to 3 feet in thickness; over this, a third layer of gravel, of the same appearance and thickness; and, at last, the present surface, consisting of a brownish clay, mingled with a few pebbles, and covered with large oak, maple and elm trees, which were, as near as I could ascertain, from 80 to 100 years old. In the centre of the above-mentioned deposit was a large spring, which appeared to rise from the very bowels of the earth, as it was never affected by the severest rain, or did it become lower by the longest drought.

About 200 yards from said deposit stands a singularly formed rock, which not only bears the appearance, but can be considered as a monument of great antiquity formed by nature, against whose rough and rugged sides can be distinctly traced, in deep and furrowed lines, the former course of angry waters; yet its summit is full 30 feet above the present level of the *Pomme de Terre*. The rock has the appearance of a pillar, on whose top rests a table-rock far projecting over on every side; from the base of the pillar to the lower edge of the table is 30 feet, and from the base down to the deposit of the bones, is 16 feet—making, from the stratum on which the bones were deposited to the edge of the table, 46 feet.

By a minute and close examination, I found that the formation of the said rock, as it now appears, was produced by the long action of the river against and around it: and had the river continued to act with the same force for one or two hundred years longer, the pillar would have been so far worn away, that the table must have fallen. It now stands as an indisputable witness, that the water, at the time these animals existed, was at least 46 feet in depth.

Indian Traditions.—It is perfectly true that we cannot, with any degree of certainty, depend on Indian traditions; but it is equally true that generally, these traditions are founded on events which have actually transpired, and according to their importance in relation to the welfare of the aborigines among whom they occurred, and in absence of any better method of perpetuating them, are transmitted with great care in their legends from generation to generation; but in the course of time, as might reasonably be expected, these traditions lose much in correctness and minuteness of detail, owing to the circumstances, more or less, in which the tribes have been placed. As I am constrained to confine my remarks within very circumscribed limits, I will only relate one of the traditions having reference to the existence of the above-described animal: this, however, led principally to its discovery.

At the time when the first white settlers emigrated to the Osage country, (as this section of territory is usually called,) it was inhabited by the Osage Indians, and the river by which it is watered was called the Big Bone river, owing to a tradition preserved by them, which they stated as follows:

There was a time when the Indians paddled their canoes over the now extensive prairies of Missouri, and encamped or hunted on the bluffs. (These bluffs vary from 50 to 400 feet in perpendicular height.) That at a certain period, many large and monstrous animals came from the eastward, along and up the Mississippi and Missouri rivers; upon which the animals that had previously occupied the country became very angry, and at last so enraged and infuriated, by reason of these intrusions, that the red man durst not venture out to hunt any more, and was consequently reduced to great distress. At this time a large number of these huge monsters assembled here, when a terrible battle ensued, in which many on both sides were killed, and the remainder resumed their march towards the setting sun. Near the bluffs which are at present known by the name of the Rocky Ridge, one of the greatest of these battles was fought. Immediately after the battle, the Indians gathered together many of the slaughtered animals, and offered them on the spot as a burnt sacrifice to the Great Spirit; the remainder were buried by the Great Spirit himself in the before-mentioned *Pomme de Terre*, which from this time took the name of the Big Bone river, as well as the Osage, of which the *Pomme de Terre* is a branch. From this time the Indians brought their yearly sacrifice to this place, and offered it up to the Great Spirit as a thank-offering for

their timely deliverance; and more latterly, they have offered their sacrifice on the table-rock previously mentioned, which was held in great veneration, and considered holy ground.

This ceremony was kept up with the utmost rigidity until one of the white emigrants settled in the valley at the foot of the rock, with the intention of making himself and family a permanent residence on this fertile spot; but he did not long enjoy this beautiful situation, for on the return of the Indians to offer their wonted sacrifice, they beheld with indignation and astonishment the intrusion of this venturesome settler on their sacred ground. Soon the council fire was kindled, when the Indians gave their accustomed murmur of dissatisfaction, and immediately the white man was obliged to leave, without the least preliminary ceremony. Some time after this, on becoming better acquainted with his red neighbours, and having through much perseverance gained their good opinion, after much reluctance on their part, and explanations and assurances that he would not infringe on their sacred privileges, and would only raise corn and potatoes for his family, he was once more permitted to settle on this sacred spot, of which he retained peaceable possession until the return of some old chiefs, who had been for a long time absent. They, in turn, were exasperated to madness on seeing the violation of the sacred ground of their forefathers by the encroachment of the white man, and again the poor farmer was obliged to leave. From that time this spot remained in the hands of the Indians, and no entreaty or allurements could be held out to induce them to resign it, until they were removed by the government; it then for the third time fell into the hands of the original settler, who joyfully took possession of the place he had so long desired to make his home.

After a while other settlers arrived, and as the want of a mill for grinding their different kinds of grain began to be felt—each family having hitherto been obliged, in order to obtain a supply of meal, to resort to the laborious process of pounding their corn in mortars—the old farmer resolved on building a tub-mill for the accommodation of himself and his neighbours. In order to procure the necessary water-power, the aid of the before-mentioned spring was brought into requisition; and in making the necessary excavation, the labourers found several bones of young mastodons, which excited their curiosity and astonishment, but they suspended their labour on ascertaining that the force of said spring was not sufficient for their purpose. Soon after this the place was sold, and the excitement about the bones and the Indians was forgotten until the summer of 1839, at which time a young man, who was employed to clean said spring, found a tooth of a mastodon during his labour; which occurrence reminded several of the old settlers of the former transactions and traditions, and a narration of these, induced a few persons residing in that vicinity, out of mere curiosity, to make further examination as to what was contained in the spring. They succeeded in finding several bones and teeth; but the mud and water accumulated so fast, they soon became discouraged with the difficulties attending the search, and gave it over. Some of these facts came to my knowledge in March, 1840, on my return to St. Louis from an excursion to the south-western part of the country, when I immediately repaired to the spot, and found the facts as I have here stated.

EVIDENCES OF HUMAN EXISTENCE CONTEMPORARY WITH FOSSIL ANIMALS.

It is well known by all persons acquainted with geology, that it is admitted as a fact, that the mastodons, together with the generality of antediluvian animals, existed and became extinct, previous to the creation of the race of men; which supposition was founded on the fact, that no evidence of human existence could be traced back to, or found with, those antediluvian animals. The positive cause of this I do not know. My opinion, however, is, that this want of evidence of a former human race is, that those relics of the ancient animal world generally, have been found accidentally by persons who were not aware of the importance of a minute and critical examination of the deposits disinterred by them, and therefore the scientific observer was deprived, no doubt, often of the facts necessary to be known in order to form correct opinions on this subject. In view of this, I deem it my duty to lay before the world what facts I have been able to gather on

this interesting subject, which will be strong evidence in favour of my belief, that there was a human race existing contemporary with those animals.

These facts are as follow: In October, 1838, I disinterred the remains of an animal which had clawed feet and was of the size of an elephant. This deposit was in Gasconade county, Missouri, on the shores of the Burbois river. The principal part of this animal had been consumed by fire, which fire, evidently had not been produced by a volcanic eruption, but had been formed and kindled by human hands, as it appeared, for the purpose of destroying the above-mentioned animal, which had been mired here, and was unable to extricate itself. The particulars of the transaction are as follow:

A farmer in Gasconade county, Missouri, perceived for some time a disagreeable taste in the water which he had used for his household. This water was taken out of a clear spring, situated in what is usually called a bottom, near his house. For the purpose of remedying this evil, he dug around and into the spring, thus to be enabled to enclose it afterwards as a well. By doing so, he found several bones belonging to an animal of an unusually large size: some were whole, and some in fragments. Also, at the same time he found a stone knife and an Indian axe. This circumstance created some excitement in the neighbourhood; and these transactions were mentioned to me some time afterwards by a Mr. Wash, who lived in the vicinity.

On hearing this, I immediately made arrangements to proceed to the place. On my arrival there, in October, 1838, I found the prospects rather dull, as the bones which had been dug out of the spring were principally destroyed; what few remained, were broken to ascertain if they contained marrow, until the few remaining fragments were collected together by an intelligent gentleman named Bailey, in the neighbourhood, who presented them to me, and assisted me in my farther researches. I found, nine feet beneath the surface, a layer of ashes from six to twelve inches in thickness, mingled with charcoal, large pieces of wood partly burned, together with Indian implements of war, as stone arrow-heads, tomahawks, &c. &c. Also, more than one hundred and fifty pieces of rocks, varying from three to twenty-five pounds in weight, which must have been carried here from the rocky shores of the Burbois river, a distance of 300 yards, as there was no rock, stones, or even gravel near to be found; and those pieces of rocks, taken out of the ashes, were precisely the same as that found on the river, which is a species of limestone; these had been thrown, evidently, with the intention of striking the animal. I found the fore and hind-foot standing in a perpendicular position; and likewise the full length of the leg below the layer of ashes, so deep in the mud and water that the fire had no effect on them.

The fore-foot of the animal consists of four toes and a thumb; each toe has five joints, each last joint armed with a claw, or long nail. The thumb has two joints; the crown of the foot is composed of four bones, joined together, and each connected to a toe. On the top of this is a thin, round bone, connecting them with the shin-bone. The construction of this foot shows that it possessed much power in grasping and holding objects. The hind-foot is smaller, and has also four toes, with five joints, but has no thumb. The crown is entirely different in construction from that of the fore-foot. A few of the teeth appeared to have been broken out by the force of the rocks thrown at the head of the animal, and were carried some little distance; so that they escaped, in a measure, the violence of the fire, and have all the appearance of those of a carnivorous animal.

The second trace of human existence with these animals, I found during the excavation of the Missouri Leviathan. There was, embedded immediately under the femur or hind-leg bone of this animal, an arrow-head of rose-coloured flint, resembling those used by the American Indians, but of a larger size. This was the only arrow-head immediately with the skeleton; but in the same stratum, at a distance of five or six feet, in a horizontal direction, four more arrow-heads were found; three of these were of the same formation as the preceding; the fourth was of very rude workmanship. One of the last-mentioned three was of agate, the others of blue flint. These arrow-heads are indisputably the work of human hands. I examined the deposit in which they were embedded, and raised them out of their embedment with my own hands.

Important Discovery in Agriculture.

WE call attention to the following most interesting article. It has long been our endeavour to bring into general notice the theory of top-dressing, being convinced that it is consistent with the economy of nature—the instance here recorded comes directly in aid of that hypothesis, and proves indeed that *nature in all her ways is perfect*; the only wonder being, that the discovery had not long ago been made in exactly the way in which it has now been brought about, namely, in observing that “Nature, when unassisted and unobstructed, possesses the power of renovation.” The beautiful simplicity of the doctrine strikes us with admiration, and would almost incline to the belief of it, without farther experiment; we have, however, put it to that test, and shall, with pleasure, render from time to time an account of our success.

In the 5th vol. of the Cabinet, p. 184, Mr. Priestley is said to have preserved his grain from the effects of frost by throwing a covering of buckwheat straw over it, remarking, that it was thus protected from the cold winds, the grain appearing through the straw. We strongly suspect, however, that the effect was caused by the *renovating* powers contained in the decomposing vegetable covering, according to the principles here advocated. — Ed.

In the Phalange, a Fourier paper published at Paris, Sept. 8th, a novel discovery is described, which, if true, will work a great change in an important department of agricultural labour. It is communicated to the Paris print, by Charles Poillard and M. Bernard, who dated their letter at Brest, August, 1841. It appears, that while they and some of their friends, who farm their own estates, were engaged in conversation on the subject of agriculture, it was observed by one of them, that that branch of industry was suffering more from the want of capital and enterprise than any other, and that nothing was to be done without manure, which was every day becoming more scarce and expensive. This remark led to an inquiry into the properties of manure, and particularly as to what provision nature had made in those uncultivated regions, where there seems to be a vigorous and luxuriant growth, without artificial assistance.

“In observing nature unassisted, or unthwarted, rather, by the hand of man in vegetable reproduction, it is found that when the seed is ripe it falls upon the ground, and then the plant which has produced it, sheds its leaves, or falls itself upon it in decay, and covers and protects it from the weather, until generation has commenced and the young plant is able to grow up in health and strength and full development, to recommence the same routine of seeding and of reproduction.

“From this it follows, that in nature, every plant produces its own soil or *humus*, and that the earth only serves to bear the plant, and not to aid or nourish it in vegetation. The

nourishment of plants is thus supposed to be derived from *air and water, heat and light*, or electricity; in different proportions, adapted to the different varieties of vegetable nature.”

With this general notion in their minds, and considering wheat to be, in present circumstances, one of the most important vegetable substances, they agreed to try experiments, and in October last undertook the following operations:—

In a field which had been sown with rye, because the land was deemed too poor for wheat, a plot of twelve square yards, untilled and left without manure was carefully strewed over with grains of wheat, and wheaten straw was laid upon it closely, and about one inch in thickness. In a garden, also, which had been neglected several years, a few square yards of earth were trodden over, and the surface being made close and hard, some grains of wheat were scattered on this hardened surface, and a layer of straw one inch in depth was carefully laid over it, and left, as in the former case, to take its chance without ulterior attention. And, in order to make doubt impossible concerning the mere secondary functions of mineral earth in vegetable reproduction, twenty grains of wheat were sown upon the surface of a pane of glass and covered with some straw alone, as in the other case.

The germination of the seed was soon apparent, and most healthy in development. “The winter has been rigorous,” say these correspondents, “for this part of the country, and the earth has sometimes been frozen in one solid mass to a depth of six inches in the garden where the wheat was sown, and this has happened several times during the winter, to the great injury of many plants, and even the entire destruction of some, while the spots protected by the straw were never thoroughly congealed, nor were the grains of wheat, though lying on the surface under the straw, at all affected by the cold. During the spring, excessive droughts prevailed, and several times repeated, have prevented vegetation on the common plan from flourishing in healthy progress, while our little spots of wheat have hardly felt the inconvenience of excessive dryness, for the earth, protected by the straw, has never been deprived entirely of moisture, and our blades of corn were flourishing, when all around was drooping and uncertain. To conclude then, we have thoroughly succeeded in our practical experiment, and the wheat produced is of the finest quality. The straw was more than six feet high, and in the ears were 50, 60, and even 80 grains of wheat of full development, the admiration of all who saw them; and particularly those which grew upon the pane of glass, which were quite as healthy and as large as those which grew upon the common

earth. It must be observed also, that there was not the smallest particle of earth upon the glass, and that the plants were left entirely to themselves, without being watered or attended to in any way whatever, from the time of sowing to the time of reaping."

The cause of this success, they think, may be explained in the following manner.

"Straw being a bad conductor of heat, and a good conductor of electricity, maintains the root of the plant in a medium temperature, and prevents the earth from being deprived entirely of moisture. The moisture of the earth or the substratum, being continual, facilitates the gradual and constant absorption of carbonic acid gas from the surrounding atmosphere, and hydrogen and carbon, the chief elements of nourishment to vegetables, are thus economized in regular supplies where they are constantly required, and pass in combination with oxygen from the roots up to the stem and branches of the plants in which they are assimilated, and the oxygen throws off in exhalation from the leaves. The straw decays but slowly, and thus furnishes its substance by degrees to the young plant in due progression and proportion, (such as the siliquous ingredients, for instance, of the pod or capsule) so that the decomposition of the straw corresponds to the four phases of fermentation in progressing from the *saccharine* to the *alcoholic*, the *acid*, and the *putrid* states, analogous to those of *infancy*, *budding*, *youth* and *seeding* of the plant.

"We observe that our blades of wheat have but a very few roots, and those are short and hard, something like a bird's claw, and this agrees with the remarks of Mons. Raspail, who states that the most healthy plants in ordinary vegetation have the least exuberance of roots and fibres.

"Another important observation also, is, that weeds and parasitical vegetation are prevented by this method, for the straw chokes every other plant but that of its own seed. Many other interesting observations might be made on these experiments, but we refrain at present, from obtruding on your readers; but if any of them wish for further information on this subject, we shall willingly afford them every facility. The importance of the general result will easily become apparent without further comment; and a revolution in the present modes of agricultural labour is a necessary consequence of this discovery. No tillage will now be required nor any artificial stimulants in manure and other more or less expensive combinations with regard to soil and culture. In fact it would be tedious to enumerate the various advantages that may result in practice from this casual experiment, and therefore we proclaim it simply to the world that all may profit by it."—*N. Y. E. Post.*

Compost Manures.

As a general thing, our farmers do not appear to be sufficiently aware of the importance of making and saving manure; a subject unquestionably of the very first magnitude, as respects the advancement of our agricultural prosperity, and in which every farmer however limited his circumstances, possesses sufficient facilities to enable him to engage with profit. Of these facts it is presumed there can be no doubt. For many years, the only manures made use of on my farm were those accumulated in the yards and sties, and without the slightest attention, on my part, to the operation, and of those natural laws, a knowledge of which has since enabled me, with slight expense, not only greatly to augment the *quantity*, but the *quality* also, of my manures. Nothing is more common than to hear individuals complaining that their farms are fast "*running out*"—that the soil in their old fields has not sufficient depth to sustain a crop, and is too poor to remunerate them for the cost of cultivation.

But why, if, as some contend, there is a natural propensity in all soils to deteriorate, or, as it is more popularly termed, to "*run out*," has the soil of Great Britain gone on rapidly increasing in productiveness for the last five centuries? Why is it that many farms in Massachusetts, and even some few in Maine, where the doctrine has numerous supporters and abettors, have withstood the drains upon their natural fertility, by constant cultivation, for upwards of two hundred years? Farms of this description are by no means scarce in either state, and, although cultivated for so long a series of years, are now, instead of being worthless, and "*run out*," like many of a more recent date, the best and most productive in the land. The fact is, nature in these instances has received assistance, instead of being compelled as in the case of all worn-out farms, to do all herself. For every crop taken from the soil a prompt equivalent has been returned in fertilizing manure, and the farm, instead of being drained and exhausted of its energies, has actually received an increase of strength, and gone on accumulating, from year to year, the constituent elements of the food for plants. Shallow ploughing and scanty manuring will, in a short time, render the best land poor, while a contrary course, if judiciously pursued, will as certainly make poor land good.—*Far. Journal.*

To our sense of comfort, the mind contributes more largely than the body; the expectation of the day to come imparts more satisfaction than the recollection of the day that is past.

To the Editor of the Farmers' Cabinet.

Early Corn.

SIR,—Presuming that facts in relation to agriculture are acceptable, whether coming from your own vicinity or from abroad, I here state what struck me as rather a remarkable circumstance. Captain Wren, a gentleman of this city, has cultivated for several years a very forward corn in his garden, which seems to improve in this particular every year. This year he planted it between the 25th and 30th April, and on the 1st of August he planted the matured product of this corn in the identical spot where it grew! and on the 25th of September the second crop was all in silk and tassel, and there is no doubt it was fit for table use any time the last week. Now, had this corn been planted the first instead of the last of April, as is done here in ordinary years, there can be no doubt but that the second crop would have been fit to grind before this time. This gentleman promises to give me some of this corn, and when I come on to your city, I will bring some to show you.

Yours, respectfully, E. C. HOWARD.

Richmond, Va., Oct. 14, 1841.

For the Farmers' Cabinet.

Wheat Culture.

ASSUREDLY, the time will come, when the proper cultivation of this the commonest crop that is grown, will be better understood than it now seems to be. How many volumes have been written on the single subject of wheat-growing, and yet we are asking for *more facts*—as though any new light can be thrown on a practice that has been followed for ages, and of which every one deems himself quite competent to judge the better way! But is it not passing strange that any one at this time of day can be found to advocate the practice of sowing wheat after wheat, or, which is next worst, wheat after oats, relying upon a manuring with fresh dung for the renovation of a soil that has been deteriorated by having been deprived of the peculiar pabulum necessary to bring that grain to perfection? But so it is, and thousands still declare that they can, by manuring the oat-stubble, communicate all the strength that is necessary for such a consummation. Now the thing appears to me unnatural and irrational, and I can easily account for all the complainings that are heard, unless the seasons have been the most propitious imaginable; showing that the crops are not able to bear up against the common vicissitudes of the climate, but suffer absolute prostration. There are some remarks on this subject in a late number of the Albany Cultivator, which are deserving peculiar regard; it is there said:

“The application of manures is a very essential point in growing the wheat-crop; land

may be too rich as well as too poor for wheat, or rather, the manure in the soil may be in that condition which renders it unsuitable for wheat. There are some crops on which fresh or unfermented manure exercises a good effect, and to which it can scarcely be applied in too large quantities,—corn, for instance—while on others they produce results of the most unfavourable kind; nearly all the cereal tribe are injured by fresh manures, the stalk growing too vigorous, while the berry is usually imperfect; while compost manures, or such as are composed of layers of turf, stable manures, vegetable mould, lime, &c., *in which the decomposition is already effected*, can scarcely be applied too abundantly to land otherwise well constituted. One of the greatest evils of direct manuring for the wheat-crop, arises from the liability of the grain so manured to lodge; the rapid growth of the stem renders it soft and flexible, and unable to support its own weight, and it is found to contain much less *silex* than that grown in a poorer soil; the wheat does not perfect its berry, and at all times, from the weakness of its cuticle, is more liable to rust or mildew. The rotation of crops has furnished the means of applying fresh manures advantageously to crops, and at the same time retaining its principal value for wheat. The cultivation of corn or roots in alternation with grain crops, clover, &c., gives the farmer the means of greatly increasing his crops, and at the same time constantly improving his soil. It may be considered a settled maxim in agriculture, that land improves little or none while nothing is grown on it, and it is the general acknowledgment of this truth that has substituted the hoed or green crops for naked fallows in the preparation of land for wheat; peas and clover are among the best green crops to precede wheat, and the latter may be considered inseparable from the successful culture of this grain; but corn would be one of the very best crops to precede wheat, could it in all cases be removed from the land in season for sowing, for the thorough manuring and tilling required for corn puts the land in perfect condition for wheat; and should experience prove that late-sown wheat is more safe from danger in winter and more productive than that sown earlier, the crop of corn might be then considered as nearly a clear gain.”

On early soils, a full crop of peas might be taken in time for a crop of sugar-beets heavily manured for, and these may be removed in time for a seasonable wheat sowing: this course, with wheat after corn, would go far to insure us crops more rich in grain than in straw, and be the best preparation imaginable for laying to grass, to be sown in the wheat crop in the spring.

JOHN ELLIOTT.

For the Farmers' Cabinet.

The Missouri Leviathan.

MR. EDITOR, — I have been overwhelmed with awe, reverence and admiration, on an examination of the bones of the enormous animal called the *Missouri Leviathan*, which are now on exhibition at the Masonic Hall, Chesnut st. An attempt at description would be perfectly futile—it is absolutely necessary for any one wishing to know any thing about them, to “go and see.” It has been said, that these relics are not of bone, that they are constructed of wood—but to form them of wood, would be quite as miraculous as to have formed them of bone at the first, and this will be evident to every one at a single glance of the *monument* which none but the hands of the ALMIGHTY could have reared!—an Altar, upon which man may offer up his tribute of wonder, astonishment and veneration, before he shrinks into himself and becomes dumb!

In the last number of the “Farmer’s Register” it is said: “The Missouri or skeleton of a double-sized Mammoth, which has been exhibiting in the western cities, turns out to be a counterfeit, or at least so far factitious, as presenting a larger size of the *well-known* Mastodon, of which this is, *in truth*, a specimen.” Now, from what I know of the gifted editor and proprietor of that first of all our agricultural publications, I am quite sure that it would only be necessary for him to take one glimpse of the object in question, to enable him to declare—which he would do fearlessly, although he might seem to some to have committed himself in the above-expressed opinion—which however cannot be *his own*, for he is a man who never makes up his mind until he has had an opportunity of forming a correct judgment—that the bones are real, and go to show an animal hitherto undiscovered and unknown. From common report, the public would not believe that the *only* wood that has been added to the whole skeleton, are small blocks inserted between the vertebræ of the back, to take place of the cartilaginous substance which had been consumed by time, which blocks seem by no means sufficiently large for the purpose of exhibiting the animal in his perfect size, but merely forming *interstices*, on which to attach the ribs,—in every other part the bones appear in their natural state, and whenever the skeleton is permanently set up, it will in all probability be both lengthened and heightened considerably by blocks of wood and cork, before it can be made to attain its proper proportions, which can easily be ascertained by a comparative view and admeasurement of its component parts. Every American ought to see this wonder of his country while he has the opportunity, for he will assuredly re-

gret the loss of it, when it is too late. The skeleton of the Missouri Leviathan, as well as a vast collection of other bones and petrifications—some of the former belonging to the Mastodon, and showing most conclusively and very distinctly the difference between that animal and the Missouriium, are here on their way to Europe, where they will be appreciated and receive the attention which is so righteously their due.

But the most remarkable fact relating to the subject is, that on excavating the earth to the depth of twenty feet to reach the platform on which the creature had been deposited, one of the leg bones was found resting on an Indian arrow-head!! the indubitable proof, that MAN existed on the earth at the time of the destruction of this enormous animal, which seems to have been occasioned by a terrific tornado—a tempest of fire as well as water, the roots of trees and other vegetables, with their branches, scattered in all directions and splintered into ten thousand pieces, showing plainly the effects of lightning. Hitherto, this fact appears to have set all conjecture at defiance, but the writer would offer an *idea*, for the consideration of those more competent than himself of forming an *opinion*—it is, that during the prevalence of the tornado—when it is evident that the waters of the river were raised many feet—this skeleton was brought down by the flood from its former resting-place, and was deposited on these arrow-heads—for there were several more found in the vicinity—where it soon became buried by strata of sand, mud, clay and stones, to the depth above-stated. This idea might serve to bring the event many centuries lower down in the scale of time, and to account for the fact, that when the second deposit of this animal took place, *man* existed on the earth—the time of its existence, however, might have been ages prior to man’s creation.

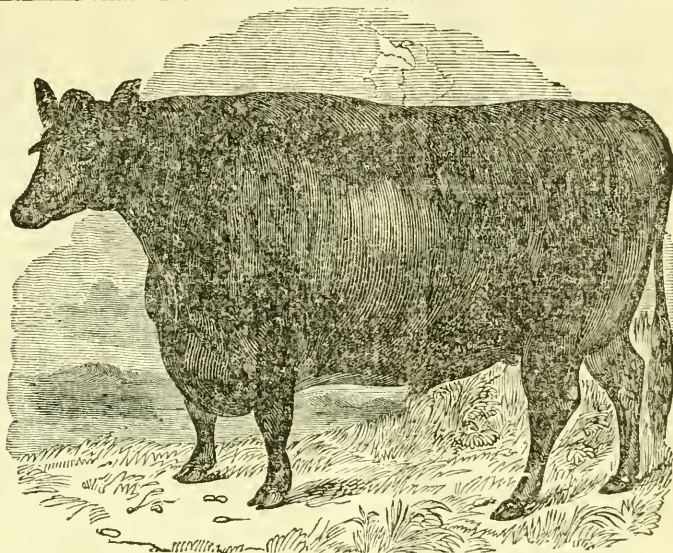
O Lord! how wonderful are thy works,
The earth is full of thy glory.

Philad., Oct. 14, 1841.

H.

Mr. Koch asserts, that a very large oak tree, possibly centuries in age, was found growing on the surface-soil of the spot where the Missouriium was found, its position being exactly on the vertebræ of the skeleton!—Ed.

PLEASURE, if it be not vice, is in some forms so near akin to it, as to take its name—but *happiness* is never found except in company with *virtue*. Expect not to live in transports and raptures—be content with peace where you cannot attain to joy; court not pleasure, lest you should banish happiness; in the search after *happiness* you will often find *pleasure*.



ANGUS FAT OX.

THE origin of the Angus polled breed of cattle is so remote, that no account of their introduction into that part of Scotland can be obtained from the oldest farmers and breeders. Some of the first qualities which seem to have attracted the attention of these breeders, were, their peculiar quietness and docility, the ease with which they were managed, the few losses that were incurred from their injuring each other in their stalls, and the power of disposing of a great number of them in their enclosures; but a few experiments developed another valuable quality—their natural fitness for stall-feeding, and the rapidity with which they fattened, and this brought them into much repute, not only in their own country, but also in England, whither they were sent in numerous droves for the supply of Smithfield market, as also for the supply of the army and navy. They were purchased for Smithfield principally by the Norfolk and Leicester graziers, and for two years' English feeding they were found to pay at least equal to the most approved English cattle. They have much of the favourite Galloway form, and are often mistaken for them by persons unaccustomed to the difference between the breeds; they are, however, larger, somewhat longer in the leg, thinner in the shoulder and flatter on the side, while climate and management have caused another difference between them, the Galloways having to encounter a moister climate, exposed in the winter to a scanty allowance in the open field, and that, too, during the severest part of the season in their northern country; hence, they have a more robust appearance, a much thicker skin, and a rougher coat of hair than the Angus breed, which are regularly kept in straw-yards during six months of the year, receiving turnips with their fodder, and in summer they are grazed on dry and warm pastures; and by this treatment they are made to look and feel more kindly than the Galloways.

The greater part of them are pure black, sometimes with a few white spots; others are yellow, brindled, dark red and silver-coloured yellow; they are a most valuable breed, and have in some parts rapidly gained ground on the horned cattle, being far more numerous than they in the lowlands; so that, when the agriculturist now speaks of the Angus breed, he refers to the polled and not to the horned breed, of which, however, there are still some. Mr. Watson, of Keillor, is a successful and spirited breeder of this beautiful race of cattle, and his stock has obtained the name of the Keillor breed, and a most excellent one it is; he has gained on account of them more than one hundred prizes, besides many valuable pieces of plate. Our cut contains the portrait of one of a pair of oxen exhibited by him at the show of the Highland Society at Perth, and obtained the prize as one of the best pair of oxen of the Angus breed. This animal was then sent to the Smithfield show, where he was particularly admired; he was slaughtered by Mr. Sparks, of High street, Mary-le-bone, who declared that he was one of the best quality he ever saw, and in his opinion must have been the best of the breed that was ever exhibited. The meat was finely grained, and the loose fat weighed more than 240 lbs.

To the Editor of the Farmers' Cabinet.

Cabbages as Food for Hogs.

SIR,—I do not pass a day without gaining an accession to my stock of agricultural experience. On a late visit to a friend, who is remarked by all the neighbourhood as being a first-rate manager, I found that his crops of all kinds were very superior to those around him, although he has not greater facilities for improvement than others, but the secret is, he does not permit any crop to grow that he does not plant; and his fields reminded me of Mr. Coke's of Norfolk, who is said to offer a premium to any one who will find a weed in his crops. His corn is a remarkably large crop, some of the ears measuring 15 inches in length and counting twelve rows, while the headlands of his corn-field are loaded with a crop that I should like to ascertain the weight and value of. At the last working of the crop, he manured the headlands, ploughed and harrowed them carefully, and planted them with the largest kind of Drum-head Cabbage, and at the present time he has a magnificent crop, on that portion of his land which his neighbours generally appropriate to a very different purpose, namely, the preservation of seed-weeds for their next year's supply. The cabbage-crop I prefer to the more usual one of turnips, for by sowing a small quantity of the right kind of cabbage-seed on a rich bed of earth, and transplanting the seedlings, you are sure of obtaining a quantity of the finest plants of the sort and size which you prefer, and just at the moment when they are required to be put out; and that work may be delayed until the weather is suitable, and may be performed after a shower, the plants remaining until then in the seed-bed, perfectly safe and in a growing state. And then, cabbage-plants are so *much* easier kept clean than a crop of turnips, particularly if these are broadcast, which is generally the custom of sowing on headlands; while the difference in the weight and value of the crops is indeed great.

Cabbages are used very extensively in England as food for milk cows, particularly for the London dairies; they are taken from the ground and stripped of some of their outer leaves, which are fed to the young cattle on the farm, while the cabbages, cut very short at the stems, are packed very closely in wagons and conveyed many miles to the city, where they continue perfectly sweet and for a long time, and are fed with brewers' grains to the cows, which are uniformly of the short-horn breed. Cabbages are also used as food for hogs, being cut up and boiled for a considerable time, with a small quantity of meal; and in this state, perhaps there is no food more nourishing, and certainly none so

cheap and convenient for use. It is conjectured, that when the custom of cooking food for hogs becomes general, cabbages will be found more nutritive and far more profitable than almost any other food; and the expense of cooking with suitable apparatus will be most trifling, the fuel necessary for the purpose being small in quantity, when applied to boilers properly constructed, it being recommended to have two, placed side by side, heated by one fire and working into the same chimney; leaving the cooked food in the first boiler closely covered, and feeding from thence, instead of emptying its contents into a receiver; by which means the hogs will get their food in a warm state during the time of feeding; the second boiler being prepared the while, and the food cooked in it while the first is being emptied by feeding out. It has been ascertained, that by these means hogs may be kept up and fed during their whole lives, at as cheap a rate as they can be while running abroad, their increase in weight being much greater, and the quality of the meat very superior. The meal is recommended to be that produced from grinding the cob with the corn, which, by boiling gently with the cabbages for many hours, is found to form a most luxurious treat.

A proposal is here offered for the preservation of cabbages through the winter; would those who are conversant with a better mode, be pleased to make it known through the pages of the Cabinet? Let the cabbages be cut in fine and dry weather, and after stripping off a few of their outer leaves, lay them singly upon straw—which must be clean and dry—on the floor of a barn or outhouse, well secured from the rain; upon these lay more straw, and then a line of cabbages, and so continue to any height you may choose. The mode of burying them head downward in the earth, appears, to say the least, a troublesome and dirty business, by which their outer leaves become corrupted, and oftentimes a portion of the cabbages also.

VIR.

Philadelphia, 23 Oct., 1841.

Tenants on Leases.—The tenants of Lord Panmure, Forfarshire, Scotland, have long leases, and nowhere can a more industrious and thriving body of men be found: but it is not the written—it is the *heartfelt* understanding between landlord and tenant that constitutes the true lease and establishes that confidence which promotes improvements. Lord Panmure's motto—and which he invariably signs on every new lease with his own hand, is, **LIVE AND LET LIVE.**

WITHOUT hope, every evil may be feared, but no good can reasonably be expected.

For the Farmers' Cabinet.

Massachusetts Horticultural Society.

MR. EDITOR,—I am tempted to copy from the New England Farmer some of the toasts and sentiments which were given at the late meeting of the Horticultural Society of Massachusetts—a most splendid affair, which seems to have inspired its members and visitors with the genius of poetry as well as prose. The 13th anniversary of the society was celebrated by a dinner at Concert Hall, Boston, at which 120 members, besides a number of guests sat down. The fruits which furnished the dessert were most bountifully supplied by the liberality of many of the members of the society, the hall was decorated with the most magnificent flowers, and a richer or more intellectual repast was never had before them.

After the removal of the cloth, the following toasts, given from the chair, were received with great applause:—

Our Country—A sapling, descended from a good stock, whose vigorous growth, watered by the blood of thousands of patriotic hearts, now waves its branches over millions of freemen.

Good Old Massachusetts—Always in the field, where there is any good work to accomplish: what she un-*does well*—the fruits of her excellent institutions have been liberally distributed among her sisters, and she has yet enough left to garnish her own table.

The City of Boston—With her industrious and en-*riching* population—her schools and her churches—her noble harbour—her ships on every sea—her *Iron* roads, East, West, North and South—how glorious is the prospect for the future!

Horticulture—The art which strews our paths with riches, loads our tables with luxuries, and crowns our hours with the *rich fruits* of contentment and happiness.

Intellectual Cultivation—That mighty agent to which every science is indebted for its most wonderful improvements. Its importance to the horticulturist is estimated by the valuable labours of Knight and Du Mons.

Capital Stocks—The stocks most wanted and sure to yield the largest dividends are *Fruit Stocks*.

English Florists and American Amateurs—The first were furnished as with superior varieties of fruits and flowers—the latter now reciprocate their favours, and turn them productions equalling their own.

The increase of glass structures for Horticulture—they perpetuate Spring, Summer and Autumn—they angle the whole year with flowers.

Practical Cultivators—Physiologists may study the uses of vegetation, and chemists may analyze soils and manures—but the skill of the *practical man* is required to test the value of their speculations.

Horticultural Pursuits—Inexhaustible sources of joy and delight—rewarding all who participate in them with the enjoyment of health and strength, and the luxurious indulgence of nature's choicest gifts.

The memory of three distinguished patrons of Horticulture—John Lowell, Jesse Buel, and Thomas Green is preserved. "They rest from their labours and their works do follow them."

The Clergy—Always sowing the good seed—may be sure that the ingathering be rewarded with an abundant harvest.

Woman—
"A seedling sprung from Adam's side,
A most celestial shoot,
Became of Paradise the pride,
And bore a world of fruit."

The primeval employment of man—"To dress the garden and keep it."

The union of Agricultural and Horticultural Societies—May their connexion be so intimate as to produce a numerous offspring of taste, beauty and usefulness.

The Cultivation of the earth—It was the first art of civilization, is the basis of all other branches of industry, and the chief source of the prosperity and wealth of nations.

Horticultural Societies—Their capital stock is a well-cultivated bank of earth, whose directors are producers, whose depositors get cent. per cent. for their investments, whose exchanges are always above par and operate per se over the whole Union.

Agriculture and Horticulture—The first, a nation's greatest wealth, the next, its greatest luxury.

Horticultural Societies at home and abroad—Associations which confer blessings on all classes of society, and whose influence extends to the remotest boundary of civilization.

New England—Although in her soil the fig-tree does not blossom nor the olive yield her oil, yet in her schools and colleges morals and intellect are matured; in her forum the *myrtle* flourishes for her sages, and Bunker Hill and Bennington will be ever green with laurels for her heroes.

Horticulture—Art engrafted on nature.
The fair garden of the World above—Where the faithful cultivators may hope to pluck unfading flowers and gather immortal fruit.

G. E.

Autumn Leaves.

Oh, autumn leaves!
Summer's bright roses one by one have past;
Gone is the beauty of the golden sheaves;
Ye come at last,
Prophets of winter-hours approaching fast!

Oh, autumn leaves!
Why look ye thus so brilliant in decay?
Why, for the dying year, when nature grieves,
Are ye so gay
With richer hues than graced her opening day?

Oh, autumn leaves!
Ye, as ye don your crimson robes of mirth,
While dull decay a moment scarce reprieves
Your forms from earth—
Ye tell us, happier far is death than birth!

Oh, autumn leaves!
Like you the dying saint in splendour grows;
With each faint pulse of life that feebly heaves
At evening's close
His every grace with added glory glows.

Oh, autumn leaves!
Like you he casts aside all hues of gloom,
And of his bright'ning hopes a chaplet weaves
That o'er his tomb
Throws the glad promise of eternal bloom.

Blackwood's Magazine.

Artificial Springs.

It is stated, that water may be obtained by placing a barrel without a head in the ground, packed closely round with earth and filled with pebble stones; the water will rise amongst the stones (by capillary attraction, we presume) and flow over the top of the barrel, forming a very convenient watering-trough for cattle. We would recommend the trial to be made in some moist and springy part of the field.

WE are seldom safe in our dislikes—they are always dangerous, when they are dictated by pride, though it be the *pride of virtue!*

For the Farmers' Cabinet.

Subsoil Plough and Statement of Crops.

THE following is a transcript of a letter received this day from Joseph Paxton, of Cattawissa, one of the most intelligent, active and industrious farmers in Pennsylvania. He saw the operation of the subsoil plough at the Society's exhibition, went home, had one made and put in operation.

C. R.

11mo. 4, 1841.

FRIEND * * *,—I have got through with my farming operations for the season, and have commenced for the next. In our last conversation, I expressed my intention of getting up a *subsoil-plough*, which I have done, and at an expense of about five dollars, all told; it is made of wrought iron, except the beam and handles, and its effect is beyond all conception. I am ploughing a clover sod; the bar-shear plough first passes along and cuts a furrow from five to eight inches deep; the subsoil plough immediately follows in the bottom of the furrow, and completely pulverizes the ground from five to seven inches more, letting the subsoil drop again in the furrow, thus making a loose bed of from 10 to 14 inches. You cannot imagine with what perfection it does the work; S— has seen it in operation and is highly pleased with it. A subsoil that has been 70 or 80 years trampled with horses' feet and glared with plough-irons is thus rendered as mellow as the surface soil. I anticipate a rich reward for my labour. I use two horses to each team. I stand amazed when I look on and witness the effect of my new subsoil plough in pulverizing the earth so easily to so great a depth.

I had one of my lots of corn measured—the quantity of land was three and three-quarter acres, from which we gathered 580 bushels of corn in the ear—upwards of two thousand pumpkins, and one hundred and forty shocks (of ten sheaves to the shock) of corn-fodder. I had another piece of about five acres nearly as good, but did not measure it as accurately. The result of my season's farming from 110 acres of land is as follows, viz. From 22 acres I took nothing, but ploughed down the grass, except what the cattle and pigs consumed which was the smallest part; leaving 88 acres to take crop from, which produced as follows: 80 tons of hay—1100 dozen of wheat (cradle sheaves, and not small)—3200 bushels of Indian-corn in the ear—from 3 to 4000 pumpkins, raised among the corn—between 9 and 10,000 sheaves of corn-tops and blades—over 300 bushels of potatoes, and 310 bushels of winter apples, gathered in two days—what was taken through the summer and autumn not estimated.

I have pastured and kept in good order, on this farm of 110 acres, through the summer and fall (and have not as yet fed scarcely any hay) the following stock, viz: 16 head of cat-

tle, 3 colts, an average of 60 sheep, and about 30 head of hogs and shoats—besides divers turkeys, fowls and ducks. I have also about one-third of an acre of ruta-baga which were planted late in August, and are therefore not taken into account.

The summing up may be about as follows in value, viz:

80 tons of hay at \$10	\$800 00
Wheat, say 600 or 700 bushels	600 00
1600 bushels of corn at 50 cts.	800 00
Corn-fodder	100 00
300 bushels of potatoes at 37½ cts.	112 50
310 bushels of winter apples at 40 cts.	124 00
3000 pumpkins, say	30 00

\$2566 50

I don't take into account the increased value of colts, young cattle and lambs. The wool of the sheep, milk, butter, pigs, poultry, &c., and the clover cut for seed from eleven acres, are not estimated, but are worth a considerable sum. My farm horses are generally kept up and pastured but little.

This autumn I put in sixteen acres of wheat with my new drill; it looks well, and I am pleased with it, but I will make no report on it till after harvest. JOS. PAXTON.

Hay-seed upon Inverted Sod.

MANY of our moist lands, between the dry uplands and the bog-meadows, though natural to grass, occasionally need renovating. As long as a common top-dressing will cause a good crop, nothing more should be done than to apply the manure on the surface. But when the better grasses have run out, and when moss begins to collect upon the surface, it is necessary to plough such land. But where the plough will do its work tolerably well, it is not necessary to plant. These lands which are wet and heavy in the early part of the season, and which bake in the scorching months of July and August, are not profitable for tillage. They may yield a crop of potatoes, and possibly of corn, but the chances for this are small, and it is usually bad working these spots in the early part of the season. The best way to treat them is, to turn the land over as soon as it can conveniently be done after the crop of hay has been removed; to plough in such direction that the dead furrows shall come in suitable places for surface drains, to roll well; and then put on a dressing of compost. When this has been done, sow hay-seed and harrow thoroughly. Then use the roller again, and the next season you may obtain a *fair* crop of hay, and the following year you probably will get a *heavy* burthen. Herd's-grass is better for these moist grounds than clover or red-top. No one who has been accustomed to this process will ever think of tilling any wet lands that can be laid over smooth by the plough.—*N. E. Far.*

For the Farmers' Cabinet.

Delaware County Hogs.

MR. EDITOR—The following are the weights and ages of six pigs, raised and fed (except one) by Enos Yarnall, of Newtown, Delaware County, and sold by him in the Philadelphia market. They were of the common stock of the county; 4 of one litter and 2 of another; the four were pigged about the middle of 2d month last, the two, two weeks later,

No. 1	.....	252 lbs.	.....	under 8 months,
" 2	.....	275 "	.....	do. do.
" 3	.....	300 "	.....	8 months,
" 4	.....	297 "	.....	do.
" 5	.....	341 "	.....	8 months and 1 week,
" 6	.....	310 "	.....	8 months only,

after being dressed for market. R. M. T.

Newtown, 10th mo., 1841.

From the Friend.

In justice to ourselves, to our readers, and to those immediately interested, it will be right to say a few words in reference to the *Big Bones* which have recently been exhibited at the Masonic Hall, in this city. We read with a mixture of surprise and incredulity, the accounts published in the papers some months since, of the discovery in Benton county, Missouri, of an enormous skeleton, represented as pertaining to a nondescript and extinct animal, to which was given the name *Missourium*, from the country in which the bones were found. After waiting a considerable time, and nothing appearing to discredit the statements—but on the contrary, other and corroborative statements were published—we at length ventured to transfer one or more of them to our columns. Since then, however, a paragraph has gone the rounds, referring to the "Western Journal of Medicine and Science" for authority, the tendency of which was to cast ridicule on the whole affair—to represent it all as a sheer deception. The paragraph was copied, we are sorry to say, into our number of the 18th ult. On the evening of the 16th instant, the editor, in company with some of his friends, resolved to attend the exhibition and see for themselves. We were one and all astonished at the stupendous spectacle. Leaving to the scientific the settlement of the question, as to what order in the scale of animal existence the skeleton belongs, we were, upon inspection, and after such cursory admeasurement as circumstances would permit, all of us convinced, that, in every material point, the wonderful object before us was in agreement with the representations published—that, in short, it was no hoax.

We regret to add, that the intelligent and enterprising proprietor, in disgust at his reception here and elsewhere, in a day or two after, abruptly closed the exhibition, and has

since sailed for England with his entire collection, in the confident expectation that their value and importance will there be more justly appreciated.

Transformation of Wheat.

A GRAIN of wheat when put into the ground at the depth of three inches, undergoes the following transformations:—As soon as the farinaceous matter which envelopes the frame of the young plant contained within it is softened into a milky state, a germ is pushed out, and at the bottom of that germ small roots soon follow. The roots are gathering strength, whilst the germ, by the aid of the milky fluid, is shooting upwards; and when the milk is exhausted, the roots are in activity, and are collecting nourishment for the plant from the soil itself. This is analogous to the weaning of the young of animals, which are not abandoned by the mother till they can provide for themselves. But the care of nature does not end here; when the germ has fairly got above the surface, and become a plant, a set of upper roots are thrown out, close to the surface of the ground, which search all the superficial parts of the soil with the same activity as the under roots search the lower parts; and that part of the germ which separates the two sets of roots is now become a channel, through which the lower roots supply the plant with the nourishment they have collected.

What an admirable contrivance to secure the prosperity of the plants! Two distinct sets of roots serve, in the first place, to fix the plant firmly in the ground, and to collect nourishment from every quarter. The upper roots are appositely situated to receive all the nourishment that comes naturally from the atmosphere, or artificially as manure, to the surface; and serve the further purpose of being all the base of new stems, which are tillered up, and so greatly increase the productiveness of the plant. The excellence of the drill system in grain may be probably perceived in this explanation; for in broadcast sowing the seeds lie very near to the surface, and in this situation it is not only more exposed to accidents arising from birds, insects, and the weather, but the two sets of roots are necessarily crowded together so as almost to become indistinct; the plant is less firm, and has fewer purveyors collecting food for it.—*Featherstonhaugh.*

At the late Exhibition of the Massachusetts Horticultural Society, one of the members, R. Maning, Esq., placed upon the table 129 varieties of the pear, having proved and fruited in his own garden nearly 300 varieties of this choice fruit, 63 of which are supposed to be of American origin.

For the Farmers' Cabinet.

Song of the Bees.

BY H. F. GOULD.

MR. EDITOR,—Having lately met by chance with an old annual, "The Boston Token of 1830," my eye fell upon the following beautiful poetic effusion. It immediately struck me that it would be suitable for your pages—and as so much prose has lately appeared on the same subject, that your readers would be pleased with a little rhyme.

We watch for the light of the morn to break,
And colour the eastern sky,
With its blended hues of saffron and lake,
Then say to each other, "Awake! awake!
For our winter's honey is all to make,
And our bread for a long supply."

And off we hie to the hill and the dell,
To the field, to the meadow and bower;
We love in the columbine's horn to dwell,
To dip in the lily with snow-white bell,
To search the balm in its odorous cell,
The mint and the rosemary flower.

We seek the bloom of the eglantine,
Of the pointed thistle and briar;
And follow the steps of the wandering vine,
Whether it trail on the earth supine,
Or round the aspiring tree-top twine,
And reach for a state still higher.

While each on the good of her sisters bent,
Is busy and cares for all;
We hope for an evening with heart's content,
For the winter of life without lament
That summer is gone, its hours misspent,
And the harvest is past recel.

Cazenovia, Oct. 12, 1841.

For the Farmers' Cabinet.

Application of Plaster to Wheat.

MR. EDITOR,—I wish to relate my experience of the past season on the use, or rather the abuse of plaster, upon crops sown on experimental patches of land; it has spoken to me a *volume*, and although comparatively a small one, I expect eventually to read and study it to much advantage—it is a *fact*, furnished by my own experience, and I value it accordingly. By the way, would it not be best for farmers to manufacture their own facts, instead of relying on those fabricated by others?—for after all, Horne Tooke's definition of the word TRUTH must be the only correct one, namely, "that which a man *troweth*—that is to him the TRUTH."

Well, then, you may remember having given me, the last autumn, several parcels of choice seeds for cultivation,—amongst the rest, the emur, the chevalier barley, the Hoptown oat, and two samples of remarkably fine wheat, all which I planted at proper seasons on one side of my wheat-field, tending them with the greatest care, and enjoying in anticipation a rich harvest. The Odessa wheat came up remarkably strong and fine, but was soon attacked by the fly, and was so much injured, that by the time the frost had left

the ground, one half of it was blown away, having rotted off at the surface of the land: some plants, however, stood, and made such amazing progress in vegetation that I expected from them a full crop. In the mean time, the other seeds had been sown and were growing well, when, at the time of plastering the corn which grew in an adjoining field, I gave the whole of my experimental crops a double dressing with it, thinking to add double strength to their growth; and it had this effect, but it was at the expense of their fructifying powers, for not one of them ever came to bearing—they were absolutely destroyed by the rust: and the common wheat in the immediate vicinity, which had partaken of the plaster at the time of sowing, shared the same fate in a remarkable manner, the space to which it had extended being defined to an inch. This very simple experiment has convinced me of the truth of the theory, that rust is occasioned by an overcharge of the sap-vessels, which, on bursting, the liquid becomes spread on the surface of the stalks, and on drying, it assumes the colour of RUST—and that appears to me about the whole of the matter. E.

Agricultural Papers.

THE vast improvements in agriculture, which have been made throughout the country, for some years past, have been brought about in a great measure, by the dissemination of valuable information through agricultural journals. The farmer now finds that he needs a paper devoted to his business, as well as other men. There is no class in whose affairs there are so many subjects presented, on the most of which every one may learn something new from the experience of others. Cultivators now read papers devoted to their interest, not only as a matter of pleasure, but as a matter of profit. They learn the best method of improving soils of every description. The detailed accounts of reclaiming low lands, and of renovating worn out fields, as pursued with profit. The most successful ways of preparing manures, by which the quantity is greatly augmented and quality greatly improved. The most profitable modes of culture, the best productions of every description, &c. &c., and the result of the best practice in every department, is related in a paper to the community, as one neighbour would state his practice to another. This is *book farming*, at which some, even in this day of light, have the prejudice to sneer.—*Far. Jour.*

EXTRAVAGANT wishes are sometimes so absurd, that the fond dreamer would be ashamed to reveal them even to his nearest friend.

Premiums awarded by the Pennsylvania Horticultural Society.

FOR NATIVE GRAPES.

For the best Isabella	Edwin Middleton	\$ 3
“ “ next best do.	William Johns	2
“ “ best Bland or Powell ...	Benj. E. Valentine	3
“ “ best Catawba	General Patterson	3
“ “ next best do.	Michael Coyle	2
“ “ best Native Grapes of another variety	Peter Raabe	3

FOR FOREIGN GRAPES RAISED IN THE OPEN AIR.

For the best Black or Red Ham- burgh	Israel Janney	5
“ “ best Hansteretto	James Laws	5
“ “ best Chuscelas	C. S. Langstreth	5
“ “ best White Malaga, or White Portugal	James Laws	5
“ “ best Foreign Grapes of another variety	Townsend Hilliard	5
“ “ best For'n Grapes raised under glass without artificial heat	Nicholas Biddle	5
“ “ next best do.	John Smith	3

FRUITS.

For the best peaches, 1 peck ...	Philip Reybold, Jr.	5
“ “ next best do.	Enoch R. Allen	3
“ “ best peaches, 1 bushel ..	George Thomas	10
“ “ next best do.	contrib. unknown	5
“ “ best seckel Pears	Joseph Jones	3
“ “ best Pears of any other variety	Rob't Ilivington	3
“ “ best Apples, 1 peck ...	Horace Binney	3
“ “ next best do.	David Comfort	2
“ “ best Apples, 1 bushel ..	Benj. E. Slufter	5
“ “ best Quinces	Edward Smith	3
“ “ best Water Melons	Joseph C. Zane	5
“ “ next best do.	Jacob Anson	3
“ “ best Nutmeg Melons ...	Charles Chauncey	3

VEGETABLES.

For the best Potatoes	William Parry	3
“ “ best Sweet Potatoes ...	William Whittall	3
“ “ best Onions	Andrew Patten	2
“ “ best Cabbage	Samuel Cooper	3
“ “ next best do.	Albinus L. Felton	2
“ “ best Red Cabbage	G. B. Roessler	3
“ “ best Carrots	Albinus L. Felton	2
“ “ best Lettuce	George Esher	2
“ “ best Endive, blanched ..	Albinus L. Felton	2
“ “ best Salsify	Albinus L. Felton	2

FLOWERS.

For the best 20 varieties of Dah- lias	Henry A. Dreer	10
“ “ next best do. do.	Gerhard Schmitz	5
“ “ best display of Dahlias ..	Henry A. Dreer	10
“ “ next best do. do.	Lenfesty & Lentz	5
“ “ best American Seedling Parti-coloured Dahlia ..	Gerhard Schmitz	5
“ “ best do. Self-coloured ..	Miss Scheets	5
“ “ best 10 varieties of Dah- lias, (Amateurs)	William Sinton	5
“ “ next best do. do.	Robert S. English	3
“ “ best Dahlia, (Amateurs)	Miss Alexander	3
“ “ best Pyramid, or other design, of cut flowers ..	Samuel Maupay	20
“ “ next best do. do.	Joseph Cook	15
“ “ next best do. do.	Andrew Dryburgh	10
“ “ best pair of Wreaths for Festoons	Wm. Chalmers	10
“ “ next best do. do.	John Sherwood	5
“ “ best Bouquet	Samuel Maupay	5
“ “ next best do.	Miss Smith	3

HONORARY PREMIUMS.

VEGETABLES.

For the best display of vegetables	A. L. Felton	5
“ “ next best do. do.	Jacob Engleman	3
For a fine display of vegetables.	John C. Engleman	3
“ “ do. do.	Joseph Cook	2
“ “ Valparaiso Squashes	David Comfort	2
“ “ Honey	Jeremiah Comfort	2

FRUITS.

For fine Peaches	James McGill	2
“ “ do.	Wm. M. Alberger	2
“ “ Quinces	Isaac Wilkins	1
“ “ do.	Miss Gratz	1

FLOWERS.

For a beautiful vase of flowers ..	Peter Fleming	15
For a handsome octagon flower-stand	Alex'r Cair	10
For a design of Peace & Plenty.	Peter Mackenzie	8
For a Pyramid of Dahlias	George Milroy	6
For Basket Bouquets	Robert Kilvington	5

Agricultural Society of Newcastle County, Del.

The annual meeting of this Society was held at the City Hall, Wilmington, October 19th, 1841, and the following gentlemen were unanimously elected officers for the ensuing year, viz:

President.

JAMES W. THOMSON, M. D.

Vice-Presidents.

Edward Tatnall,	James Canby,
J. A. Lockwood, M. D.	Philip Reybold,
Benjamin Webb,	Samuel Canby,
John Higgins,	Wm. J. Hurlock,
J. S. Naudain, M. D.	John Richardson.

Cor. Sec'y.—J. A. Lockwood, M. D.

Rec. Sec'y & Treas'r.—S. Wollaston.

Counsellor.—James A. Bayard, Esq.

Directors.

Wm. Chandler,	George Z. Tybout,
John Jones,	Anthony Bidderman,
J. J. Brindley,	Henry Du Pont,
Wm. Tatnall,	D. W. Gemmill.
James T. Bird,	Joseph Lloyd,
Brian Jackson,	Jesse Gregg,
Philip Reybold, Jr.	Thomas Garrett,
Capt. Geo. Maxwell,	John Latimer,
John C. Clark,	John Exton.

The Society having appointed the President, Edward Tatnall, B. Webb, Samuel Canby, and John A. Lockwood, a Special Committee to report a premium list and other business for the action of the Society—adjourned to meet at the City Hall, Wilmington, on Wednesday, October 27th, inst., to adopt such premium list and other measures as shall greatly enhance and enlarge the agricultural, horticultural and home industry products of this county at the fall exhibitions of 1842.

At the annual cattle-show it was, on motion of B. Webb, Esq.

Resolved, That this Society highly approve of the proposition to establish a National Society of Agriculture, with the object of “Elevating the character and standing of the cultivators of American soil,” and we approve of the steps that have been taken to organize such a National Institution.

Resolved, That it is important for the credit of this Society, that it be properly represented at the Farmers' Convention, to be held in Washington, in December next, to organize such a National Society, and for that purpose we will appoint a committee of ten to represent this Society, and at the same time we recommend a general attendance of the friends of agricultural improvement.

Resolved, That the President fill the number with names of such as will in his judgment best represent the Society, and that the President himself constitute one of the Delegation.

In conformity with the above resolutions, the President announced the following members of the Agricultural Society of Newcastle County, the delegates to attend the Farmers' Convention to assemble in Washington in December next.

Philip Reybold,	Henry Latimer,
Wm. J. Hurlock,	J. J. Brindley,
Wm. Chandler,	C. I. Du Pont,
Benjamin Webb,	Samuel Canby,
J. A. Lockwood, M. D.	D. W. Gemmill.

SAMUEL WOLLASTON,
Sec'y of Ag. Soc'y of Newcastle Co.

Notices.

We had hoped ere this to have given in our pages the engraved portraits of Mr. Edward Tonkin's cattle, which are indeed of surpassing beauty and magnificence, far superior to those of his stock which were publicly exhibited some three years ago, under the names of the "Duke of Gloucester" and "Earl Jersey," and for which he obtained the sum of \$3500. Mr. Tonkin's present lot of fat cattle consists of six oxen and one spayed heifer of the short-horn cross, all which it is his intention to have taken as individual portraits; afterwards they will form one group in a separate painting, and it will give us great pleasure to engrave them, that our readers may form some idea of the finest lot of fat cattle in the Union. We had, not long since, the opportunity of introducing them to the notice of Mr. Solon Robinson of Indiana, and Mr. Bement of Albany, and would call upon these gentlemen for their candid opinion concerning them. We understand these noble animals are for sale, but trust they will not be permitted to leave this part of the country until an opportunity has been afforded to perpetuate their fame by a faithful record in our pages. Nothing short of the pencil and graver can convey an adequate idea of their grandeur and perfect symmetrical proportions. Four of them are roans of the most beautiful mixture of colours; other two are red and white; the heifer is nearly white, and is supposed to be the fattest animal of the whole—indeed their size is *Elephantic*, and a sight of them would well repay a visit to their judicious and spirited breeder; his residence is at Clarksboro' on the Salem road, 16 miles from Camden, New Jersey.

At the suggestion of several individuals who have taken considerable interest in the breeding and management of bees, we have constructed a glass hive, to be worked singly, in pairs, or by three, in rows on a table. The object has been to unite utility with cheapness—to render them at so low a price as to induce their general adoption, and to include in the plan the desirable qualities embraced by hives of four times their cost; to give the means of examining the state of the swarm, by laying open at one view three sides of the hive; to add another box in a moment of time, and to change the bees from one to the other with the greatest facility. They are also made with two entrances, one on the top and another at the bottom of

the hive, embracing what has been contemplated by other and more costly structures. They are worked upon a plan described at p. 65 of the Farmers' Cabinet for September, which appears more convenient than the customary mode of heaping boxes one on another, offering at the same time the means of doing so, if such plan be preferred; thus uniting, as far as possible, the advantages of all, at a price so low as to bring them within the reach of all. They are for sale at the office, price \$2 50 each.

MR. BRICK, of 14 Dilwyn street, the maker of the bee-hive which so many of our friends have seen and approved at our office, has invented one of very superior accommodation and workmanship, leaving it with us for examination. It is of glass, to be worked singly, or it can be made to form a double hive, by withdrawing the slides. Application has been made for a patent; we shall feel pleasure in introducing it to notice.

A SUPPLY of that interesting little work, "Bee-Breeding in the West," as also copies of the "Western Farmer's & Gardener's Almanac," for 1842, have been received at the office of the Cabinet, where they may be obtained. Price, 25 cents each.

We would inform our inquiring friends, that *Woodside*, the residence of Samuel Canby, Esq., the owner of the remarkable cow Blossom, is situated $3\frac{1}{2}$ miles from Wilmington, Del. The management of this fine farm is in the English style, and forms an attractive object with those who have a proper taste for rural improvement.

We are indebted to Mr. Isaac Newton, of Delaware County, for several exceedingly fine ears of corn, some of them containing 24 rows and numbering 1060 grains in each ear; also for a sample of mercer potatoes, grown amongst that crop and pumpkins, six of which measure 3 feet 6 inches in length; these testimonies to the truth of our motto may be seen at our office.

Wanted.

A MARRIED man acquainted with the milk business, to take charge of a farm near Philadelphia. With a person suitably qualified, a liberal arrangement would be made. Apply at the office of the Farmers' Cabinet, No. 50 North Fourth Street.

The quantity of rain which fell during October, (10th month) was three inches and two-tenths of an inch..... 3.2 inch.
Pennsylvania Hospital, 11th mo. 1, 1841.

THE FARMERS' CABINET,

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THE FARMERS' CABINET, AND AMERICAN HERD-BOOK,

DEVOTED TO

AGRICULTURE, HORTICULTURE, AND RURAL AND DOMESTIC AFFAIRS.

"The Productions of the Earth will always be in proportion to the culture bestowed upon it."

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Price one dollar per year.—For conditions see last page.

For the Farmers' Cabinet.
American Farming.

MR. EDITOR,—The present sunshine and very pleasant season of leisure remind me of the promise which I partially made in my last, to take up the subject on the comparative difference between the pursuit of agriculture in this country and England. To do this, a person should have had experience in that line of life in the old country as well as a knowledge of the modes and customs in this, and the climates of both; and with these the writer believes he is tolerably conversant.

It is generally acknowledged that the difference in the price of labour between the two countries is the only drawback with which the farmer in this, has to contend. Now, in England, it is customary to calculate the value of things in the farming business by the sum paid for rent; thus, if a farm is well-situated and very near an excellent market, these advantages are said to be worth *half a rent* extra; and if it be well-watered, healthy, with a dry and early soil, in a good neighbourhood, well-fenced, with good dwellings and extensive homestall, it is put down as worth half a rent more, or double the value of the same quantity of land ill-situated and badly-circumstanced; and I know of no better mode of estimating the advantages to be derived from peculiar *circumstances* in this country. Well then, at what shall we fix the difference between the value of farm-labour in this country over that of England? shall we put it at once to three rents? Then all that we have to do is to show that the advantages peculiar to this country are equal to three times the rent paid in England, and then we start fair.

In the first place, rents in this country are not, on an average, one-half so high as they are in England—here is one rent. 2d, The forwardness of the seasons, by which the farmer is enabled to secure his crops, both hay and grain, so early as July, during long

days and fine weather, often performing the labour of two days in one, with the advantage of immediately recropping his land on the removal of his first crops for the use of himself and his out-door stock in the coming winter, with a moral certainty of obtaining a season of sufficient length to bring them to full maturity, and after that to enjoy sufficient space to winter-fallow every acre of unemployed land during the fine weather of autumn—all this is cheap at another rent. 3d, Then the freedom from tythe, which although it is said to amount to a tenth only of the produce, might be safely put down at a fifth, for the clergy bear no part of the extra expense, labour of draining, fencing, manuring, clearing, or extra fallowing and improving, nor, although they carry off a tenth of the crop, do they ever return one-tenth of the seed with which to resow the land for the next year's crop, but take their share after it has been cut, bound, and made fit to carry at the expense of the farmer—thus carrying away a tenth of the farmer's labour as well as a tenth of the produce. And if to tythes we add church rates, Easter offerings, Christmas dues—all these, with other taxes and rates and duties which fall due every day of a man's life, in the shape of taxes upon houses, windows, horses, carriages, servants, roads, and *taxes upon these taxes*—all this is far too cheap at another rent. And after this come the indirect taxes, commencing with tea at 98 per cent. on the value, and tobacco and snuff at 600 per cent.; "with," as a writer observes, "taxes upon every article which enters into the mouth or covers the back or is placed under the foot, upon everything which is pleasant to see, hear, feel, smell, taste—upon warmth, light and locomotion, upon everything which comes from abroad or is grown at home, on the raw material and on every fresh value that is added to it by the industry of man—on the sauce which pampers a man's appetite and the drug which restores him to health—on the ermine which decorates the robe of the judge and the rope which hangs the criminal!—on the brass nails of the coffin and the ribbons of the bride; while the school-boy whips his taxed top and the beardless youth manages his taxed horse with a taxed bridle on a taxed road, the dying Englishman, pouring his medicines

which have paid 7 per cent. tax, into a silver spoon, which has paid 15 per cent., flings himself back upon his chintz bed, which has paid 20 per cent., and expires in the arms of a taxed apothecary who has paid an hundred pounds sterling for the privilege of practising his calling! and then, his whole property is immediately taxed from 2 to 10 per cent., large fees being demanded for burying him in consecrated ground, his virtues being handed down to posterity on taxed marble, and he is at length gathered to his fathers—to be taxed no more.” Now, it may be safely left to any man’s conscience to declare whether all this is not worth another rent. And after all this comes the poor’s rate, which is as a millstone about the farmer’s neck, and has dragged many a hard-working, industrious man to the alms-house!

Here then are four rents to start upon, and I know but of one item to place against all this, and that is, the higher rate of farm-labour: to be sure some articles of provisions are cheaper here than in England, while others are higher—butter, potatoes and vegetables generally; but even in the lower price of provisions the farmer has a gain upon what he *consumes*, balancing in a measure his loss upon what he *sells*; while the articles which he has to purchase are generally much lower than they are in England, such, for instance, as tea, coffee, sugar, foreign fruits, rice, soap, candles, salt, vinegar, spices, glass, nails, farming implements, most of the articles of domestic clothing and building materials; and if he indulges in the luxuries of tobacco, snuff, wine, spirits or beer, he will find a difference on some of these to the amount of two or three hundred per cent.

Now, in my estimation, the greatest drawback to a farmer in this country, is the innumerable and rapid growth of weeds, but in the hands of an intelligent and industrious man they are lessening every year, and when a better rotation of crops is adopted, their destruction will be certain, although it is admitted that great toil and vexation must first be encountered; but place against this the advantage of being able to raise the corn crop—which is, by the bye, of itself equal to almost half a rent—the use of the cradlescythe and the horse-rake, implements not yet in general use in England, and the balance is very much in favour of this country.

But are the wages paid to farm-labourers higher than what are given to mechanics and artizans generally? say, for instance, to the men employed in large manufactories, sugar-houses, machine-shops, cotton and paper mills, &c.: if they are not and the complaint of agriculturists is just, then indeed it is a fact that agriculture will not pay for capital invested; and yet we see that the price of

sugar is lower in this country than in England, with wages for the fabrication of it much higher; that building materials, bricks, lime, &c., are the same, while boots and shoes and domestic clothing are lower also, with higher wages paid for manufacturing; and then come the pay of mariners, miners, agents, book-keepers, &c., all higher than in England, and yet no complaint is made, and why? simply because they are exempt from taxation—and so are the farmers, after standing at about a third of the rent of land that is paid in England. So that, after viewing the subject on all sides, my opinion is, that farming in this country, in the hands of an intelligent man with a fair capital—and what man in trade expects to succeed without these requisites?—is more profitable than in England, with far less anxiety of mind and labour of body; and conclude with the testimony borne to this view of the subject by the late Mr. Geo. Walker, that he desired only to know the rate of wages for labour paid in any country, to be able to estimate its state of prosperity; when that is high, there is the greatest prosperity and the greatest sum of happiness, and these are always in exact proportion, the one to the other.

But it is said, innumerable instances have been known of persons commencing farming with scarcely a dollar as capital, becoming rich enough in a few years to purchase their farms—this is true, and speaks volumes in favour of the business of agriculture; and I have at the present moment two such men in my view. One of them began the world as a bound boy, and at the end of his term, married a young woman without a dollar, and commenced business by slaughtering an animal now and then and disposing of the meat at market; and dates his first success to a God-send in the shape of a flock of geese, which came down the Susquehanna on a block of ice and landed near his cottage. This person is now one of the very first men in that part of the country in point of property, intelligence, probity and high standing in society—but he enjoyed a noble capital in the capacities of himself and an invaluable helpmate, with a magnificent stock of health and industry, and ingenuity to turn everything which they handled into gold—a glorious capital to work upon, and far better than thousands of hard dollars.

There is another of these “fortunate men,” as they are very improperly termed, residing near Wilmington, Del., who, about nine years ago, commenced farming upon shares the farm which he now owns; since which he has, by his industry and his wife’s capital, which consisted *only* in the art of *making and saving* money, the first, by attending market, and the last by frugality and indus-

try—the arts of selling as well as buying—been enabled to rebuild his house and barn, besides constructing and improving every other erection on his premises, which were proverbially bad when he came to the farm, as also to purchase some lots of land in the marshes in the neighbourhood! but the last time I called on him, I found him pulling up in a field of potatoes adjoining the farm-house; while his wife had just returned from market, bringing with her \$40, received for vegetables, fruit, &c., which she had taken herself to market that morning and sold; and that accounts for all. Now, it is quite a mistake to say, these men began the world without capital; but it is equally erroneous to suppose that farming, any more than any other business, can ever succeed without capital of some sort—it is not in the nature of things, and ought not to be expected; but with it, I contend that if the business of agriculture be as well managed, it will pay as good a return for capital invested, as any legitimate business whatever, besides insuring a peace of mind which “passeth all understanding.”

VIR.

1st Nov. 1841.

Reading.

OF all the amusements which can possibly be imagined for a hard-working man, after his daily toil, or in its intervals, there is nothing like reading an interesting book, supposing him to have a taste for it, and supposing him to have the book to read. It calls for no bodily exertion, of which he has already had enough, or, perhaps, too much. It relieves his home of its dullness and sameness. It transports him into a livelier, and gayer, and more diversified and interesting scene; and while he enjoys himself there, he may forget the evils of the present moment, fully as much as if he were *ever so drunk*, with the great advantage of finding himself the next day with his money in his pocket, or, at least, laid out in real necessaries and comforts for himself and his family,—and without a head-ache. Nay, it accompanies him to his next day's work; and, if the book he has been reading be anything above the very idlest and lightest, gives him something to think of, besides the mere mechanical drudgery of his every-day occupation—something he can enjoy while absent, and look forward with pleasure to. If I were to pray for a taste which should stand me in stead under every variety of circumstances, and be a source of happiness and cheerfulness to me through life, and a shield against its ills, however things might go amiss, and the world frown upon me, it would be, a taste for reading.—*Sir J. Herschel.*

Winter Provender.

WE think it very probable that owing to the length of the last winter, and the drought which occurred during the summer, that there will be in many parts of our country a scarcity of provender for cattle, and consequently, that much suffering is in store for those poor creatures. Impressed with this belief, we deem it due to our readers to admonish them thus early, to take measures to cut and preserve their corn-stalks so soon as they shall have pulled the ears off. If it be objected to the stalks as food, that their nutritive properties have been greatly exhausted, we are willing to admit the truth of the objection, to a considerable extent; but while we make this admission, we maintain, that there is still a sufficient quantity of aliment remaining in them to render their being cut and taken care of an object. Stalks cut at the time when the corn has just passed through the process of glazing, if put away carefully, and cut into feed of suitable lengths, and steamed, are, in our opinion, equal to most kinds of hay for farm or milch cattle. If not cut until the ear is dried upon the stalk, we are aware that much of its properties of nutrition are transferred from the stalk to the grain. Still, however, there is enough left to emphatically entitle them to be ranked, in seasons of scarcity, among the provender of the farm, and we boldly venture upon the assertion, that if a bushel of the stalks cut into pieces of an inch in length, either *soaked* in boiling water, or *steamed*, with a slight sprinkling of salt, were given three times a day to each head of cattle, that they would maintain the animals in good keeping condition.

We know a gentleman who tried the experiment upon a herd of 50 or 60 head of cattle a few years ago, and brought them through the winter upon steamed corn-stalks and ruta бага, fully as well as he had done years theretofore, upon the best timothy hay and ruta бага, his usual winter food.

In recommending corn-stalks for food, we do not wish to be misunderstood. It is not our object to point them out as a *main reliance*, but merely as a *resource* within the possession of all farmers, which they should not omit in a case of necessity to avail themselves of.

To milch cows we would add something to the stalks, in the shape of chop, meal, or roots, believing that the process of secreting milk cannot be carried on, unless their food be generous.—*Am. Far.*

FEW could possibly give themselves up to sleep, if they had no hope of waking again; a night to which there should be no morning, would be a thought of unmingled terror.

For the Farmers' Cabinet.

"The Age of Improvement."

IN this age of inquiry and improvement, it is gratifying to observe, that not to one class of men only, or to men of particular vocations are the advantages of every day's discoveries offered, but that avenues are every where presented to every one of every calling, who is disposed to avail himself of the learning, the experience, the reflection and the invention of those who have lived before him, as well as of those who, like himself, are now active on the theatre of life. Man is to eat his bread in the sweat of his face, and happy is it for him that it is so—that necessity compels him to labour: he is so constituted, that industry is one of the means of his enjoyment, while idleness is the parent of every discomfort, as well as the bane of every virtue.

Euclid, the great father of geometry, told one of the kings of Egypt, that there was no royal road to learning: he, forsooth, would have had a royal vantage ground from which to start in his career, that he might gain the summit without the toil of ascent. But the philosopher assured him there was no royal road marked out for him. Laborious thought and patient investigation could not be dispensed with if he would follow the investigations of his teacher, and master the difficulties of ancient philosophy. Even so now, he who would be a proficient in his calling, must acquaint himself with all its improvements, and he must search for them in conversation, in travel, in books, and in deep reflection.

Time is money.—What an invaluable and inexhaustible store-house then, is thrown open to the business-man who is in search of proficiency, by the multitude and cheapness and varied character of books, whose pages give him, in a comparatively short time, all that is known by all men, on the subject he would be instructed in! Cowper said of commerce,

"It gives the poles the produce of the sun,
And knits unsocial climates into one."

So, the invention of letters gave the "Potentiality," as Dr. Johnson might say, of information to the whole world: and the wonderful facilities which steam has given to the printing-press in our own day, have thrown broadcast over the whole intellectual domain, not only the thoughts of the wise and the virtuous, but have made common stock of all knowledge calculated to increase the produce of labour, and thence to multiply to an incalculable extent the substantial comforts of life. If we look back, and compare the dwellings, the farming implements, the household furniture and the clothing of our Saxon ancestors with our own, we shall feel, that in respect to these, we are indeed dwelling in a

"south land," and possessing what might perhaps be termed the perfection of animal enjoyment. And what has produced this change? Alfred exercised that high attribute of mind which has been given us for noble purposes—he THOUGHT, and made common stock of what he knew: and the whole world is now garnering a noble harvest from the seed which that great man scattered abroad. If Luther and Calvin and other kindred spirits of their day had been inactive, or if, after having assiduously laboured to place the foundation stones of the reformation on what they conceived to be truth, the people had till now refused to build upon them, what would have been the character of this age? and where the rational principles of liberty which William Penn promulgated in his trial at the Old Bailey, and gave a practical illustration of in his government here, and which have been again, and still further exemplified in our own Federal Constitution? The printing-press would have needed no *steam* to hasten its operations, for the common mind would still have been shrouded in a darkness, which even steam could not dissipate.

It is instructive as well as delightful, to trace this march of mind, down through the generations that have preceded us, and connect it, as we can not fail to do, with the wonderful, yet natural results, which are every day offering themselves to our acceptance. "Knowledge," as Lord Bacon declared, "is power." It is not the imaginary lever of Archimedes, but it is the substantive machinery, which by day and by night is operating upon the great mass of mind, and continually producing the results to which we have been glancing. Where this lever—this moving power operates in a right direction upon the mind, who can calculate its happy influence upon the outward comforts of man? And when to this shall be added the unflinching tendency of our holy religion to meliorate and purify and adorn all that comes under the operation of its spirit, how reasonable is the hope, that the last ages of the world shall be more wise, more virtuous, and consequently more happy, than any which have preceded them! And let no one, however humble, conclude that his individual weight cannot increase the momentum of that intellectual lever, to which we have alluded, and which, in fact, is every day giving evidence of an influence that is acknowledged in all departments of society. While thousands are expended in contesting the patent-right for the manufacture of a pin's head, and tens of thousands for the discovery of a continent, which none could inhabit if every boundary were ascertained—or for a passage at the very pole, which never could be used

if penetrated—let no one indulge his indolence by concluding, that there are not an infinitude of laudable objects, towards the promotion of which it is his duty, as a good citizen, to lend the energies of his mind. From a multiplication of the blades of grass, which grow in a man's field,—and from the initiatory process, by which the child is taught his alphabet, to the construction of the engine, whose effect is only limited by the strength of its materials, and of the glasses whose magnifying powers reduce the “sun, the moon and the stars,” to close observation, there is surely, a field for labour, broad enough for all to enter, and so needing the cultivation of all, that none can excuse himself from his share of the common duty. The farmer at his plough, and the mechanic at his trade, may more and more be confirmed in the persuasion, that as the mind is properly exercised the comforts of the body are increased, and as we discharge our duties, many of which are apart from ourselves, we insure the greatest amount of life's enjoyments.

Z. Y.

THE HEART.—The wisdom of the Creator, says a distinguished anatomist, is in nothing seen more gloriously than in the heart. And how well does it perform its office! An anatomist who understood its structure, might say beforehand that it would play; but from the complexity of its mechanism and the delicacy of many of its parts, he must be apprehensive that it would always be liable to derangement and that it would soon work itself out. Yet does this wonderful machine go on night and day, for eighty years together, at the rate of a hundred thousand strokes every twenty-four hours, having at every stroke a great resistance to overcome; and it continues this action for this length of time without disorder and weariness. That it should continue this action for this length of time without disorder, is wonderful: that it should be capable of continuing it without weariness, is still more astonishing. Rest would have been incompatible with its functions. While it slept the whole machinery must have stopped, and the animal inevitably perish. It was necessary that it should be made capable of working for ever, without the cessation of a moment—without the least degree of weariness. It is so made; and the *power* of the Creator in so constructing it, can in nothing be exceeded but in His *wisdom*.

How many contentions have been hushed; how many divided families have been united; how many characters have been reformed, by injunctions uttered from the sick-couch or the pillow of death!

Keep Your Land Dry.

THE importance of draining is not duly appreciated, nor is its practice well understood, among us. Although water is indispensable to vegetation, too much of it is as hurtful as too little. It is necessary to the germination of the seed, to the decomposition of the vegetable matter in the soil—to the transmission of the food from the soil to the plant—to its circulation there, and to the maturity of the product. All these useful purposes are defeated, where water remains in the soil to excess—the seed rots, the vegetable matter which should serve as the food of the crop, remains insoluble, in consequence of the absence of heat and air, which the water excludes; or, if the seed grows, the plant is sickly, for want of its proper food, and there is consequently a virtual failure in the harvest. It is not from the surface only that we are to determine whether land is sufficiently dry to support a healthy vegetation; but we are to examine the surface stratum, into which the roots of the plants penetrate; and from which they draw their food. If this is habitually wet—if it grows marshy plants—if water will collect in a hole sunk fifteen inches below the surface—the land is too wet for cultivated crops, and means should be adopted to render it more dry. From my partial acquaintance with this country, I feel assured that much of your best land is rendered unfit for tillage, or the growth of the finer grasses, by reason of the excess of water, which passes or reposes upon the subsoil, unnoticed by the cultivator. These lands are denominated cold and sour, and they truly are so. Cold and sour lands are invariably wet lands below, if not upon the surface. But if the superfluous water were judiciously conducted off by sufficient under-drains, these lands would be rendered warm and sweet, and highly productive, and the outlay would be repaid by the increased value of two or three of the first crops. Wet lands are generally rich lands, abounding in vegetable matters, which water has preserved from decomposition, but which readily becomes the food of plants, when the water is drawn off. Let me imagine a case, which I am sure will be found to exist in many parts of the country. There is a slope of a little hill, half a mile in extent, terminating in a flat forty rods wide, through which a brook meanders. The soil on this slope and in this flat, is of a light, porous quality, six to twelve inches deep, reposing on a subsoil impervious to water, as clay, rock or hardpan. By *soil*, I mean the upper stratum, in which vegetable matters are blended with earthy materials, and which constitutes the true pasture of plants. Near the top of this slope, all along on a horizontal

level, or perhaps lower down, spouts or springs burst through the subsoil, a thing very common in hilly districts, the waters from which, finding an easy passage *through* the loose soil, spread and run down the slope, and *upon the subsoil* and through the flat, till they find their level in the brook. A thermometer plunged down to the subsoil, will indicate, at midsummer, a temperature probably not greater than 60°, whereas to grow and mature many of our best farm crops, we require a heat in the soil of 70° or 80°. How shall we remedy this evil, and render this land profitable to the occupant? Simply by making an under-drain or drains in a gently inclining direction, a little below these spouts or springs, and, if practicable, somewhat into the subsoil. These will catch and conduct off the spouting waters, and by laying the lower plane dry and permeable to heat and air, develop all its natural powers of fertility.

I will suppose another case—that of a flat surface, underlaid by an impervious subsoil. This is rendered unproductive, or difficult to manage, by stagnant waters. The rain and snow waters, penetrating the soil, are arrested in their downward passage, by the subsoil, which not having slope to pass them off, they here remain, and stagnate, and putrefy, alike prejudicial to vegetable and animal health. The mode of draining such grounds, and of rendering them productive and of easy management, is, first to surround the field with a good under-drain, and to construct a sufficient open drain from the outlay to carry off the waters. Then with the plough, throw the land into ridges of twenty to thirty feet in breadth, according to the tenacity of the soil, in the direction of the slope, and sink an under-drain in each of the furrows between the ridges, terminating them in the lower cross drain. The materials of the under-drains, which are generally stones, should be laid so low as to admit of the free passage of the plough over them. The superfluous water, by the laws of gravitation, settles into these drains and passes off, and the soil becomes dry, manageable and productive. An acquaintance called upon a Scotch farmer whose farm had been under-drained in this way, and being informed that the improvement cost sixteen dollars an acre, tile having been used, remarked that it was a costly improvement. "Yes" was the farmer's reply; "but it costs a deal mair *not to do it*," which he illustrated by pointing to an adjoining farm, like situated, which had not been drained, and was overgrown with rushes and with sedge grass, and then to his own fields, teeming with luxuriance and rich in the indications of an abundant harvest.

I have dwelt upon the subject of draining

with more detail, because I have personally realized its benefits, and am sure it may go into with certain prospect of reward
Judge Bucl.

For the Farmers' Cabinet.

Beet and Corn-Stalk Sugar.

MR. EDITOR,—Is it not passing strange that the fabrication of sugar from the beet has never yet been able to make headway amongst us? It cannot be for want of capital or industry, for it has often been taken in good faith and worked for a time with the most promising results, but the *promise pay* has never finally been fulfilled. Neither can the failure be attributed to a want of ingenuity, for there has scarcely a trial been made without a flourish of trumpets that a new discovery had taken place in the art, which a larger quantity of sugar and of a superior quality to any that had been made in France, had been produced, by the veritable tyro of the profession, who has worked with *closed doors*, that the secret might be kept to himself, and a patent be secured for his private advantage—and how regularly has *the concern* followed! Now, I understand that no secret is practised in France, but there the thing goes quietly forward, turning out sugar to almost any amount, and without pretence to mystery, by which the system is to produce miraculously. The fact seems to be, that we Americans are not content to go on in the usual track, and become perfect through practice; we are led away by a false belief, that we can find a short cut, and save time and labour, and despise the old jog-trot road that leads to perfection, forgetting the old adage, "the more haste the worse speed."

I find, in the *American Farmer* for the present week, a very recent account of the state of the beet-sugar business in France, which I copy for publication in your pages. By the way, would the editor of that highly respectable periodical inform us of the success which has attended the last attempt at or near Baltimore, by a company under the charge of the former agent of the Beet-sugar Society of White Pigeon, Michigan. I much fear that it has again fallen through, as we were given to expect to be furnished with an account of its progress from time to time through the pages of that work.

"Mons. Michel Chevalier published last month an interesting exposition of the beet-sugar manufacture. In France there are 300 factories, which yield, the present year, 1,000 millions of pounds of sugar; and, notwithstanding the outcry of universal ruin, raised by the manufacturers when the tax was increased from eleven to twenty-seven francs the 200 lbs., the production did not diminish."

from 1837 to 1840. Belgium makes 16 million pounds—half her consumption of the article. The German Union, 30 millions—a third of its consumption. Austria, the same, but consumes 110 millions of foreign sugar. Chevalier estimates the total consumption of “the most industrious and flourishing countries of Europe” of beet-sugar at 176 millions of pounds, which is not yet a third of the whole. He admits that 20 millions of francs might be the annual gain of the treasury if the beet-sugar manufacture was prohibited in France, but then the measure would require an indemnity of 40 millions to the manufacturers, and throw out of employment a great number of hands. In two of the largest beet-sugar manufactories in France, the problem of making refined beet-sugar from first process has been solved on a large scale; Mons. Dombasle uses maceration, as the process of extraction; it simplifies apparatus and labour, and neutralizes the cause of waste; he obtains from 95 to 100 of juice instead of 70, and 10 per cent. of sugar easily; and this process has been adopted in several other establishments, foreign as well as domestic.”

With regard to Mr. Webb's late experiments on Corn-stalks, I coincide with you in the opinion, that the samples of sugar and molasses which were exhibited at the Horticultural Society's rooms in Philadelphia, were far superior to any that I have seen made from the beet by first process; his published account of the mode of manufacture is interesting, and the comparative yield per cent. of sugar is very great, and not easily to be accounted for; for while he is obtaining one quart of crystallizable liquor from six quarts of expressed juice from the corn-stalk, the Louisiana planters find that their richest juice from the cane yields no more than one in eight, the average being from thirteen to fifteen, and some as low as thirty or fifty for one. Mr. Webb's communication has found its way into many of the distant papers, and they have generally made it appear, that he has obtained 1000 lbs. of sugar per acre from the corn-stalk, whereas, he only says his opinion is that that quantity per acre *may* be obtained by an improved mode of cultivation, &c.; but I would ask, would even that quantity of sugar pay the expense of manufacture and remunerate the loss of the corn-crop? I confess that I fear not. You very properly compliment Mr. Webb on his success, and I am willing to award him a medal for his ingenuity and perseverance, but, for what part of the process he conceives he has a right to a patent, I am at a loss to conjecture. If it be upon the simple fact of having obtained sugar from the corn-stalk, hundreds of old people will tell him they accomplished that,

many years ago, and long before he was born, it being a very common practice in the time of the Revolution; the manufacturers, however, contenting themselves with the syrup, and not carrying the evaporation to the crystallizing point, their object, of procuring molasses, being obtained. Or, is it in the simple operation of extracting the ear in its embryo state, by which to concentrate the juices in the stalk and to prevent their dissipation? Now this has been practised for ages upon the cocoa-tree for the very same purpose, and Mr. Webb no doubt knew it, and has merely adopted the process. We are told—“It is usual to deprive some of those trees of their fruit-buds, in order that they may produce a drink called ‘Paviah Arrack;’ and it is the employment of some men to collect this article, which is sold under the name of ‘Toddy.’” It cannot be for the peculiar process of manufacture, for the very simple mode described in Mr. Webb's letter, and the state of the molasses exhibited, prove that the operations must have been of the most ineffective kind, or the molasses would not have held at least 50 per cent. of sugar in solution, a convincing fact that the point of concentration had not been either understood or practised, and that the whole process of manufacture had been most ineffectually performed. Now, let it not be supposed that I wish to detract an iota from the credit which is Mr. Webb's due; but I wish that he would inform the readers of the Cabinet, what are the specifications upon which he grounds his right to restrict us from doing what has been done for the last age; pointing out what original principle or new combination is exhibited in his mode of manufacturing sugar from the corn-stalk.

J. M. C.

Eastern Shore, Md., Nov. 10, 1841.

Fall Ploughing.

“A farmer of New Jersey, some years since, trench-ploughed an exhausted field of clayey soil in the fall; cross-ploughed a part of it, and in that part broke the lumps to pieces. In the spring, the field was all ploughed equally, and sown with barley and clover; the part on which the most labour had been thus bestowed, was in fine order when sown, and yielded 30 bushels an acre of barley—the other part was in lumps, the frosts not being sufficient to mellow them entirely, and the product of barley was only about 20 bushels to the acre. The same difference was afterwards observed in the clover.”

EVEN where envy or bigotry prevents the open declaration of admiration and esteem, these sentiments are always *secretly* entertained towards the truly good man.

For the Farmers' Cabinet.

The Farmers' Herbarium.

WILL the editor allow me to correct an error which occurs in the List of Plants proposed for a *Farmers' Herbarium*, in the last number of the Cabinet? In the note on *Triticum repens*, it is stated that it is "in Virginia called *Wire grass*." I have ascertained that the "*Wire grass*" of Virginia, is a very different plant, viz., the *Cynodon Dactylon*, of Persoon, or *Digitaria Dactylon*, of Elliott. This grass is not found in *Chester county*—though common in the south, and well known in the old world. The error originated in the employment of a *popular name*, and furnishes another argument in favour of designating plants by their *scientific names*.
W. D.

To the Editor of the Farmers' Cabinet.

Delaware Lands.

DEAR SIR,—The unexpected pleasure of meeting with you at my marl-pit a few afternoons ago, and the limited time I had the pleasure of enjoying your society, are reasons for your receiving this communication. It is always particularly agreeable to me to meet with those whose time, talents and experience are devoted to the elevation of the agricultural classes of the community; I feel as if a sympathetic chord in my bosom were beating in unison with theirs; for while my pursuits engage me to aim at demonstrating practically what good old mother EARTH can produce, it is theirs to instruct how it ought to be done—hence we labour in the same vocation, and with the same laudable and ennobling object in view. But my more immediate object in writing to you is, in obedience to an honest impulse of my heart; I feel that my native neighbourhood is not regarded as she intrinsically merits, or rather, I should say that our convenient location and resources are elsewhere but little known, and therefore not properly appreciated; and I am anxious to call to the subject the attention of one who occupies, as editor of the only agricultural paper that circulates in this region, a prominent situation, to do us the service which we require; convinced as I am that if our county were better known, it would be more highly estimated. I have not a doubt that in the tour you took in the hundreds of Red Lion and St. George's, you beheld with pleasure many fields studded with lime, as well as other evidences that a spirit of improvement is abroad, more especially in the large and widely extended use of marl, which has been induced by the ease and facility with which it is obtained in this section of country—an advantage which it is not possible properly to appreciate, much less to overrate, for to

that single cause will the entire renovation of the whole region be owing, and that, in a very short period of time. In order that you may contrast what you have recently beheld, with that state of things which existed 15 years ago, I invite you to turn to the 4th vol. of the Cabinet, page 13, under the head of *Restatement*, as giving a faint outline of the picture, and would be glad if, in consonance with your own convictions, you could recommend those who may happen to inquire of you relative to permanent settlements in improving neighbourhoods, to come down amongst us and look around, and be convinced that they can suit themselves better in this section of country than in any other; there being at the present time several fine properties for sale, and on very easy terms; my next neighbour, for instance, offers his farm of 200 acres of land of good quality and valuable location, as a profitable investment.

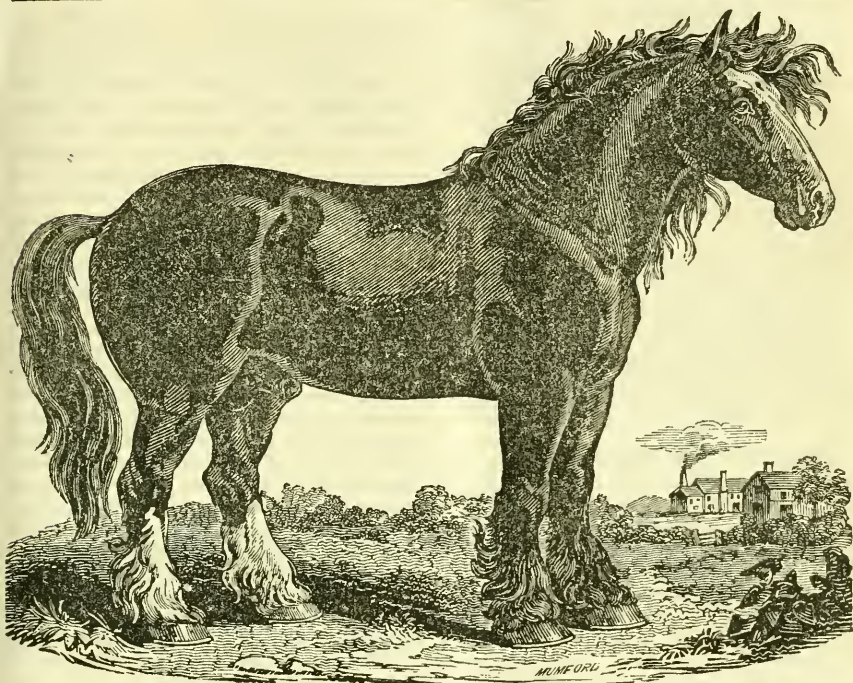
I have thus hastily thrown off something which I fear you will scarcely be able to decipher, for in truth my mind, like my hand, has become so *rusticated*, that it takes some little rubbing up before I can get it into tune. In conclusion, I would be glad that you would come down amongst us frequently; let us become better acquainted, and mutually encourage each other in pushing onward the reformation of agriculture. With sentiments of sincere respect, I subscribe myself, your agricultural friend,

ANTHONY M. HIGGINS.

Linden Hill, near St. George's, Del.,
Nov. 15th, 1841.

Transplanting Peas and Early Vegetables.

THE method of rearing peas in pots or boxes in hot-beds or hot-houses, and afterwards transplanting them into the open ground, is a common practice, and often succeeds well; but I would recommend a method not so well known but far preferable to that of pots and boxes, especially when they are to be raised on a hot-bed. This consists in having a quantity of turf cut into strips, say ten inches long and three inches wide, placing them in a close and regular manner over the surface of the whole bed, grass-side downwards. A row of peas, &c. is sown on each row of turf and afterwards covered with rich earth. When they are fit for transplanting, nothing more is required than to lift up the turf piece by piece, with the peas, &c. growing upon it, and place them where they are to produce their crop. By this means, the roots receive no injury, nor do the plants sustain the least check in transplanting. This method may be adopted with similar success in the raising of potatoes, beans, &c.—N. Y. Farmer.



THE OLD ENGLISH BLACK HORSE.

Sire, OLD BLACK LEGS, from a mare of the Dishley blood.

From Low's Illustrations.

THE individual here portrayed, represents a descendant of one of Bakewell's most valued horses, the progenitor of some of the finest of the old dray-horses of London. Leicestershire, Derbyshire, and Staffordshire are distinguished for the breed of this kind of horses, which are still in great demand, not only in the midland counties, but over all the south of England, for the labours of the field and for road wagons and heavy carriages of all descriptions. Here they are to be seen, moving at a slow pace, attached to enormous vehicles by which merchandise is conveyed inland, and in great numbers in all large cities and sea-port towns, for the transport of heavy goods from the wharves, for the carriage of coal, building materials, and for a thousand other purposes; while in London, where the very largest and finest are in constant demand, for the brewers' drays and the enormous wagons of coal merchants, the stranger sees, with amazement and admiration, vast numbers of carriages in endless motion, drawn by teams of the largest horses in the world, although it must be admitted that there is great waste of power in the unnecessary bulk of these huge animals; for although it is contended by many, that extreme weight and bulk of body are necessary to resist the jolting and sudden obstacles encountered on the rough pavements of the city, which they never leave, yet, in truth, it is a habit and species of pride, which leads the owners of them to prefer the largest and most showy horses, to those of more moderate size and more useful action; for experience has shown, that it is muscular force, and not the *vis inertiae* of great weight of body, which best enables a horse to overcome continued obstacles. And the mere gratification of taste in the employment of these immense and splendid animals, would scarce require a passing censure, were it not that this gratification exercises a hurtful influence in the breeding counties, causing attention to be directed to size rather than to usefulness; for in the counties of Lincoln and Cambridge, from whence the London drays are supplied with them, the breeder measures his success by the stature of the individuals he is able to rear, and at the age of 2½ years, the colts are often more than 17 hands in height, when they are bought, at prices corresponding to their size, by graziers near the capital, and used in the light work of the farm until four years old, being then disposed of at enormous prices, to the crack teamsters of London, old horses often being taken in exchange as part payment, which find their way into the hands of other great horse-masters in the provincial cities; and thus, the giant race of London dray-horses is continually renewed, before age and infirmity reduce them in figure and appearance.

This noble breed may be described as in colour a sooty black, with frequently a white face, or lozenge-shaped mark on the forehead; very generally one or more of the feet and part of the legs white; the body massive, compact and round; the limbs stout; the chest enormously broad and the neck and back short; the mane thick and sometimes frizzled, and the legs below the knee and hock, hairy down to the heel; the whole aspect conveying the idea of immense physical power, but without corresponding action. For a pull at a heavy weight, he is admirably adapted, but his step is short, and all his actions slow.

The custom, so very general in London, of feeding horses while standing during loading or unloading, by means of hair bags suspended by a strap of leather passing over the head to keep it in place, is worthy adoption elsewhere. The bit of the bridle is made to unhook at one side, and is thus removed from the mouth very conveniently, while the food, chopped hay, sometimes mixed with oats or other grain, is preserved from waste, and is eaten quickly, affording more nutriment in a small space than can be administered in hay or other long feed thrown on the ground: this mode of feeding might be adopted by farmers, while their horses or oxen are resting from labour in the fields, with much convenience and to great advantage.

For the Farmers' Cabinet.

The Missouriium.

At a meeting of the Academy of Natural Sciences, held in October, 1841,

"Dr. Goddard stated that he had examined the so called 'Missouriium Kochii,' and found it to be a skeleton composed of Mastodon bones, most of which appeared to belong to a single set, many, however, having been superadded, and others mended and glued together in a manner wholly erroneous.

The following errors were especially noticed:

Spine.—The spine presented the anomaly of 8 cervical vertebrae; and instead of 19 dorsal and 4 lumbar, had 23 dorsal and 10 lumbar vertebrae, making the number of bones in the spine too great by 11. The bones articulated with the 2d and 4th ribs were cervical vertebrae. The spaces between the vertebrae were much magnified by thick wooden blocks placed between them, and the spine was curved upwards, so as to give an exaggerated idea of the height of the animal.

Ribs.—These were redundant in number, and were spread out as much as possible, so as to present the appearance of a wide and flat chest. The 1st pair of ribs were stuck on the bones of the shoulder, to resemble clavicles—bones which the Mastodon does not possess.

Head.—The head was that of a Mastodon with the top deficient, and a piece of an ethmoidal? bone glued on in front to resemble a snout. The tusks were distorted laterally, so as to occupy a space of 28 feet in width.

Scapula and ilia.—These having been deficient, were very ingeniously pieced out with wood, glued over so as to resemble bone.

Feet.—The feet were ludicrously made up of carpal and tarsal bones, and presented the wonderful anomaly of 4 phalanges to each toe.

Several other discrepancies were observed; apart from which Dr. G. considered the skeleton one of very great interest."

— — The most charitable conclusion is, that Dr. Goddard took not the opportunity to examine sufficiently the bones of the Missouriium, and is therefore entirely unacquainted with their peculiar construction and conformation. By what means did the Dr. elevate himself, so as to be able to see that the nose of the animal had been elongated by glueing on a snout? he could not, surely, have seen this while standing underneath the head at the distance of 8 or 10 feet; and if, while standing at the necessary elevation to ascertain this fact, he had traversed the length of the whole body and examined the peculiarly-constructed vertebrae of the back, he would have seen, at a glance, that the *form* which had been given it, namely, the curvature of the spine upwards, *must* have been observed, or their articulations would never have fitted their peculiar position, so *peculiar* as, when properly placed, to form the rise in the back, of which the Dr. complains. And, while in this position, he could have examined that protuberance on the lower jaw, which Mr. Koch considers peculiar to the Missouriium; remarking, that he had never seen a similar one on any of the great number and variety of fossils that he had disinterred or examined, or heard of its existence amongst other naturalists—such testimony, coming from such a source, Dr. Goddard was bound to regard, and to make it a main point of examination, but it seems entirely to have been overlooked by

him, if not treated with contempt. After the Dr. has spent 14 years in geological researches, he will think it no more than his due, to be treated with respect by his brethren of the Academy of Natural Sciences, or I am much mistaken. Is the Dr. one of those who believe that the ribs have been improperly placed, so as to present the peculiarity of an edgewise direction to the body? and did he ever witness this form in any other animal, the Mastodon, for instance, to say nothing of their total incapacity to form the necessary resistance to an animal of such magnitude; their *flatness of curve* being also remarkable. At which ends were the ribs—of which the Dr. accuses Mr. Koch of having formed the clavicles—affixed to the vertebrae? at the wide or the narrow ends? neither of which showed any suitable articulation: they were, besides, more than double the thickness, and *wider* at one end and *narrower* at the other, than any other of the ribs in the body, being also perfectly *straight* in their form—in short, being precisely what they appear to be in the engraving of the animal, as exhibited in the last number of the Farmers' Cabinet, and far enough removed from the semblance of ribs in *any* form or shape. Mr. Koch admitted that the top of the skull had been removed, that the peculiar structure of it might be examined; the portions were carefully preserved and were exhibited for this purpose, and on replacing, they would still form a structure far removed from that of the Mastodon, or of any other animal that had ever been discovered or exhibited; but of this Dr. Goddard knew nothing, as he had not the means of re-uniting them. Were the feet—which the Dr. says "were ludicrously made up of carpal and tarsal bones"—composed of real bone? Then Mr. Koch must have been endowed with a sagacity and capability far above any of his traducers, to be able to form them of pieces of bones collected from other animals, and so exactly to adjust them—could Dr. Goddard take the bones of the fingers of the human hand and form perfect joints unless they had originally belonged to the same subject? The lower jaw has been considered by some of the Professors to be too short for the upper jaw, and has, therefore, been rejected by them as not having originally belonged to the animal, but the Dr. seems willing to retain it, coming, however, to the same conclusion by lengthening the snout! On this subject, Mr. Koch remarked, "I must certainly have found a lower jaw with the animal, for it is well known that this part of the skeleton retains its form and substance longer than any other, while buried in the earth. Now, what could I have done with it? it is not likely that I would part with what I valued beyond any price, and for

which I had toiled for months amidst hardships and privations which these gentlemen have never known, and can have no conception of. I would tell Dr. Goddard that I value that jaw far more than I do his head, or all that he is worth in the world! and if he had examined it, he would have known something about it."

Dr. Goddard objects to the position of the tusks, or rather, horns—now, not to notice the declaration of Mr. Koch, that "one of them remained fixed in its socket during its excavation and transportation over a very rough and wilderness country, and that he was therefore able to give a correct and indisputable description of the position and situation which it occupied in the skull"—all which was attested by a visiter in the room, who informed, that it so remained until it arrived at St. Louis, and was displaced while being conveyed up a winding staircase in that town, to his certain knowledge—I would ask the Dr. what direction he would give them, upwards or downwards? On trial I fear he would find himself on the horns of the dilemma, for the sudden turn which they take after they leave the interior of the head—but of which peculiarity of form the Dr. must be ignorant, as he had not the means of elevating himself to see and examine this very peculiar conformation—absolutely interdicts either, and decides, most conclusively, that the position which has been given is the only one that can be given to them. But are not the tusks of the Mastodon of ivory? if the Dr. had examined these, he would have found them decidedly of bone, having the peculiarity of uniting and becoming whole after an injury, which ivory has not. And are not the bones of the Mastodon found to have contained marrow? the bones of the Missouriium were entirely without marrow, showing the animal to have been amphibious, and therefore not a Mastodon. On the inquiry, "how could you have known the manner in which to replace the bones?" Mr. Koch artlessly replied, "simply by having had the opportunity of taking them to pieces," remarking, that the arched form of the back is precisely that which it bore in the position in which it was found, and which, had it been straightened so as to satisfy Dr. Goddard, would have very considerably added to the length of the animal. The ribs were, indeed, spread out, so as to give the appearance of "an enormous wide and flat chest;" and the very little curvature which they exhibited ought to have convinced any unprejudiced mind—even at a single glance, and without the additional testimony of the "singular peculiarity" of standing half reversed in the body—that they were not those of the Mastodon. Now, I would ask, to what animal do these ribs be-

long if not to the Missouriium? certainly not to the Mastodon, as Dr. Goddard must confess; and where are those bones that were found with them, if they are not these that are exhibited with them?

The question, whether the bones are placed for present exhibition in the position which they occupied in the living animal, is quite another and a secondary one, which might be agitated at some future opportunity.

J. M.

P. S. If the Doctor had contented himself with the negative side of his battery he would have been less vulnerable, but having declared that the bones are those of the Mastodon, he must excuse the positive charge of having acted in this matter without his accustomed fairness and discrimination.

Preservation of Butter.

At a late Council of the Royal Agricultural Society of England, a jar of butter was received from Henry Wood, Esq., as a specimen of the successful mode adopted for its preservation when that article is intended for export to foreign climates.

Mr. Wood informed the Council that this butter had been prepared on the 19th inst., (June,) according to the process adopted in eastern countries, where it was used for culinary purposes instead of hog's lard, which the Mahometan law prohibited, and would keep for any length of time in a perfect state of preservation, although it contained no salt or other additional substance. This preservative state of the butter was induced by the removal of scum, and the dissipation of the watery particles of fresh butter, effected by the gentlest possible application of sufficient heat to produce the result. Mr. Wood stated that in Asia this gentle heat was obtained by the natives by filling a large open earthenware pan with powdered and well-dried cow-dung, and then setting fire to it, introducing into the midst of the burning cow-dung an earthen vessel containing the butter, which thus became melted; and when the scum, as it rose, had been successively removed, and the watery particles driven off by the heat, it was poured into a jar and preserved for use. Mr. Wood suggested that a sand-bath, properly regulated, might answer the same purpose as the dried cow-dung, and as the process was so very simple, there could be no difficulty in preparing it; and that, when once prepared, the butter never became tainted. Mr. Wood stated that he carried with him to the Cape of Good Hope some butter prepared in this way, a year previously, and which was there pronounced to be superior to the salted butter of the colony, and for culinary purposes far superior to lard.

For the Farmers' Cabinet.

Cultivation of the Grape.

MR. EDITOR,—A question over the signature Q. E. D., appeared in the September No. of the Cabinet, as to the best mode of cultivating the grape vine, and as it did not receive an answer in the last number, perhaps the following imperfect sketch may be of service to your correspondent. I have propagated some this season by the slip or cutting, and the plan I find to succeed the best is, to take but one eye for each vine from the last year's growth of wood, and plant it about an inch under the earth in a moist place, where they will be shaded until the second or midsummer growth takes place, which will be about the middle of July. In about a month after, take them up carefully and put them in pots, keep them in the shade a few days, and then put them out. The second season, cut them down to within one eye of the surface of the earth, after which you will have a strong, healthy vine of great vigour. Should it be required to plant them out where they are to remain the second summer, prepare the ground by digging out the earth three feet deep and as many wide, filling up the trench with a compost made of ground bones, cuttings of leather, saw-dust, leaves, and virgin earth; and if what woollen manufacturers call *waste* can be procured, it will be found preferable to every other substance: in such a mixture, carefully composted, I planted some vines last spring, which have flourished admirably; one of them was four or five years old, and had been removed from a plantation where they stood too thick; the roots were bare of earth and it remained out of the ground for some time before planting; but by this mode of culture it has thrown out five branches the present summer, each measuring ten feet in length, making an aggregate of fifty feet. It bore several bunches of fruit, which were removed to give the tree more vigour; my present purpose being shade, rather than fruit.

The present season I have planted several Black Hamburg, White Chasselas, and Rose Chasselas vines, which thrive extremely well by the plan I have adopted—the Black Hamburg in particular; and I attribute my success principally to the use of the woollen waste, which is very oily, and contains three excellent properties—first, the oil, which is a rich nourishment; second, its light substance, which permits the roots to penetrate easily, and form strong shoots so deep as to be out of the influence of frost; admitting at the same time the air, so necessary to vegetation: its third and best property being, its durability, for its effects will last for twenty years. I have tied up my foreign vines with

straw to protect them through the winter, and next season I hope to be able to give as favourable an account of the fruit upon them and my native vines, as I am this year of the vines themselves. The border on which the cuttings are planted should receive a dressing of compost made of river sand, rotten wood or saw-dust, and rich light earth, well turned and pulverized for the purpose. Your well-wisher,

W. P. H.

Manayunk, Nov. 8th, 1841.

Transplanting.

WHEN trees are removed for the purpose of being transplanted, their roots should, if possible, be preserved fresh and entire. If these precautions have been omitted, their whole bodies and roots must be immersed in fresh water during twenty-four hours; and their tops must be lessened in proportion to the loss their roots have sustained. The sources by which they derive the nourishment which they receive from the earth being diminished, the whole sap of the tree, and even its vitality, would otherwise pass off by transpiration.

October and November, and immediately after the first hard frosts have arrested vegetation, is esteemed the best season of all for transplanting trees. The peach, the plum, the cherry, and evergreen trees, do especially well when planted early in autumn. But where circumstances render it necessary, transplanting may be deferred till spring.

When trees are transplanted in autumn, the earth becomes duly consolidated at their roots, and they are ready to vegetate with the first advancement of spring.

The holes for receiving the trees, should be dug from four to six feet in diameter, according to the size of the trees, and eighteen inches deep; the yellow subsoil should be cast out to this depth, and replaced at bottom with rich soil, intermixed with a portion of manure. The tree should generally be set no deeper than it stood before, otherwise the lower roots will cease to grow; the fibres should be spread horizontally, in their natural position, and the soil intimately and compactly placed about their roots; manure may be placed above and beneath, and on every side, but ought never to be suffered to come in contact with the roots, as it is liable, in this case, to corrupt and injure them: finish by treading the ground very hard. When evergreen trees are set, it is generally considered indispensable to pour at once a few gallons of water around the tree previous to treading hard the earth: finish earthing, and tread hard an hour afterwards. This is an excellent and safe mode with regard to any tree.

—*Am. Orchardist.*

For the Farmers' Cabinet.

Soils and Manures.

MR. EDITOR.—When I first read the article at p. 125 of the last No. of the Cabinet, giving an account of the discovery that had been made in France, relative to the cultivation of wheat, merely by the application of straw, without the aid of the plough, I could not but feel sceptical concerning the result. This, however, did not prevent me from making the experiment, substituting a board for the plate of glass; and I await with impatience the springing of the crop. Now, reasoning from analogy, would it not be natural to suppose, that the stalks of asparagus would make the best dressing for the beds containing their roots? They might be bent down by means of a roller passing over, and then there would be no danger of their being carried away by the winter winds: affording a very thick covering of manure, on decomposition, which might be slightly covered by an addition of earth taken from the paths, in the usual way;—indeed, there would seem no question about the rationale of the thing.

Many persons smile at the notion, that the crop of the French agriculturists was found equally productive with those that were raised by means of the highest cultivation, although grown on a perfectly exhausted soil, and without ploughing—nay, that it was better than these; and more wonderful still, that the wheat grown on glass, without a particle of earth, was the best of all!—observing, that “truth is strange—stranger than fiction.” But I have just met with an extract from an interesting publication—“Morton on Soils,”—which seems to take the same ground, namely, that the soil of itself affords no nourishment to the plant!—But I must copy the article as I find it, in the Southern Planter, a valuable periodical, published at Richmond, Va., worthy the high character which it is earning in that part of the Union.

“We have lately met with an extract from ‘Morton on Soils,’ the purport of which is, that the proper qualities of soils are deducible from a correct understanding of the office they perform. *The soil itself affords no nourishment*—it serves only as a great spring, to receive and give up water, air, light, and decomposed vegetable and animal matter—the great elements of plants. There are three great earths, the due admixture of which goes to make up a productive soil; these are, silix or sand, alumina or clay, and lime. Organic matter, whether vegetable or animal, should be kept in an active state of decomposition, because it is only the substances which are evolved in the process, that afford food for plants. It is the property of

silix or sand, to decompose the manure bestowed upon it—and so far it is useful; but unless it be tempered with a due admixture of clay, the porousness causes evaporation and waste. A dry, light, sandy soil, on a clay sub-soil, is more productive than a sandy, gravelly sub-soil, which permits the sinking of the valuable qualities of the manure. The clay underneath also affords a ready opportunity, by deep ploughing, of tempering the sand. But a deep, tenacious, and compact clay, is even less productive than a soil composed of sand, for in such a soil decomposition goes on very slowly, whilst in sand and gravel the process is very rapid. Adhesive clay is also impervious to water, which is therefore collected and retained in too great quantities for the purposes of vegetation.—When calcareous matter forms a soil, it is generally a carbonate of lime, attracting moisture and chemically combining with it. When burnt lime is slaked, whether by exposure or other process, it takes up one-fourth of its weight of water, and is as dry and powdery as the finest flour; and when exposed to the atmosphere, in this state, it soon absorbs the carbon which was expelled from it by burning, and becomes of the same nature as it was before it was burned, namely, a carbonate of lime, but only finely divided. *In its caustic state, that is, before it has attracted the carbon, it is a powerful decomposer of animal and vegetable matter. Afterwards, it has a tendency to preserve these substances from decay.*

“The decomposition of organic matter forms the chief food of plants; and the free ingress and egress of light, air, heat, and moisture, are necessary to this process. We see, then, the necessity of frequently opening and moving the earth; we see also the necessity of a due admixture of the primitive earths—the SAND to promote decomposition, and correct the tenacity of the clay; the CLAY to prevent a too hasty evaporation and loss, and the carbonate of LIME to attract moisture; and we see also the value of a clay sub-soil, and the necessity, so frequently urged, of sub-soil ploughing. What should be the proportion of the different constituents of a productive soil, have been variously stated by different authors, and will, of course, depend much upon the moisture and dryness of the climate—for, according as it is moist, the soil should be friable and porous—as it is dry, adhesive and retentive; and under these circumstances, the proportions may vary from fifty to seventy per cent. of silicious matter; from twenty to forty of clay, or aluminous matter, and from ten to twenty of calcareous matter—the decomposable vegetable or animal matter, not exceeding one-fourth of the weight of the earthy constituents.

"The opposite effects of caustic and carbonate lime, is a point too little regarded in experiments made with this article. It is not an uncommon practice to spread lime on the manure heap, with very different results: for, if the lime is used before exposure, it hastens the decomposition of organic matter; and although some of the gases evolved may be retained by the lime, the probability is, the greater parts are lost. The carbonate, on the other hand, prevents the natural decay, and preserves these qualities from the growth to which they are to be applied; but if administered in too great quantity, it will retard decomposition beyond the period when it is desirable it should take place. Thus, lime is like an edged tool, which, although invaluable in the hands of a skilful operator, may prove injurious when wielded by an unpractised hand."

Referring again to the theory propounded by the French agriculturists, I would say, the idea that nature has the power of renovation must be self-evident, else she could not be perfect, and would long ago have been exhausted; but it is not to be supposed that the system of top-dressing with straw will ever be found either desirable or economical, for all that can be raised will be required as food or bedding for our cattle, and it would be the height of extravagance and folly to return it to the earth before passing it through the bowels of our cattle, or their stables; so that there is no expectation that the plan of manuring with straw will ever be adopted by any practical man, under ordinary circumstances. This, however, does not militate against the new theory of top-dressing; nay, it goes to substantiate the fact, that the system is *natural* as well as *rational*, and may be depended upon in all cases. But it is not less rational to suppose, that the straw of any crop must be greatly enriched by the addition of animal matter, which it acquires in serving as food and bedding for cattle; and it is only to ferment it with a due portion of muck, virgin earth, or other absorbents, in the proportion as four to one, and return it to the soil as a top-dressing, relying upon the system adopted by nature herself, for all the benefit that can be realized from such a process. We hear many persons object to the system of top-dressing ploughed land, considering it a wasteful mode of application; but we do not hesitate to practise it on grass land, without the least idea of its deterioration from exposure to the "light, air, heat, and moisture," so necessary for its proper decomposition.

JAMES SUTTON.

Nov. 15, 1841.

IT is not money *earned* that makes a man wealthy: it is what he *saves* from his earnings.

Arrangement of Flower Beds.

THE contrast of colours is of the greatest consequence, whether for a good or bad effect; for, if to dress a brunette beauty in sky blue makes her sallow, or a fair one in orange colour makes her ghastly, or a fresh-coloured girl in white makes her red, so, to place discordant colours near each other produces just as disagreeable effects, although not quite so personal in a bed of flowers. What are called *complimentary* colours always suit each other;—the complimentary colour of red being green; of orange, sky blue; of yellow, violet; of indigo, orange yellow;—consequently, blue and orange-coloured flowers, yellow and violet, may be placed together, while red and rose-coloured flowers harmonize with their own green leaves.—White suits blues and oranges, and better still, reds and roses; but it tarnishes yellows and violets. In all cases, however, where colours do not agree, the placing white between them restores the effect. The following combinations are good: Orange yellow with pale blue; greenish yellow with deep rose; deep red with deep blue; and orange with violet;—white suiting all these combinations, more or less. But we should always separate rose from scarlet or orange; orange from orange yellow; yellow from yellow green; blue from violet blue; and even red from orange, rose from violet, and blue from violet. Applying these conclusions to the dahlia, the following arrangement of colours is recommended: If in lines, white, reddish scarlet, white, rose lilac, yellow, violet or purple, orange, white, reddish scarlet, purple tinged with green, rose lilac, yellow, violet or purple, orange, white, red scarlet, deep purple, rose lilac, white, yellow, violet or purple, orange, white, &c. To produce the best effect in *patches* of seven, we may have thus: Orange, with a purple or violet centre; purple or violet, with a yellow centre; yellow, with a purple or violet centre; scarlet, with a white centre; white, with a scarlet centre; rose colour, with a white centre; black purple, with an orange centre. These considerations deserve the notice of those who plant out beds of flowers, for they will be found to affect essentially the display of agreeable colours; and in adjusting stands of flowers, the harmonious contrast of colour should always be kept in view, and the importance of attending to the effect of complimentary colours observed advantageously, remembering always, that the nearer colours are brought together, the more decided is their mutual effect.—*Hort. Mag.*

WHATEVER is false is despicable—no one ever loved falsehood, even in himself.

To the Editor of the Farmers' Cabinet.

Helianthus Tuberosum.

DEAR SIR,—I am very much pleased with your description of the Chester County Sow, and am surprised at the number of pigs raised by her. Several of my Woburns have had as many, but I never had a full Woburn raise more than ten pigs. I once had a *half* Woburn which raised fourteen; the Woburns generally, have but ten teats, and I have never known a sow raise more pigs than she had teats, for each pig steadily sucks his own, and the weaker ones that cannot get a teat, perish.*

I am really gratified to hear of the discovery of making sugar from corn-stalks. If the process is a cheap and simple one, and the expectations of Mr. Webb as to quantity should be realized, it will be of incalculable advantage to the northern and middle states. I should fear the use of the corn-stalks after the juice is extracted as food for cattle, for in my neighbourhood, we cut some corn whilst in the roasting-ear state, to commence fattening our hogs for the early market, and threw to them the corn and the stalks; the hogs chewed the stalks, and after extracting the juice, put out the remains, and cattle were very fond of eating the pieces from which the juice had been thus extracted, but a number of those that eat of it died with inflammation of the bowels: this disease is called with us, the "mad itch." The cow appears to have an intolerable itching of the head, and commences rubbing the head, which inflames and swells until the eyes are either rubbed out or closed from the swelling; some become furious, but others continue to rub until they die. It is a very dangerous disease, generally proving fatal: the only remedies that I have known to relieve them have been copious bleeding and purging, with large doses (two or three pounds) of Epsom salts.

The sugar-beet is a very worthless article with us, and contains very little sugar. I have procured seed from various sources, even direct from France, and yet the result has always been the same—an insipid root of very little value: I should have supposed that it was owing to our soil, but for the extraordinary sweetness of the turnip blood-beet. The sugar-beet, from its extraordinary yield, may be made valuable as food for calves, milk cows, pigs, sheep, and other stock that

require *green food* during the winter, if it should be mixed with something that is more nourishing, but I should not like to depend upon it alone.

I put in a large crop of roots last spring, but had them very much injured by the potatoe blister-fly and the grass-hoppers; they almost entirely destroyed my potatoes, sugar and blood beets, carrots, parsneps and turnips; and seriously injured my artichokes, (*Helianthus Tuberosum*) by eating the bark off the stalks. I planted one of my apple orchards that contains 100 trees, in artichokes, and have now had fifty sows two weeks upon them; there are apples and artichokes in this orchard, and the sows appear to me to fatten as fast upon them as the hogs in my fattening pen. I think the artichoke will yield twice the quantity upon the same ground that will be produced by sugar-beets, but I have known of no experiment to prove which is most nourishing. Hogs are much fonder of the artichoke, and cattle eat them equally as well. I think I shall make a larger experiment with them next year, if nothing should prevent. They have one advantage over most roots—they are not injured by frost, for they keep as well one inch under ground as if they were entirely protected from its influence. Yours, very respectfully,

SAML. D. MARTIN.

Colbyville, Ky., Nov. 8, 1841.

French Establishment for the Breeding of Horses.

THE French government has been for a long time so much impressed with the importance of this branch of national resources, that they have formed different establishments, called *haras* and *depôts*, or stations for stud horses; and in some cases, with grazing land for brood mares, no expense being spared, either as regards accommodation for the horses or their selection. Many of the best-bred English horses have been bought, the prices given being as high as 2,000 or 3,000 pounds sterling, and much judgment has been shown in the selection of the English thorough-bred horse. But with regard to the half-bred stud horse, in many instances, an imposing presence or fashionable colour appears to have decided the choice of animals—in which evident mal-formation or organic disease exists. In the spring, a large proportion of these horses are sent out to serve different districts, where they remain until July, and no charge, unless it be something very trifling, is made to farmers for the use of them. But sufficient discrimination is not exercised respecting the *mares*; for, instead of allowing those only to be served which possess decided merit, and are free from hereditary or other disease, no distinc-

* The Chester County Sow here spoken of, raised seventeen pigs, but not without the assistance of the suckling-bottle, the owner being willing to encounter the trouble of attending them. This fine animal has since brought sixteen pigs at a litter, but died within a week after farrowing, to the regret of the whole neighbourhood.—ED.

tion is attempted, and the imperfections of the dam are thus frequently perpetuated.

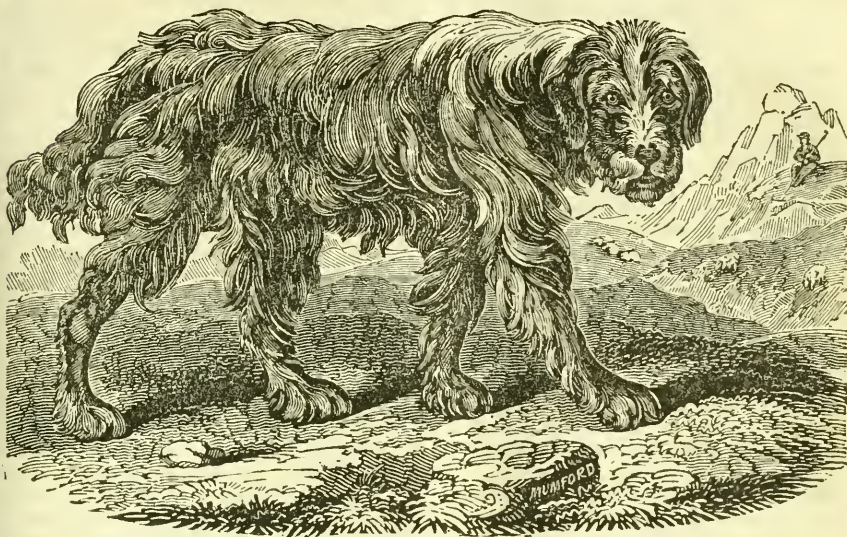
The most important of these establishments in Normandy, are the Hara de Pin, near Caen, and the dépôt for stud horses at St. Lo. In the former there are generally about 500 horses and mares, and in St. Lo about 120 stallions. That at Pomposour, in the south of France, is another of these great breeding establishments, so creditable to the energies of the government.

So entirely unaccustomed are the French to "riding across" an enclosed country, that until very lately they thought it absolutely impossible for any man to ride a mile straight ahead, over fences! To convince them of their simplicity on this point, an English gentleman, residing in the province, and possessing a very choice thorough-bred English hunter, offered to bet at a large French party, where the subject was alluded to, that he would ride his horse over a mile and three-quarters of the rich vale of Avranches, in less than ten minutes, taking fences. His offer was immediately taken, giving him odds, and allowing him twelve minutes for the work, which the French politely insisted was the *least* portion of time they could allow him. The match came off last April, and several thousand persons, of all ranks, came from very distant places to see the performance—feeling quite satisfied that the thing could not be done in the time specified. It is difficult to describe the enthusiasm of the spectators, among whom were noblemen of the highest rank, pressing to be introduced to the rider, after he had easily accomplished his task, and paying him compliments far disproportioned to his achievement. Some ladies did him the honour of assuring him, that he was "the admiration of the whole world!" nay, so exciting was the subject, that the Count of St. Germain, president of the Avranches Agricultural Society, gave a long statement of the whole affair, in the journal of the society, bearing his signature.—From this we shall literally translate a passage, likely to amuse our readers. After many preliminary observations, including the dress of the rider, and the correctness of his horsemanship as he came to the starting post, amidst a vast crowd whose eyes followed his movements with intense anxiety, the count proceeds thus:—

"The noble animal glided like a serpent through the branches which opposed his course, lowered his head with great sagacity, and then extended his limbs horizontally, clearing at a single bound the fences in his way; presenting, as he went along, the image of an ideal course in open space, he surmounted, in two bounds, the wooden fences protecting the streams, coiling up his legs sometimes like a stag in his effort to escape from the hounds, proportioning his exertions to the

difficulty of the leap, and changing his style of going according to the nature of the ground; obedient to the slightest intimation of his rider, he neither felt at any time the want of the guiding hand, nor failed to take advantage of it;—no refusal, no hesitation, no check of any kind, stopped him for a moment; on the contrary, his multiplied bounds seemed only to accelerate his speed. Long and repeated huzzas were soon heard at the winning-post, which Mr. Moggridge reached in *four minutes and fifty seconds!* The rider appeared to have experienced fatigue, but the horse showed no symptoms of distress, finishing with a leap of more than twenty-three feet, over a brook. He had cleared, in his course, fifteen obstacles, one of them a hedge six feet high, with brush-wood at each side, and a distance of a mile and three-quarters in the time. Many anticipated dread at witnessing an exhibition which they considered excessively dangerous; but on seeing the mutual confidence between the horse and his rider, they were soon relieved from their apprehensions. The emotions experienced at an ordinary horse-race are dull compared with the palpitations excited on witnessing an exertion which some cavillers have been disposed to compare with the combats of the circus, but which should rather recall the remembrance of the rude tilts of the middle ages."

The style of this description shows the entire want of acquaintance, on the part of the French, with modern horsemanship.—They view with astonishment a performance which is so familiar with us. But the fact is, the Norman horse, although he may answer for the common purpose of hunting, in a close country, and may find his way over ordinary fences, has neither the length of form which would enable to make a good stretchy leap, the speed to keep up with fast dogs, nor the bottom to hold out. They have trotting matches occasionally, with and without draught; and prizes are given by the government in proportion to the merits of the horses, in single or double harness, or with riders only. One of these exhibitions took place last year at St. Lo, where a young man came up to the starting-post to ride a trotting match on a horse of good promise, but encumbered with a huge new saddle, having attached to it in front a horseman's cloak, in complete French style, and a portmanteau behind. An English gentleman, perceiving the absurdity of unnecessarily imposing upon the horse an additional 35 lbs., offered to the rider the use of an English saddle, weighing eight pounds. But the fellow refused to exchange, on the ground that the horse was accustomed to the heavy saddle, &c., and would not travel well with any other! He lost the race accordingly.—*Quart. Journ. Ag.*



THE SHEPHERD'S DOG.

From the life, by P. Reinagle, A. R. A.

IN the accompanying plate, the artist has done eminent justice to his subject. The soft, mild and inoffensive countenance, indicative of true breed, together with the lopped ear, small nose and prominent under jaw, are admirably portrayed; as much may be said for the figure of the animal as a whole, that gait and peculiar position of the fore leg—it is indeed a portrait from the life.

This race of dogs have a strong natural instinct to *keeping* or watching and preserving anything that may be put under their care, which, joined to patience, mildness and gentleness of disposition, indicate to the inquiring faculties of man their use, as *keepers of sheep*. Their sagacity, docility, and powerful attachment to home and to their master, aided by their natural propensity, render the teaching them their duty an easy and pleasant task, the young dogs indeed being generally instructed by their elders, with little instruction from the shepherd.

But it is upon the continent of Europe where the labours of the sheep-dog are incessant, from the minute division of their flocks and the total want of fences, where he may have to confine his charge to a very narrow strip of land; but even there, their tenderness, kindness, and affection to their charge, are proverbial. Many stories are told of their sagacity, fidelity and attachment to human nature, of which the following are well authenticated. A person living in Yorkshire, purchased a flock of sheep from the county of Durham, and after the sheep had been several days on their travel, the owner set out from his home to meet them, accompanied by his dog; they were brought in safety and lodged in a field for the night, the dog in charge; but the next morning, fifteen of the sheep with the dog were missing. The owner not knowing what to do, determined to leave the matter to *Trusty*, remarking, "he would not leave them, while he had a foot to travel on," and at the end of two days and three nights, his ears were gladdened by the barking of the faithful creature, who was entering the village in the rear of the fifteen runaways, and driving them before him with the greatest care! The distance they had gone must have been very great, as they had much wild country to run over.

As a young man was attending his father's sheep he had the misfortune to fall and break his leg, while three miles from home. The extreme pain from the fracture while lying on the damp ground in the inclement season of winter, suggested to him the following expedient: folding one of his gloves in his pocket handkerchief, he tied it round the neck of the dog, and ordered him *home* in a rough voice; the faithful animal immediately set off, and returned with the parents of the youth, just as evening was closing around him.

A farmer who lived near Harrow-weald common purchased a lot of sheep at Kingston fair, the jobber *throwing in his dog*, as the purchaser expressed a fancy for him: the sheep and dog were taken home, and at eventide the flock were committed to the care of the dog for the night; but in the morning they were all missing! The fear that they had been stolen was heart-breaking to the farmer, but having searched the neighbourhood in vain, the thought occurred, that the dog had taken them back to their old quarters, and so it proved, for he overtook them within a few miles of Kingston, the faithful animal driving them soberly and carefully along before him!

On another occasion, a dog, having the charge of a large flock of sheep in a field near Guildford, drove them into a pit, and instinctively feeling it his duty to keep and guard them there, confined them so closely through the night as to cause the death of nearly 200 of them, which were found in the morning smothered by close packing.

For the Farmers' Cabinet.

Hessian Fly.

MR. EDITOR, — The present autumn has been peculiarly healthy and favourable to the growth of the winter-sown grain; there is therefore no complaint of the fly in the wheat, although much of the seed which has been sown was as highly *charged* with its eggs as the firmest friend of the Morris school could desire or even hope. What will now become of the labours of those who have been engaged in the rearing young Hessians for the last three months? To be serious, what need is there of any further testimony, to prove that the fly is the *effect* of disease, and not the *cause*? To argue the matter further would only, in my estimation, be to darken counsel with words without knowledge. And although it might be said, it is in vain to war with the elements, yet, to be prepared for sickly seasons, by cultivating a hardy, healthy state of the plant, is the part of true wisdom; and this might be done, as has already been said, by sowing on unexhausted soils, not rendered light and porous by dung and fallow, which are given with the view to recover that *stamina* of which the land had been deprived by the growth of a crop of oats; and this, in a climate too hot and dry for the growth of wheat, which delights rather in a moist, cool and compact soil: at any rate, upon such soils and under such management, it is necessary that the sowing should be delayed twelve or fourteen days after ploughing, that the soil may become firm and compact, to receive the roots of a plant destined to withstand the rigours of winter, and the effects of frosts and thaws, which it can never do without suffering injury, in a spongy surface, resting upon a hard and tenacious subsoil, commonly called *hard-pan*. To me, it does not appear necessary to go far to discover the origin of the Hessian fly, while to guard against it is the part of good husbandry, and this might in a great measure be accomplished, by a judicious course of crops and proper cultivation; and I hail the theory of top-dressing with *delight*, convinced that the system will work wonders for the growth of the wheat crop, securing for it a compact surface-soil, which, with a subsoil broken up by means of a subsoil plough, (which in England is enabling them to pay their taxes,) will, in this country, lead to the most profitable results.

Is it not curious to observe, that no complaints are now made of the Hessian fly, although the crops have been sown, as usual, at all times of the moon, and at all seasons, whether early, late, or *middling*; before, as well as after the frosts that have fallen out? and without regard to all this, all is now as it should be! What now becomes of the pro-

posal "to discontinue in toto the cultivation of wheat throughout the country for several years in succession, to starve out the fly!"

VIR.

Nov. 20, 1841.

The Culture of the Vine.

THE vine flourishes in almost every latitude in the temperate zone, but is more prolific and useful between the parallels of 40° and 45° in Europe, and 35° and 40° in the United States. Wine cannot probably be made to advantage in a higher latitude, yet with a little care grapes for the table may be successfully cultivated 5° further. It is said that better table fruit is produced in England than in France or Italy. Artificial heat is there frequently employed, but the necessary trouble and expense entirely prevent its utility to the American farmer, and it can well be dispensed with. Grapes of excellent quality and in great perfection may be raised by our farmers with so little trouble and expense as to make it an object of attention. The species termed *Isabella* and *Catawba*, might be selected as hardy and producing an abundance of choice fruit. They may require occasional protection from the severe frosts of spring and fall, and need to be covered through the winter. Care should then be taken that they be preserved from moisture as well as cold. A little additional attention of pruning and training secures a good harvest. Little attention has yet been given by farmers to the cultivation of the vine, which may seem surprising, when it is considered that almost every farm possesses a suitable location for its growth, and that the abundant return of a delicious fruit would amply repay the cultivator, in his gratification, and profit if in the vicinity of a market. But the reasons are obvious. The proper way of managing vines, and ripening the fruit, is so little known that few have made the attempt, or when they have, no permanent success has resulted.

Setting.—A light soil is best, rather dry than moist, and for the full benefit of the sun, a slope towards the south or south-east should be selected. The vine may be propagated in several ways. If a branch of the parent stock is bent down and covered by a few inches of earth in the early part of the season, it soon takes root at the joint beneath the soil, and may be transplanted the second year. This has by some been considered the best method, and it has the advantage of requiring little time and trouble. Cuttings are, however, more generally recommended. They should be taken from the vine at the fall pruning, and preserved for setting till spring. Each cutting should consist of a little more than one joint of the last growth, with a piece of

the old wood, resembling together a little mallet. These are set in the soil, prepared to sufficient depth, either in a sort of nursery or where the future vine is wanted. If where the vine is to be trained, two or three cuttings are put down near together, and the strongest selected after they have taken root, and the others removed. Each cutting may be set in a position nearly vertical, and covered within half an inch of the top. A strong stake should be driven into the ground to support the young shoot, and the soil worked frequently with the hoe and kept clear from weeds.

Vines rarely need watering, and it should be done only occasionally in time of drought.

Training.—Various methods have been adopted by vine-dressers. In France, the main stalk is permitted to grow only a few feet in height, and the branches are carried off laterally and fastened to upright stakes set in rows for the purpose. The separate vines are placed at the distance of 16 or 18 feet apart, and the vineyard appears in continuous rows, somewhat like a New England corn-field, with wider intervals for pruning and gathering the fruit. The branches here shoot out near the ground, which gives a more acid flavour to the grape, a desirable quality for the manufacture of wine. In Italy the vine is more frequently trained upon arbours, or trees that produce scanty foliage. No branches are allowed to grow upon the main stock or trunk, until it has ascended 8 or 10 feet to the top of the arbour, or it may be a much greater height to the limbs of the tree. It then expands itself and roofs the rude arbour with a gorgeous covering, and suspends its clusters beneath, or adorns the lofty tree with its pendant branches and tempting fruit. Arbours of lattice or trellis work are often used in our own country, or what is more convenient, a simple trellis, either perpendicular or sloping. This may be put up at small expense, with upright posts at proper intervals, with horizontal slats or bars, 6 inches asunder. These need not come within 2 or 3 feet of the ground, and may extend as high as necessary, perhaps 6 or 8 feet. The vines are planted at intervals of 8 or 10 feet near the trellis. They may then be conveniently taken down to be protected from the winter and secured again to the trellis at the proper time in the spring. A single trunk should come from the root, and no shoot or branch be allowed to grow within 2 or 3 feet of the ground. Above that distance, the vine may be trained at the pleasure of the cultivator. It may cover the whole trellis, but one shoot should not overlap another, which would shut out the sun and check the growth of those beneath.

Pruning.—A careful and judicious prun-

ing is an indispensable requisite to a good harvest from the vineyard. If the vine is produced from a cutting, one shoot will be sent out the first year. This should be cut down to two joints in October. The second year, one shoot from one of the joints only should be allowed to grow, which must in like manner be cut down to two or three joints in the fall. The third year, two branches may be preserved and cut down at the fall pruning, so as to leave from two to five joints, as they may appear thrifty or otherwise. All shoots that appear at parts of the vine where they are not wanted must be rubbed out, and the main body of the stalk kept naked. The fall is the best time for pruning, perhaps in October, after the fruit is gathered. As many branches of last growth may be left as the cultivator may think the parent stalk will sustain for the next year's fruit, and each branch cut down to a proper number of joints. The wounds occasioned by the fall pruning are closed before the ascent of sap in the spring. Any considerable pruning at that time would cause an exudation of sap to the injury of the vine. It is a common fault to allow too great an extension of the vine, and the object in pruning should be to reduce it to just what the vigour of the root will sustain for the perfection of the fruit, and what can be presented to the rays of the sun.

Ripening.—In July, after the clusters have appeared, a portion may be cut from all the branches where they are found. The superabundant nourishment is then taken up by the fruit, which attains a greater perfection and becomes suitable for gathering many days earlier. Any black surface in rear of the vines, as a painted fence, or wall, is said to answer a good purpose. If the branches be taken off with the clusters and suspended in a warm room, they will be preserved fresh, and continue to ripen for some time. The leaves seem necessary to the perfection of the fruit, and should never be removed. The most successful practice which has been adopted is, to take from the last year's wood of the bearing branches a ring of bark about $\frac{3}{4}$ of an inch in width, that is, to perform what is called *girdling*. This is done the first of July, and the bark is soon renewed, and may sometimes require a second removal. When this girdling is employed, the ends of the branches should not be cut off. The branches treated by this latter method will ripen much sooner than others, and an earlier and later crop may be had from the same vine.

Hanover, N. H.

T. T.

Far. Mon. Vis.

Excellent Ointment for Cattle.—Equal parts Venice turpentine and hog's lard, well beaten together.

For the Farmers' Cabinet.

Advantages of Travel.

MR. EDITOR,—Having cut my corn, and removed it to an adjoining meadow for the convenience of husking, cleared the ground of the roots, and ploughed and sown it with wheat, I thought I could not do better than put in practice the plan recommended in the Cabinet, and go and see what my friends were doing. Accordingly, one fine morning during this remarkably fine Indian summer, I mounted my horse, and rode across to my old neighbour Curtis's place. I had not seen my friend for many years, but had often heard of him as a tip-top manager, well to do in the world, but rather singular in his system of farming. I found him on a noble farm of 250 acres, which he cultivates with the hand of a master; and after a week spent with him, if I have not returned with the experience which will pay me cent. per cent. for the capital invested in travelling expenses, it will be my own fault.

All hands were busily employed, although his wheat was sown, his corn husked and put safely away, with the stalks snugly built into a stack, adjoining his bullock-houses, and covered with straw—for while one party with a couple of ox-teams were carting a lot of capital rich earth from the roadside, at the bottom of the hill half a mile from home, where it had been accumulating the last year a drainage from several establishments near, where the custom is to permit the washings of their cattle yards to pass away, by the ditch leading down the road, and placing in it a large pen, to the depth of three or four feet, upon which to feed his hogs, fifty in number, during their first season of fattening, and by which it will be trodden and rooted into capital manure for dressing corn-land,—another party was busily employed throwing the contents of a muck-hole on to the dry bank, preparatory to the formation of a magnificent compost-heap, during winter—the straw-yard furnishing the means of converting it into a dressing far more valuable than the best stable dung, more lasting in its effects, and better suited as the food of plants, from the purifying processes of fermentation and pulverization. Two other men were cutting a very wide ditch, or narrow canal, to drain an adjoining swamp, that had formerly been the cause of much sickness, but now, having come into his hands, it will soon be rendered the most valuable spot of his possessions, giving many hundred loads of earth and muck for future dressings, and rendering what had hitherto been a nuisance, a healthy spot of rich pasture—an old quagmire, in which many a beast had fallen and been lost, into a lovely meadow, with a stream

meandering through it, and supplying with water a second cattle-yard below.

My friend is a stickler for the theory and practice of top-dressing, in all its variety of application, having followed it for years, and derived ample proof of its efficacy; and offers to cultivate a field in the following manner, the whole to be managed exactly alike in its preparation. One half to be manured, and turned in before sowing with wheat, the other half to be sown at the same time, *without manure*; the same quantity of manure, however, which had been given to the wheat on one-half, to be reserved as a spring top-dressing for the other, after being composted during the winter; and if one-third more wheat, and of equally superior quality, be not reaped from this half the field than on the other, then he will forfeit any sum that might before have been agreed upon. He is also a strong advocate for top-dressing meadows in the autumn and winter, and has a heap of compost ready for carrying abroad, that will cover many acres, by which he argues, the grass will be greatly protected from the frost, and be enabled to make earlier progress in the spring, affording a bite to his cattle a week or ten days earlier at that important season of the year. Like many others of our improvers, he limes heavily, but his mode of application is singular, and appears to have an excellent effect, judging from the herbage which now clothes his fields, of most excellent quality, white clover and green-grass predominating. He spreads his lime thickly on the grass-land the year before he intends to top-dress with compost, and declares that the effect is surprisingly beneficial, the natural herbage springing after, being of quite another species, and peculiarly adapted for fattening purposes; and thus he is in no danger of liming to excess. On a meadow on which he practised this mode of top-dressing, the last year, he has, at the present time, a second growth of the finest verdure, far superior in quality to many of the first crops in the neighbourhood; and the cattle eat the whole indiscriminately, leaving no tufts, as is so usual on meadows at this season of the year.

On my asking if he did not find it expensive, thus to take up and put down, and mix and turn his muck and dung, so often before carrying abroad, he replied—“Certainly: and that is the perfection of the system. When I go to Philadelphia, and see the men in Market street busily packing and preparing for sending abroad their merchandise, I do not hear them complain of the labour and time which it takes. The hope of reward sweetens that, and the more persons they can find employment for, the greater they calculate their profits will be;—it is *labour*, not

leisure, to which they look for remuneration, and I find that this principle works quite as well upon the farm; for the more it costs me for labour, the greater are my profits, and also my *pleasures*—for I love to see fat meadows and fat cattle, and have long been convinced of the truth of that beautiful passage of scripture, where it is said, ‘there is, that scattereth and yet increaseth.’ I always debit my fields with the labour bestowed upon them, and they never yet have deceived me in the ‘promise to pay,’ that I receive from them at the time, with compound interest for years after. A *middling* crop never yet paid a *profit*; if it pays *expenses* it is well—and then the farmer enjoys the satisfaction of having ‘spent his strength for nought,’ thankful that it is no worse; it is the *additional bushel* which constitutes the *profit*—and if that be sufficient, I have carried my labour to a good market; and what can, what *ought* I to expect more? But this doctrine is *Greek* to most of my neighbours.”

I was amused to hear one of his neighbours describe his activity and circumspection during the hay and grain harvest; he seemed to be everywhere, urging the men to *cut low*, observing, his profit consisted in the *last half inch* of the grass-crop, and telling them he did not care if they left the top standing, provided they cut the last half inch! remarking of him, that whatever he took in hand was seen to prosper, he was such a *fortunate man*; and then he related what took place at the last sale of sheep in that county, where the drovers demanded a higher price than what was generally supposed to be their value: My friend thought otherwise, and after asking if the neighbours had made up their minds not to purchase? and received for answer, “Yes,” bought the whole; telling them he would be glad to sell them as many as they wished for, the next morning, at his farm, and at the price which he had given, *running them out*—that is, not permitting a selection of them; and by daylight the next morning, they had all been taken off his hands, not, however, before he had selected as many as he required for his stock, which happened to be *just the best sheep in the lot!*

During this season of *activity* with my friend, but of *leisure* with many of the rest of us, his other teams were busily employed turning every acre of unoccupied land for winter-fallow, ploughing an extra depth, and laying an inch or two of the sub-soil to the influence of the frosts, to be returned to its bed in the spring, by running back the furrows, preparatory for crossing and working for crops. But I must conclude for the present, and after having *practised* some of my friend’s precepts, I may *preach* again.

The Dahlia.

THE dahlia is subject to vary so much in different situations and seasons, that great difficulty exists in gaining an accurate knowledge of the merits of each kind, especially of those which have been only seen for one season. The circumstances under which it is grown are also so various, that unless you see the plant, you cannot fairly judge the value of the flower. Much attention is requisite in order, if possible, to find out what particular culture a given plant has been subjected to; for example, whether the shoots have been much thinned, the flower shaded, a great deal of manure given, or none at all, &c. All these circumstances should be inquired into, or how can we expect to get fine flowers from new kinds? The following facts with regard to new kinds of dahlias, should always be borne in mind, before condemning them the second year:

1st. That the seedling plant is much debilitated by propagation, and therefore the flowers are rarely as good the second season as they are the first and third. This circumstance alone accounts in a great measure for the dissatisfaction expressed of late years concerning the merits of new dahlias.

2d. That the best flowers are obtained from those plants struck from the first cuttings produced by the mother plant, notwithstanding that they are seldom as strong as the cuttings that are afterwards produced.

3d. That exciting the roots by a strong heat, early in the spring, and striking the young plants on a strong dung bed, tend to weaken the plants so treated, to such a degree, that they frequently require two or three seasons to recover and regain their original character. Thus it is found, that good flowers are obtained with the least trouble, from those plants kept in pots the first season after striking, planted out the following season, and allowed to start of their own accord.

4th. That in wet seasons manure is frequently very injurious, from its causing the plant to grow too luxuriantly, and thus to produce but few flowers, while in very dry seasons, it is equally beneficial. Much more depends upon a change of soil than upon its composition and quality;—with moderate attention good flowers may be obtained from plants growing in brick rubbish.

5th. That water is a point which cannot be too much attended to. A great difference exists between hard and soft water; but still more depends on the manner in which it is applied—for one or two good waterings are much better than a small quantity given three or four times a week.

6th. That taking up the roots *immediately* after a frost has destroyed the *top*, is the

principal cause of so many roots dying during the winter season.

These facts should always be remembered. They may not only be taken as rules for judging new dahlias by, but may also save from the vexation and disappointment consequent upon the production of bad flowers from new and expensive sorts of dahlias.

Gard. Chron.

For the Farmers' Cabinet.

Wheat Sowing.

MR. EDITOR,—I must tell you how I managed my wheat land the present season—for, unless I greatly err, you will join me in the calculation, that it is about the best and most likely mode of insuring a crop early at harvest, and free from rust—two considerations of the highest moment.

My land was a clover-lay, from which I mowed two crops of hay of very great weight. They were grown by means of a heavy top-dressing in the spring, consisting of barn manure, hog-dung, and various substances, some of them so fresh and unfermented as almost to make one believe they would not be out of the way of the scythe by hay harvest. But the roller passing over, and the decomposition which followed immediately after—induced, no doubt, by the action of light, air and heat, according to the beautiful theory set forth in some of the late numbers of the Cabinet—left not a particle of it to be seen at the time of breaking up the land, which was done as follows:

First, I ploughed the land with a deep and small furrow, according to your directions, and left it to dry and settle for about three weeks, at the end of which time, the surface had become hard, and to appearance impenetrable. I commenced by passing the harrow once over it in the direction of the furrows, and then sowed the seed, two bushels and a peck to the acre. I then worked it once over with the cultivator, which perfected the business, burying every grain of the wheat, and throwing it into drills as completely as it could have been sown by a machine, with the advantage of leaving a ridge of finely pulverized earth between the rows, to be operated upon by the winter frosts, mouldering and moulding up the plants as neatly as it could be done by hand, forming also a defence to the sweeping and piercing winds while passing over the surface, "cutting it into ribbons," as my next neighbour terms it; and if I say I never before witnessed a sight in my business that so delighted me, I guess you will believe me, for the result has been a plant of wheat of inconceivable beauty, of a deep green colour, lying close to the ground, and curling like young cork-screws—promis-

ing to pay, as some one says, for value received, at the rate of 50 per cent. per annum. I declare that this single experiment has worked like a charm upon me; and I await with impatience the arrival of the spring, that I may practise the many other lessons which you are giving us in the pages of the Cabinet—especially that of raising the sugar-beet as a second crop, say, after rye, or perhaps better, after buck-wheat, preparing for manuring them by composting the dung from the barn-yard with rich mould, during the leisure of winter, *secundum artem*.

Mr. Editor, we are indeed only on the threshold of the "Temple of Agriculture;" every day that I live I am convinced of this truth, and the more I learn the more I yearn to know more. One of your correspondents proposes that we fabricate "facts" for ourselves—a very excellent proposal; in this spirit have I commenced the experiment which I here detail, and have been induced to offer it for insertion in the Cabinet, in the hope that others will go and do likewise.

With every good wish, and perfect esteem, I subscribe myself, STILL A LEARNER.

Nov. 30, 1841.

P. S. Will those who have grown Hessian flies the present year, inform us of their whereabouts.—I have not one, even as a sample!

Summer's Gone.

HARK, through the dim woods dying
With a moan,
Faintly the winds are sighing—
Summer's gone—
There, when my bruised heart feebleth,
And the pale moon her face revealeth,
Darkly my footstep stealeth
To weep alone:
Hour after hour I wander
By men unseen—
And sadly my young thoughts ponder
On what hath been;
Summer's gone!

There in our own green bowers,
Long ago,
Our path through the tangled flowers
Treading slow;
Oft hand in hand entwining—
Oft side by side reclining—
We've watched in its crimson shining
The sunset glow.
Dimly the sun now burneth
For me alone,—
Spring after spring returneth,
Thou art gone.
Summer's gone!

Still on my warm cheek playeth
The restless breeze:
Still in its freshness strayeth
Between the trees,
Still the blue streamlet gusheth—
Still the proud river rusheth—
Still the calm silence husheth
The heart's disease.
But who shall bring our meetings
Back again?
What shall recall thy greetings
Loved in vain?
Summer's gone!

To the Editor of the Farmers' Cabinet.

Corn-Hauling Machine.

DEAR SIR, — Much of the usefulness of agricultural implements is lost to the community in not having a full and proper account given of the manner of using them.

I am friendly to all labour-saving implements, and would desire to see brought into practical use all such as are economical and within the reach of ordinary farmers. The machine to which I now have particular reference, is the one figured at page 73, 5th vol. of "The Farmers' Cabinet," Mr. Cooper's, for removing corn-stalks. On reference to the letter-press this sentence occurs, "By such, a lad may of himself, clear the heaviest crop in a very expeditious way, and in the most easy manner imaginable." Now the *mode* of using the machine is not given; if it is intended that it should be backed up to each shock or stack, after having been set up in the field, and the rope drawn over or around it, and by the lever at the windlass to haul away till the frame—as it appears to be on hinges—together with the shock is brought over on the shafts, then it is easily understood. But if so, can but one shock be taken at a load? By that mode, I should not think it would be a very *expeditious* way, although done in the most easy manner imaginable, for if the field of corn is cut up at the ground, and it is designed to carry away stalks, corn, and all together to the barn or some convenient place to husk, where, may be secured and put away the corn in the house and the stalks at once under cover, as they should be, and the field was half a mile off; or only a fourth, I take it, it would be a very tedious operation. My object, however, is not to criticise nor find fault, but to gain information on the subject, as I am anxious to know the best mode of clearing a field after the corn is cut up, because I think *wheat should follow corn, and not oats*.

Should it be in your power to give the desired information in the next, or some subsequent number of "The Farmers' Cabinet," it will oblige one, if not

MANY SUBSCRIBERS.

Manheim Township, Schuylkill Co., Penn.
Nov. 27, 1841.

Mr. Benjamin Cooper, of Camden, New Jersey, has had the Corn-Hauling Machine in use about fourteen years, and finds that a lad 15 years of age is capable of clearing by it five acres of corn a day, much, of course, depending upon the distance to which it is hauled. His corn is always very large, but this makes but little difference in the time requisite in the employment of hauling, the shocks being formed large, say from 20 to 30 feet in diameter, closely built and carefully bound; then the work proceeds very rapidly.

Our correspondent has described, very exactly, the mode of using the machine, which he has clearly un-

derstood from the examination of the print at page 73 of our 5th volume; the very act of hauling away at the windlass bringing over the corn and frame on the shafts, where it is fixed by the rack-wheel, which only requires to be liberated on arrival at the place of destination, when the corn, by being lifted at the top with the lever, takes the exact position it occupied in the field, the weight of the butt-end bringing it quickly to the ground, and leaving it standing perfectly upright; and it is only the work of a minute to free the rope and proceed for another load. Thus it is by no means a tedious process to clear a field, especially if two machines are used, when the distance is great or the field very large.

It is particularly refreshing to find our valued correspondent advocating the removal of the crop to the barn preparatory to husking, where may be secured and put away, the corn in the house and the stalks at once under cover, *as they should be*, and after that, to sow the land to wheat and not to oats! That is the way to raise grain rather than straw, and to protect the crop, as far as may be, from the fly, the mildew, and the rust; all which advantages might be calculated upon, even in seasons which, otherwise, would entail upon the cultivators of this most important of all crops, diseases which are frequently incident to an improper course of crops and the injudicious use of unfermented manures. But upon such a light and pulverized seed-bed as is afforded by a well-worked corn-stubble, we would recommend the mode which has so often been found of incalculable benefit to the wheat crop—namely, to defer sowing the seed until the land has been ploughed a sufficient length of time to become firm and well-settled, and if rain intervene, so much the better, awaiting, however, the soil to become dry and workable under the harrow, never fearing the delay even of a fortnight on this account. On such a soil, enriched by a heavy manuring for the corn, but not rendered light and over-luxuriant by a dressing of barn manure, coarse and unfermented, with the view of returning to the earth that vigour of which it had been despoiled by a crop of oats—a plant which feeds *precisely* on the pabulum best adapted to the wheat-crop—a larger quantity of seed may be sown, and a consequent heavier crop may be reaped, sufficiently strong to stand up and ripen a week earlier in the season, which circumstance alone will often be found a preventive of rust. No wheat need be more than four feet high in the straw; all the growth which it attains above that, is acquired at the expense of the ear. — Ed.

"FROM upwards of 20 years' experience, I am of opinion that the best way of sowing clover lands with wheat is, to plough the land ten or twelve days before you sow it, that the land may have time to get dry, and after rain to work well. I am at a loss to account for this, but I have often tried this mode against that of sowing on fresh ploughed lands, and *always* found the former to answer best."—*Macro*.

THE humblest and most laborious condition in society needs not be miserable. "To labour and to be content with that a man hath, is a sweet life!"

No End to Improvement.

He that believes agriculture is perfect, and that we have nothing to do but pursue the old and beaten track, as blind animals move round the tread mill, deserves our compassion. Nature proclaims that neither agriculture, nor any other branch of natural science, can ever become perfect. The mind of man is capable of indefinite improvement, so are all the productions of nature. For examples, look at the valuable plants in the condition in which they were first found in their native woods. The various kinds of corn, potatoes, cabbages, fruits, &c., were all, before they were touched by the finger of culture, as unlike what they now are, as different species are unlike. They are all susceptible of continual improvement, all ever running into new varieties. It is not long ago, that the potato was a useless, unhealthy vegetable in the woods of South America, where it was first found; but it has been so changed by the hand of care and industry, as to become large and healthy, and now supplies food for more human beings throughout the earth, than any plant, save corn and rice, and is no doubt destined to as much future improvement as it has received in the past. Compare the maize, or Indian corn, as first seen in the feeble stalk and slender roasting ear around the wigwam, with its hundred varieties in its present maturity, yielding in value its countless thousands to national wealth. And we are just now beginning to see the improvement of which this valuable plant is still susceptible.

The succession of the seasons—the calm—the storm—the course of the winds—the revolution of the heavenly bodies—the nature of the earth—the food of plants—the influence of water, light, heat, and air, on the growth of vegetation—the proper composition of the various soils to furnish the greatest amount of production, will ever be subjects too broad for the full grasp of the most profound philosophers, and in the unfathomable profundities of which, new discoveries will be made as long as this frame of nature shall endure.—*Me. Farmer.*

Economy of Agriculture.

THERE is no subject less understood nor more generally mistaken than this; nor any more essential to the prosperity of agriculture. Sufficient to afford matter for an entire treatise, it cannot be embraced in a short chapter. But a short chapter may put minds upon the track, able to unfold its involutions with every branch of agriculture, and more especially to disclose its value.

Diminutions of comforts, necessities and expense, are too often mistaken for the means

of producing the ends they obstruct; and the rapacity which starves, frequently receives the just retribution of a disappointment, begotten by a vicious mode of avoiding it. From the master down to the meanest utensil, the best capacity for fulfilling the contemplated ends, is invariably the best economy; and the same reasoning which demonstrates the bad economy of a shattered loom, will demonstrate the bad economy of a shattered constitution, or an imperfect state of body. The cottagers who inflict upon themselves and their families the discomforts of cold houses, bad bedding, and insufficient clothing, to acquire wealth, destroy the vigour both of the mind and body, necessary for obtaining the contemplated end, at which, of course, they can never arrive. The farmer who starves his labourers, is a still greater sufferer. He loses the profits produced by health, strength and alacrity; and suffers the losses caused by disease, weakness and dejection. In like manner, the more perfect, the more profitable are working animals and implements, and every saving by which the capacity of either to fulfil their destiny in the best manner, is diminished, terminates with certainty in some portion of loss, and not unfrequently in extravagant waste. Even the object of manuring is vastly affected by the plight of those animals by which it is aided.

A pinching, miserly system of agriculture may indeed keep a farmer out of a prison, but it will never lodge him in a palace. Great profit depends on great improvements of the soil, and great improvements can never be made by penurious efforts. The discrimination between useful and productive, and useless and barren expenses, contains the agricultural secret for acquiring happiness and wealth. A good farmer will sow the first with an open hand, and eradicate every seed of the other.

Liberality constitutes the economy of agriculture, and perhaps it is the solitary human occupation, to which the adage, "the more we give, the more we shall receive," can be justly applied. Liberality to the earth in manuring and culture is the fountain of its bounty to us. Liberality to labourers and working animals is the fountain of their profit. Liberality to domestic brutes is the fountain of manure. The good work of a strong team causes a profit beyond the bad work of a weak one, after deducting the additional expense of feeding it; and it saves moreover half the labour of a driver, sunk in following a bad one. Liberality in warm houses, produces health, strength and comfort; preserves the lives of a multitude of domestic animals; causes all animals to thrive on less food; and secures from damage all kinds of crops. And liberality in the utensils of husbandry, saves

labour to a vast extent, by providing the proper tools for doing the work both well and expeditiously.

Foresight is another item in the economy of agriculture. It consists in preparing work for all weather, and doing all work in proper weather, and at proper times. The climate of the United States makes the first easy, and the second less difficult than in most countries. Ruinous violations of this important rule are yet frequent, from temper and impatience. Nothing is more common than a persistence in ploughing, making hay, cutting wheat, and other works, when a small delay might have escaped a great loss, and the labour employed to destroy, would have been employed to save. Crops of all kinds are often planted or sown at improper periods or unseasonably, in relation to the state of the weather, to their detriment or destruction, from the want of an arrangement of the work on a farm, calculated for doing every species of it precisely at the periods and in the seasons most likely to enhance the profit.

A third item in the economy of agriculture is not to kill time by doing the same thing twice over. However laboriously at work, we are doing nothing during one of the operations, and frequently worse than nothing, on account of the double detriment of tools, teams and clothing. The losses to farmers occasioned by this error, are prodigious under every defective system of agriculture. Shifts and contrivances innumerable are resorted to for saving time, by bad and perishable work, at an enormous loss of future time, until at length the several fragments of time thus destroyed, visibly appear spread over a farm, in the form of ruined houses, fences, orchards and soil; demonstrating that every advantage of such shifts is the parent of many disadvantages, and that a habit of finishing every species of work in the best mode, is the best economy.—*Arator's Essays*.

Span-Level for Draining.

It is necessary to relieve lands from superfluous moisture before they can be made productive. Many soils are underlaid with a retentive sub-soil, and these are of the kind to be most benefited by the operation; and thorough draining will often quadruple the product, and indeed it is calculated to render lands, now productive only of noxious weeds, the most fertile in the country. In open drains it has been found by experience, that to carry off the water effectually, a fall of three inches in fifteen is necessary; and to guide in effecting this object, the common span-level is in general use. The feet are placed exactly fifteen feet apart, with one of them three inches shorter than the other.

The instrument is now placed upon a perfect level, and the place where the bob-line falls on the cross-piece is marked plainly. This falls, of course, out of the centre, one leg being shorter than the other. It is only then, to set the shortest leg of the level in the direction I wish the water to run, and lower it until the line of the bob falls on the mark on the cross-piece, and then I have, of course, a fall of three inches in fifteen feet; then, by moving the long leg or foot of the level to where the short one stood before, and by making the bob play in its place, on the cross-piece, the regular fall is contrived in the shortest and easiest way imaginable. This very simple and efficient instrument may be placed in the hands of any man of the plainest understanding; and in forming water-furrows across sown lands, preparatory to the carrying off winter rains and snow-water, it will be found a most valuable auxiliary.

Southern Planter.

New Mode of Grafting.

MR. DOWNING, of Newburgh, has lately practised with success, a new mode of grafting, the object being, to test the quality of fruits raised from seeds in a shorter period than would be possible by permitting such seedlings to stand until their natural time of bearing. The method is, to put the top of a shoot from a seedling tree, or a new variety, when it is desirable to procure a specimen of the fruit immediately, upon the top of a thrifty shoot of a middling aged and fruit-bearing tree: the process being simply to take thrifty shoots, about a quarter of an inch in diameter, and cut them in a slanting manner clear through, so as to detach about four inches of the top from the rest, making the line of the angle about an *inch*—the stock being cut in the same manner. The backs are then to be carefully united, and bound up with yarn, covering the whole with grafting wax, to exclude the air. By this mode, fruit may be obtained in a short period, so as to test its value at an early day—the operation being simple, with scarcely a fear of failure.

Hort. Mag.

Scalding Milk.

THE Devonshire mode of managing milk, whether intended for the churn or otherwise, is, to scald it immediately as it is strained from the cow. After this operation it does not sour so soon even in summer; and if it is intended for butter-making, you have sweet milk for family use, after the cream is taken off. In winter, the cream that is taken from scalded milk will not require more than fifteen minutes' churning to bring it into butter.

For the Farmers' Cabinet.

Shell Lime-Kiln.

MR. EDITOR,—A stranger to you, but one to whom *you* are not a stranger, addresses you for the purpose of asking information with regard to a kiln for burning *oyster shells* for manure. I own a small farm near this city, and am anxious to improve it *permanently*, which I do not think can be done without calcareous matter. I am highly pleased with your description of a kiln for burning stone-lime, at page 46, vol. 4, Farmers' Cabinet, and wish to know whether the same model is the best for burning oyster shells, and whether it is absolutely necessary that it should be egg-shaped—the only objection I have to the shape is, that we cannot get suitable stone on the land, and where brick is used, it will require some iron-work to bind and support the kiln made in that shape, which will make it more expensive. Now, sir, without going *farther around Robin Hood's barn*, I have never seen a lime-kiln, and I do not believe there is one in this state. Will you take the trouble to describe such an one as you think will suit the particular case—the smallest that would *burn well* would suit best, as it would be cheaper and more convenient. Farther, will you also state what you think would be its *probable* cost, if brick would answer, estimating the bricks at \$6 per 1000, and labour at \$1 per day. Finally, you can imagine what a young and inexperienced farmer wishes to know, even better than he can describe, especially when he feels a diffidence in thus troubling you. I am satisfied that any instruction you may give, or advice you may offer on this subject in your next number, would be highly prized by very many of your subscribers, especially those living within reach of shells. Wishing you every success with your valuable work, (which I would not be without for five times its cost) I remain, your's very truly,

A. B. SHELTON.

Richmond, Va., 22 Nov., 1841.

P. S. Having already purchased and hauled between 1 and 2000 bushels of shells, an answer in your next No. would be gratefully remembered. Please also state, whether if a pit is dug on the side of a hill, the brick or stone must be laid with lime-mortar or otherwise.

We do not hesitate to recommend the egg-shape, for the purpose of calcining shells or any other substance for lime, by perpetual or running kilns. The dimensions need not be more than 5 feet diameter in the largest part, or even smaller than that; the proportions, however, must be observed, so that the top shall be smaller—say as five to seven. The *principle* being correct, it will be found to work well under all circumstances. The drawing-in of the top causes a reverberation of the fire, and prevents the heat from flying off too rapidly, saving thereby a great cost of fuel; a temporary cone on the top of the kiln might be added in stormy weather, which will break the force of the wind and secure a good draught of air from the bottom.

The kiln should be built in a bank or hill-side, the hole excavated being exactly eighteen inches in diameter larger than the brick-work; thus it will be perfectly formed, by merely laying in the bricks lengthwise, the proper range being given very exactly by the excavation, which, it need not be added, must be very carefully performed. In this case, the bricks will require no mortar in laying, a portion of clay-puddle being poured in at the back of each course, to fill up interstices and inequalities, as also to raise the ends of the next course of bricks when the arrangement from a larger to a smaller circle commences. Clay stands the fire better than lime-mortar, but the bricks lie much firmer without either the one or the other. The front of the kiln may require another course of four inches brick-work outside, but no iron-work will be necessary for its support. The kiln should be charged and burnt so soon as finished and before the work has hardened; it will then expand without cracking, the bricks moving easily in their beds and offering no resistance—an important consideration, and applicable to all fire-work, particularly in the setting of large boilers, &c. When our correspondent has determined on the site for his kiln, and the size which he shall choose, any bricklayer will be able to count the cost to a fraction.—ED.

A Brilliant Stucco Whitewash.

TAKE clean lumps of well-burnt lime, (say five or six quarts,) slack the same with hot water in a tub, (covered to keep in the steam,) pass it in the fluid form through a fine sieve; add one-fourth of a pound of whiting or burnt alum, pulverized; one pound of good sugar; three pints of rice flour, made into a thin and well-boiled paste, and one pound of clean glue, dissolved by first soaking it well, and then putting it into a small kettle, which should again be put into a larger one filled with water, and placed over a slow fire. Add five gallons of hot water to the whole mixture.

This wash is applied with a painter's brush, where particular neatness is required. It must be put on while warm, if upon the outside of the building—if within doors, cold. It will retain its brilliancy for many years. About one pint of this mixture will cover a square yard upon the outside of a house, if properly applied. If a larger quantity than five gallons is wanted, the same proportions must be observed in preparing. Colouring matter may be added to give it any required shade.—*Genesee Farmer.*

Contents in acres of England, Scotland and Wales.—England, 31,929,340. Scotland, 18,943,720. Wales, 4,320,000. Total, Great Britain, 55,193,060.

Culture of Wheat.

COLONEL LE COUTEUR, of the Island of Jersey, has recently made some important discoveries in the propagation of wheat plants, their adaptation to peculiar soils both natural and artificial, and, in the whole process, of obtaining the greatest amount of the best flour at the least expense of land and labour.

He has succeeded in producing, by crossing the different kinds of wheat formerly cultivated, over 150 varieties and sub-varieties of this grain. He commenced his experiments some six years ago, by selecting a few of the best heads of wheat from fourteen of the most esteemed varieties cultivated in England. The kernels in these heads were all carefully counted and planted in separate parcels, and treated alike in every respect as to soil and culture. The result demonstrated an astonishing difference both in the productiveness and quality of these several varieties of wheat. No kernels were counted except such as grew, and the experiment was most satisfactorily conducted in every respect. Sixty-one grains of white Dantzic gave 3 lbs. 3 oz. of wheat, and 3 lbs. 9 oz. of straw; whereas 59 grains of what had been regarded as a choice variety of red wheat gave only 1 lb. 10 oz. of wheat, and 2 lbs. 5 oz. of straw. No. 8, a downy variety of white wheat, gave 4 lbs. 4 oz. of wheat, and 3 lbs. 3 oz. of straw, from 55 grains. The experienced wheat-grower in this country would be rejoiced to cultivate a variety of wheat which would yield him a good crop of straw bearing an amount of grain *one-third larger in weight* than the straw itself. And yet this was obtained at the first experiment, as stated above.

The author selected five or six of the best varieties of these 14 several parcels, and cultivated some of them at great pains in their pure state, while he commenced a judicious system of crossing with others, for the purpose of producing new varieties superior to any of them. In this he was quite successful. To prevent mistake and undesirable mixing of different varieties of wheat when in blossom, one pistil on a head was preserved, while all the pollen was carefully removed. This pistil was fructified by the selected pollen, and only one kernel was produced, which, when planted, sometimes yielded 1,600 kernels of the new variety. By pursuing this course for a series of years, and cultivating his seed wheat by itself, and propagating from those kinds only which produced the most and best flour with the least bran, Colonel Le Couteur now obtains over *twenty-four hundred pounds of superfine flour* to the acre, and his wheat is so very thin-skinned that 52 bushels grown upon an acre give only 542 pounds of bran, middlings and shorts. A hun-

dred pounds of the flour of his improved wheat will make, as repeated and most careful experiments have demonstrated, from 6 to 12 per cent. *more* good bread than the same quantity of the best common flour in the market.

It is estimated that there are five millions of acres sown to wheat annually in Great Britain; and it is considered quite practicable to increase the product without any additional expense, eight bushels an acre, or forty millions in the aggregate. This would more than supply the home consumption, and enable the British nation to export many millions of bushels of wheat. How important is it then, that the producers of this great American staple should fully understand the best method of its cultivation, to compete successfully with the science and skill of English husbandry! The struggle hereafter between civilized nations in agriculture, manufactures, and war even, will depend far less upon superiority in mere physical force, than the combinations and deductions of practical science. The steam-power of Great Britain performs an amount of labour, which, if executed by human hands, would employ all the able-bodied men in the world. The vegetable, mineral, and aeriform ingredients which combine in nature and can be brought into contact by art, for the production of the most valuable wheat, ought to be studied and thoroughly understood by every cultivator of the soil.—*Buff. Com. Adv.*

Money.

“An infinite variety of commodities have been used as money in different countries and periods. But none can be advantageously used as such, unless it possesses several very peculiar qualities. The slightest reflection on the purposes for which it is applied, must indeed be sufficient to convince every one, that it is indispensable, or at least exceedingly desirable, that the commodity, selected to serve as money, should (1) be divisible into the smallest portions—(2) that it should admit of being kept for an indefinite period without deteriorating—(3) that it should, by possessing great value in small bulk, be capable of being easily transported from place to place—(4) that one piece of money of a certain denomination, should always be equal in magnitude and quality to every other piece of money of the same denomination—and, (5) that its value should be comparatively steady, or as little subject to variation as possible. Without the *first* of these qualities, or the capacity of being divided into portions of every different magnitude and value, money, it is evident, would be of almost no use, and could only be exchanged for the few com-

modities that might happen to be of the same value as its indivisible portions, or as whole multiples of them: without the *second*, or the capacity of being hoarded without deteriorating, no one would choose to exchange commodities for money, except only when he expected to be able speedily to re-exchange that money for something else: without the *third* quality, or facility of transportation, money could not be conveniently used in transactions between places of any considerable distance: without the *fourth*, or perfect sameness, it would be extremely difficult to appreciate the value of different pieces of money: and without the *fifth* quality, or comparative steadiness of value, money could not serve as a standard by which to measure the value of other commodities; and no one would be disposed to exchange the produce of his industry for an article that might shortly decline considerably in its power of purchasing.

“The union of the different qualities of steadiness, of value, divisibility, durability, facility of transportation, and perfect sameness in the precious metals, doubtless formed the irresistible reason that has induced every civilized community to employ them as money.”—*Am. Far.*

Great yield of Potatoes.

“IN 1839, the late Major Caleb Stark planted potatoes (the large round red) on several small patches of ground in Suncock village in the town of Pembroke; he planted them without assistance and hoed them three times himself. They were planted in drills, one piece (cut) every ten inches, and when he dug them in the fall, they were weighed, and he proposed, from the result, the following questions to Hon. John Vose, then preceptor of Pembroke Academy. I find the questions and answers among some of his papers, and send them to you.

QUESTIONS.

1st portion, 168 square feet, produced 126 pounds.	
2d “ “ 147 “ “ 138 “	
3d “ “ 18 feet square, “ 384 “	
4th “ “ 43 “ “ 1435 “	

ANSWERS.

1st portion, per acre, 32,670 lbs.	605 bushels per acre.
2d “ “ 41,745 “	773.055 “
3d “ “ 51,626 2-3 “	956.349 “
4th “ “ 33,806 “	426.05 “

The above results were brought about by Mr. Brown: of their accuracy, I have examined them, so as to be satisfied they are correct. I witnessed the progress of the growth of the potatoes, and the average weight of them was 54 lbs. per bushel. JOHN VOSE.”

Far. Mon. Visitor.

ON old mossy land, or, when the grass is rank and sour, a good coat of lime will entirely change the nature of the herbage.

For the Farmers' Cabinet.

Utility of Shell-Marl.

MR. EDITOR,—At your request, when in our little State a few days ago, I send you a short statement of the effects of this invaluable manure. The shell-marl, which is found in New-Castle county, State of Delaware, has been discovered on a few farms along the eastern limit of the Chesapeake and Delaware canal only, or that part of the canal which has defaced a part of the original St. George's creek. It is generally found at the head of little streams making into this creek, which is the dividing line between Red Lion and St. George's hundreds. Marl has been discovered in both hundreds, but much the largest quantity has been found and used in the former hundred, although it has only been a few years since there has been any general use made of it. In the spring of 1837, I came into possession of a farm, now known by the name of *Marl Farm*, about three miles west of where I reside. The soil, at that time, was in an extreme state of poverty—reduced to that degree by successive cropping and hard tillage, through a long term of years, without the application of any kind of manure; in fact, the whole farm was so poor, that the crops obtained from it would not pay the cost of tillage. From four to six bushels of corn per acre on an average, was as much as it would produce; of wheat you could not raise as much as you sowed; red clover would scarcely sprout, and grow it would not. Now, the question may be asked, how came I to purchase a farm so extremely poor? A large bed of this shell-marl had been discovered on it, three or four years previous to the time that I came into possession, but it had been sparingly made use of; some two or three acres only having been covered with it, for an experiment, at the time when the discovery was made.—Thus the improvement by the marl, progressed no farther, until I came into possession. But the effects of the above experiment were sufficient to satisfy any inquiring mind, of the vast importance of this new manure for enriching the soil. To till this farm in its extreme poor state, I well knew would not pay expenses; I concluded, therefore, that the first thing to be done, would be to marl it over, and then go to cropping. Accordingly, I hired a man for the season, furnished him with a cart and two yoke of oxen, and made it his business to do nothing but cart marl, until I had covered the whole place over, at the rate of from six to eight hundred bushels per acre. What I would get covered over one year, I put in corn the next; and would obtain about twenty bushels per acre. The corn-ground was followed the next spring

th oats and clover-seed; the oats were sown in proportion than the corn—the effects of the marl beginning to be greater; while the effects on the grass were still plainer;—and wherever the red clover was not regularly sown, (for in some places the seed did not meet,) in all such places the land would be coated thickly with white clover. We had been once over the place with marling and top-dressing, as I have mentioned, and last winter I commenced marling it over with the second top-dressing, on a clover sod, at the rate of three hundred and fifty bushels per acre. The land had in corn this year, was a clover sod with a second coat of marl. This piece of ground was the very poorest of the farm, in the first instance; but the result is, (for we have just finished husking it,) from forty to forty-six bushels of corn per acre, and that too, of as good and sound a quality as any of our best land in the neighbourhood, such as has been under a high state of improvement for the last twelve years, with stone-lime and barn-yard manure. In order that I might come to the more accuracy as to the quantity of corn, I measured one acre, and measured the corn sown—the result was, forty-six bushels; other pieces could have been selected which would have gone to fifty bushels, and probably more.

The second year after I commenced farming, where I now reside, I made an experiment, top-dressing with marl the yard in front of my house, which was at that time a clover sod. The result is surprisingly great; so that I challenge a competition with any other piece of manure of equal expense. It is now about five years and six months since the marl was put on; the yard was all marled over, except about thirty feet square; on the rest which was marled, the clover thickened and the green grass soon began to make its appearance; and at this time it is quite thick-set with green grass. The part which is not marled has no green grass, and the quantity of clover has decreased; there is at least more than four times the quantity of grass on one than on the other. The marl in the yard was brought from my marl-farm, about three miles distant; but, about three years ago, and after much research, I discovered marl on my farm where I now reside. My observations from its effects, prove it equal to the first marl. A part of a field which I mowed the present year, was marled two years ago last spring—the balance of the field being covered over with barn-yard manure, at the same time. The whole field was then put in corn, and the next spring sowed with oats and clover-seed, and this year it is mown: the difference in the grass in favour of the marl over the manure, was in the ratio of three to one. This appears large,

but if it should be doubted, I can produce testimony to confirm all I say; or I will here give a cordial invitation to any person to come and see for themselves. I could say much more about the effects of this species of manure, by noting the results of various experiments, made by many of my neighbours, who have been making free use of it.

Thus, you will perceive, that this land on the marl-farm has been redeemed from an extreme state of poverty; and with no other kind of manure than the shell-marl, has been brought to produce forty-six bushels of corn per acre, in the short space of four years.—Now, I do not intend to let it rest at this: the marl must go on the land faster than ever, and my course in future will be, to top-dress heavily on young clover; and I see nothing to prevent me from bringing this land up to yield the largest of crops, so soon as I can get it covered over with the third and fourth dressings; and this I do not intend shall be a very distant day. One great and important quality in the character of this marl is, that the first dressing will not be done giving out its strength or renovation to the soil, under six or eight years, while every subsequent dressing will have the same effect; and when the land is once made rich by it, it will remain stationary at that degree for twenty years. I consider the marl on this farm almost as convenient to it as the manure made in the cattle-yard, for we can drive the team into the pit, and load half the marl from the bank, without previously excavating it.

I have here only spoken of the value of our inexhaustible resources for manure—of the other and many advantages which nature has blessed our section of country with, I need say nothing, as you have favoured us with a visit, and have seen for yourself. But I would take the opportunity to say to your correspondent, G. M., who says in the last number of your valuable paper, that he is somewhat desirous of quitting the mercantile business, and becoming a farmer, before he purchases elsewhere, I wish him to come and see this part of Delaware; we have plenty of room, and should he deem it advisable to visit our neighbourhood, what feeble information I can give him, he shall be welcome to.

Yours, respectfully,

PHILIP REYBOLD, JR.

Fair Mount Farm, near }
St. George's.—Nov. 30, 1841. }

Pumpkin-Seed Oil.—The Germans, on the Wabash, make oil from pumpkin seeds, which they use for the purposes of lamp and other oil. One gallon of seed gives about half a gallon of oil. They may be pressed like flax or rape seed.

For the Farmers' Cabinet.

Trial of Ploughs.

MR. EDITOR,—As it has been proposed to Mr. Prouty to give a day's ploughing to ascertain the value of the Centre-draught Plough on different soils and situations, and which proposal that gentleman has accepted, offering the use of a plough and pair of horses at any time and place that might be agreed upon by a committee appointed by the Philadelphia Agricultural Society, I thought it might be interesting to the agricultural community to know how such trials are conducted in England and Scotland, where no expense or pains are spared to test the value of this all-important implement, the plough. And although the proposed trial before the committee, to be appointed at no distant day, is to be confined to the centre-draught plough, with the view to test its powers in different soils, whether light or heavy or gravelly, sod or fallow, &c., and especially to the laying its furrow flat, as well as to any angle given, yet the account of a late trial in Scotland—although it was for a different purpose, namely, a trial between several ploughs offered for competition—must still be interesting to a great majority of your readers, who are not aware of the operation as it is performed in a country where, to the single act of turning the soil to a depth which we in this country can scarce have any idea of, is to be attributed much of the success attendant on their labours.

The trial was made by the Marquis of Tweeddale, at Yester, the dynamometer used being one on Reguin's principle, satisfactory to all.

The marquis observes, "It has always appeared to me that the only rational and profitable manner of trying whether the English ploughs were lighter in draught, superior in strength, more efficient in doing their work, as well as more economical to the farmer, was to make them work in the same field with any of the common improved Scotch ploughs, those which I employ being of the variety commonly called Small's Plough. The operation which afforded the trial was crossing stubble land that had been drained during winter, but which had become excessively dry and hard; in this field some trees had been taken out by the roots. On the first day, five Scotch wooden ploughs with iron mould plates on Small's principle were drawn each by three horses, the ploughmen guiding them and holding the ploughs. The work was well done, the depth of the furrow was from twelve to thirteen inches, the breadth, from ten to eleven. During the day and the previous night, as well as the following night, rain fell, which moistened the land, and I ordered the English ploughs to be tried the next

morning, when my steward feeling anxious to bring the English ploughs to their work by degrees, yoked them first with a pair of horses each, putting Ransome's plough with wheels to the depth of eight inches only, but it neither could throw the furrow-slice over, nor clear the furrow, the beam not allowing the plough to go deeper without scraping the ground; and in ploughing, where some small fibres of a tree-root were left in the ground, the coulter was broken in two, the sock was broken also, and the beam and mould-board were separated from the stilts or handles, without the horses being put fully to their strength. The same pair of horses were then put to a Scotch plough, and as soon as they had cleared out the preceding furrow, they ploughed 12 inches deep by 10 in breadth, passing through every obstacle until the morning's work was finished. In the afternoon, the same ploughman tried Hart's swing-plough, but it would neither go the depth nor clear the furrow like the Scotch ploughs. I was in the field on this occasion—in passing amongst some small fibres of the root of a tree, the iron plate that is attached to the beam for holding the coulter was broken to pieces, and the screws were drawn out. I then desired the ploughman to clean out the furrow with the Scotch plough and give the horses their full swing—the plough was brought up once by a root, the horses laid their full weight on it and were held fast; I then sent for another horse and bade the ploughman not to spare the plough if it met with opposition; it however carried every thing before it, notwithstanding the roots, stones, &c., through which it had to pass. Of these two ploughs, Hart's has proved itself to be of the strongest construction and the plough that can throw over the deepest furrow-slice, but it does not clean the bottom of the furrow; Ransome's being the best for this, when ploughing lea, but both appear to do their work best when going slowly. To those who saw these ploughs in operation, it was quite evident that neither of them would do all the work performed by the Scotch ploughs; and in addition to this, I have never found the Scotch horses wanting in strength to perform any work required of them when put to a Scotch plough on Small's principle. From these trials, I feel convinced that the English ploughs are not lighter in draught, equal in strength, so efficient, nor so economical as Small's Scotch Plough."

Now, having had experience in the use of Small's Scotch plough, I must remark, they are so sharp at the breast, narrow at the heel and long in the sole or foot, that by their long and wedge-shape, they are calculated to overcome obstacles which would overcome the

est plough of other make that was ever fabricated, but they do not cultivate the soil, neither do they lay the furrow-slice over, nor leave furrow wide enough in which the furrow-horse can travel; it is true they make clean work, but it is merely half-turning the land, and not, properly speaking, ploughing it; and they remind me of the Dialogue between Frank and his Father, at p. 242 of the 4th vol. of the Cabinet, where it is said, in reference to the subject of ploughing, and while speaking of a particular plough, made very much after the plan of Small's Scotch plough, "As there is so little resistance against the mould-plate, in consequence of the small furrow we carry, and the manner in which it saves it, setting it on edge or nearly so, and not turning it over, I am inclined to believe that to this circumstance is to be attributed a part, at least, of its good name; to be sure the great length of the beam and handles gives great facility for guiding it straight and readily, but do you remark the very narrow furrow which it leaves in which the furrow-horse has to walk, and how he treads down the land-side of it with two of his feet, because there is not room for him to walk in the furrow! neither is there room for the furrow-slice when it is turned, for it lies so near on edge, as to leave a seam or channel, from whence the weeds will spring with re-buffed vigour, if the land is left, even for a short time, unploughed." But the subject is interesting and can be made so very understandable to every one at all accustomed to the practical use of the instrument, that I must defer until the next number, any further remarks, promising, however, to show that it is the best plough which cultivates the land best, without exclusive regard to its being the easiest; nor is it necessary to look for a plough for grubbing up "roots of trees," which the Scotch ploughs are said to do; and all this can be done much better with the axe and the mattock or the subsoil plough, which was made expressly for the purpose—no man of common sense and practical knowledge could put a favourite plough to such a ridiculous purpose, but would get a Subsoiler at once and save a valuable instrument from total destruction.

J. M.

Dec. 1, 1841.

A Vermont Oat Crop.

"I WILL give you a brief statement of my oat crop on four acres of land. In the season of 1839 my land was ploughed up in the fall. In the month of May, 1840, it was ploughed and thoroughly harrowed; then twenty loads per acre of good manure was spread, and turned in to the depth of four inches and harrowed down smooth. Then the four acres were planted to potatoes, and

I harvested 977 bushels from the lot. In the spring of 1841, the land was ploughed once and sown with oats, 4 bushels to the acre; the crop stood well, and but few lodged. The piece was reaped and the oats bound in bundles so large that it was difficult in many instances to stack twelve bundles in a stack; the result was, 588 stacks of 12 bundles each.

"DRANCES JUNE."

The editor of the Farmers' Monthly Visitor, on comparing the above account with a remarkably large crop which he himself had raised on the same quantity of land, remarks—"The quantity of the Vermont crop of oats would seem to be incredible; we have threshed four loads of our oat crop, and find the product 90 bushels, making at the rate of not quite 70 bushels per acre; the crop might have been somewhat larger if double the quantity of seed had been sown and the oats had stood up firmly; but if the bundles of the Vermont crop were the size of ours and as full heads, the produce could be hardly less than 150 bushels to the acre! Practical farmers will be able to judge whether it be possible to obtain so much from an acre. Mr. June sowed sixteen bushels of seed where we sowed only six, but if the Vermont crop of oats have mounted up to 150 or even 130 bushels to the acre, it will be such a crop as has been seldom witnessed in this or any other country."

Curious Exportations.

THE people of the United States are essentially an agricultural people. Yet how often has the singular spectacle of importing from Europe bread stuffs for our own citizens, been exhibited within the last few years. The tide has changed, and the current is setting now in an opposite direction. Cheese from New York has been sold in the Liverpool market in large quantities recently. During the last week, over 1000 kegs of lard were taken up in this city for exportation. The amount of flour constantly going abroad is very large. It assists to pay off our indebtedness to Europe for the millions of luxuries we import.—*Philad. North Amer.*

We heard it stated, a day or two since, that one of our largest merchant vessels has been loaded with an entire cargo of beef, pork, tongues, butter, and cheese, for England, and that the "adventure" will pay a profit.

Who can rest comfortably on his bed on a cold winter's night, when, amidst the peltings of the pitiless storm, he hears, rising above it, the lowings of his wretched cattle and the lamentations of his swine!

Notices.

AFTER an examination of the skeleton of the Mastodon at the Philadelphia Museum, we are prepared to say, in justice to our correspondent at page 140 of the present number of the Cabinet, the vertebrae of the spine are separated by blocks of wood precisely in the manner in which Dr. Goddard has accused Mr. Koch of having practised, to deceive spectators with regard to the real length of the animal which Mr. K. has chosen to call the Missouri Leviathan. Would the Dr. inform us if this addition to the Mastodon has been made for the same sinister purpose? The tusks of the Mastodon are ivory, as our correspondent describes them to be—not so, those of the Missouri, as every one who saw them can testify; and are we correct in presuming that space is wanting, as well as a proper process in the Missouri for a trunk—the horns occupying a situation which is quite incompatible with such a conformation. While on the spot, we employed ourself in imagining any other direction in which the horns or tusks of the Missouri could have been placed, but were constrained to agree with our correspondent, that “no other direction could have been given them than that which they exhibit,” to say nothing of Mr. Koch’s asseverations. We would therefore take leave to ask, are not these *distinctive differences* sufficient to prove that whatever else the animal might have been, it could not have been a Mastodon?

WE are indebted to several friends for specimens of the finest vegetable productions, viz.—The Cooper Corn, and a sample of Mediterranean Wheat—which we are also inclined to believe will be found to be the “Tremois” of the French, a spring wheat which ripens in three months from the time of sowing, and hence its name—from Mr. Aaron Clement, of the Neck. Gourd-seed Corn of gigantic size, from Mr. John Reyhold, of Delaware. A kind of Corn between the Gourd and Flint varieties, numbering 26 rows and 1352 grains on one cob, from Mr. Homer Eachus, of Delaware county, Penn. A remarkably productive kind of yellow Potatoe, superior to the Rohan, from Mr. Philip Reyhold, Jr., of Delaware; and a Turnip of the red round species of Rutabaga, grown by Dr. Geo. Uhler, on his new farm in Delaware, which surpasses, for beauty and size, all others that we have seen.

Mr. VANSANT is informed, the Poudrette Company of Philadelphia has not yet commenced business; many are the inquiries and great the expectations afloat on this highly important branch of business: why need Pennsylvania be behind the Eastern States in a matter so interwoven with her agricultural interests? In the mean time, the article may be obtained of Mr. D. K. Minor, Poudrette Company, New York, who would in form of terms, carriage, &c.

Mr. S. C. ALLEN, of Decatur, Illinois, is informed, the Straw and Hay Cutter sold by Slater, 398, Market Street, Philadelphia, is a most effective and powerful instrument, capable of cutting the stoutest corn-stalks, which, when soaked in a solution of salt and water, are greedily devoured by all kinds of cattle. It is called “Slater’s Improved Straw and Hay Cutter,” has two knives, and is propelled by hand or horse-power: price \$35.

THE scenery in our inimitable engraving of the “Old English Black Horse,” in the present number, is taken from the county of Stafford, where these horses are bred in great numbers. The small building with a high chimney attached to the cottage is a general appendage in that country, where the male population are engaged in mining coal and iron, and the females in making nails—this being the female *work shop*, where nothing is more common than for the daughters to rise in the morning early enough to make a sufficient quantity of nails before breakfast to carry to the general store and exchange for articles to furnish out that meal.

A PORTION of our last month’s edition was struck off with the following error: it is stated that Mr. Tonkin received \$1,500 for his two fat oxen which were sold for exhibition—the price should be \$3,500. The portraits of his present fat stock, seven in number, are in the hands of the painter, Mr. Woodside, and will appear in our pages as they are made ready for engraving.

The quantity of rain and melted snow which fell during November, (11th month,) was four inches and two hundred and twenty-four thousandths of an inch: nearly..... 4½ inches.
And the quantity which has fallen during the eleven months of this year is a little more than fifty inches.
Pennsylvania Hospital, 12th mo. 1, 1841.

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DEVOTED TO

AGRICULTURE, HORTICULTURE, AND RURAL AND DOMESTIC AFFAIRS.

"The Productions of the Earth will always be in proportion to the culture bestowed upon it."

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For the Farmers' Cabinet.

Trial of Ploughs.

MR. EDITOR,—I stated in my last, my conviction that Small's Scotch plough was not suited to the purpose of *properly cultivating the soil*—a consideration the most important in that all-important operation. Its wedge-shape adds strength to its construction, and enables it to overcome obstacles, certainly; and if "grubbing roots, and turning up stones and gravel," be the object, I know of no implement of the kind so well adapted to the purpose. But, as I have already said, a man had better keep a subsoil plough for this business at once, and leave the mere trial of strength to be decided by it alone; its wedge-shape and narrow dimensions fit it also for passing through the ground more easily, and with a less power of draught; the circumstance of setting the furrow on edge being peculiarly favourable, and adding greatly to the *steadiness* so much boasted of in the trials that have been instituted for the purpose of showing its superiority.

But I ought to be able to substantiate my charge; which I believe I have it in my power to do, to the satisfaction of those whose interest is in the due performance of a labour which consists of something more than an attempt to penetrate an almost impenetrable subsoil, by an implement which would be much better employed in taking up a furrow, the depth of the surface-soil only, and carrying it over to that angle which might be desired; leaving a wide and clean furrow behind, in which the furrow-horse can walk, without treading to pieces the land which is about to be turned—an evil consequent upon a narrow furrow, which every practical man has seen and deplored, especially in a wet season. I would just remark, *en passant*, "he is not a good gardener who does not keep a wide and open trench before him in digging his land." But to the purpose.

Some years ago, a Scotch gentleman, re-

sidings in London, purchased a large tract of mountain-land, with a great breadth of valley-land, in South Wales, (England,) which he undertook to stock and improve. As was natural, a large portion of his live-stock and implements, and many of his servants, were Scotch—there were, in fact, Scotch cattle, Scotch sheep, Scotch shepherds, and Scotch dogs, with a Scotch bailiff and Scotch ploughman, Scotch carts and Scotch *ploughs*, of Small's particular make; the owner's object being to cultivate and keep his land by means almost wholly Scotch. And it must be admitted, that the cattle were superb; the sheep, the pure Cheviots, most excellent; the shepherds vigilant and unwearied, and their dogs almost human; the ploughman super-excellent, also; and the carts—wide and short, with low, broad wheels, and the means of raising the load from the back of the horse while descending a hill—the most convenient that can be imagined; just what ought to be introduced into this, and every other country where they are not known; but the ploughs were a total failure. They were first placed in the hands of Welsh ploughmen, who were employed on some of the distant farms, but they could make nothing of them; to be sure they entered the ground like a wedge, but they came out of it like a wedge, also, doing very little for the cultivation of the soil, and nothing, scarcely, for the turning over of the land, "setting the furrow too much on edge, and passing on;" and although they were very easily managed, by reason of their long and straight handles, and correspondent length of beam—going both steadily and straightly—yet they were soon thrown aside, merely on account of their inefficiency, and the old Welsh plough resumed. This might not appear strange, when we consider how apt we all are to prefer our own modes and customs to those of strangers; and a lengthened trial of these ploughs was insisted on, solely upon this ground. But the truth was, as has been stated; and as a proof, even the Scotch ploughman, with all his prejudices in favour of these ploughs, was constrained to admit their inferiority and inefficiency, and willingly laid them aside for the common ploughs of the country. It is true, they were first-rate in hard gravel; but the land in that part of the country was a mellow,

and rather stiff soil, in which they were found very deficient; nay, but little better than the plough that was sent by a noted maker in Market street, Philadelphia, for competition with the English ploughs, at the Royal Agricultural Exhibition, the year before this, where it was found totally impotent, even in the hands of the noble president of the society, the Duke of Richmond; after a coulter had been added to it, which it is said not to need in this country.

Now, I know not that there can be stronger testimony to the truth of the assertion, that Small's Scotch plough, so highly extolled even by the Marquis of Tweeddale himself—although working lightly, easily, and making the most beautiful-looking work, as straight as a line drawn from one end of the field to the other, and capable of overcoming obstacles in its progress which would be death and destruction to almost all others—is not suited to the purpose of properly cultivating the soil; and to this conclusion I have come from actual observation and experience, having had long and repeated opportunities to test its powers with my own hands, and found it wanting. The fact is, English although I am, and with the means of forming a judgment on the subject, which rarely falls to the lot of a single individual, having witnessed the operations of most of those ploughs best known in England, and many also on the continent, I am free to confess that the ploughs of America are the best I have ever known; but after this, I must be indulged with a *preference*, which I give, without prejudice, interest, or undue partiality, to Prouty & Mears's Centre-draught plough, being aware at the same time, that it is necessary for a man to see it, to examine it, and become acquainted with its peculiarity of construction, and to familiarize himself to its use, before he will be able fully to do it justice. The principle on which it operates is novel, and its "going" will at first appear awkward and inconvenient; but after awhile, it will be found to do its work *unlike all others*, and in a way which cannot be understood but by practical men. It is professedly a flat-furrow plough; but in the hands of a competent workman, it can be made to throw its furrow just where it is wished that it should fall; while the power which it has of turning the furrow to bury sod, green crops, weeds, or manure, as completely as though they had never been, is, so far as I know, not possessed by any other, except, indeed, by Ruggles & Mason's, which is, confessedly, formed on the same principles, and is at present the subject of a law-suit, Messrs. Prouty & Mears complaining of an infringement of their patent.

I am glad that Mr. Prouty, of this city, has

proposed to give a day's ploughing with one of his sod-ploughs, that practical men may have the opportunity to try its powers with their own hands; the trial is to continue through the day, and be a complete test of its qualifications; and if the team be strong, and the ploughmen expert in their calling, I cannot fancy any pleasure greater than will be felt upon the occasion, by those who shall attend the exhibition. I understand that Mr. Prouty has addressed a letter on this interesting subject to the Philadelphia Agricultural Society.

Since writing the above, another account of a trial of ploughs has come into my hands, a part of which I am tempted to copy, for the sake of some of the observations accompanying it, which fully bears out what has been said above. The experiment was made at Rozelle, Scotland, by a committee of the Ayrshire Agricultural Association. They say, "Impressed with the great importance of encouraging improvements in agricultural implements, and being particularly anxious to ascertain the merits in point of force of draught and superiority of work of the different forms of ploughs usually employed in this country, and of some obtained from England," [not a word being said as to the *celerity* with which the work is to be done, be it remembered,] "we have resolved that comparative trials should be made." Accordingly, there appeared a very considerable number of implements on the day appointed; the ground chosen being a two years' old grass-field, of strong clay-loam resting on a sub-soil of naturally stubborn clay, also a bean-stubble field of much lighter soil. The ploughs being all weighed and numbered, the deputation appointed the judges to superintend the indications of the dynamometer, and to observe the depth and breadth of furrow, and general workings of the ploughs; the dimensions of the furrow were fixed at nine inches wide and six inches deep. It was deemed expedient, that one ploughman and one pair of horses should work all the ploughs, as the best means of doing equal justice to all; and for this purpose a man of known character was appointed.

Description of plough.	Draught in		Weight of Ploughs.
	levin land.	stubble land.	
1. Wilkie's Swing Plough,	Stones. 38	Stones. 23	lbs. 175
2. Do.	37	24	156
3. Do.	40	—	153
4. Ransome's wheel "	32½	21	161
do. wheel removed,	32½	20	155
5. Palmer's patent 2 wheels,	40	22	231
do. wheels removed,	—	20½	225
6. Swing Plough,	40	22	189

The committee remark, "Comparing these results as exhibited in the table, three things

are observable: First, That the resistance or draught of the ploughs bears no relation to the absolute weight, for in the lea-ploughing, No. 3 is two pounds lighter in absolute weight than No. 4, but it is $7\frac{1}{2}$ stones heavier in draught. And again, although the same No. 3 is 37 pounds lighter in absolute weight than No. 2, it is three stones heavier in draught; hence it is inferred, *that no advantage towards lightening horse-labour will follow any reduction in absolute weight of a plough, unless that reduction is combined with other properties in the construction of the plough.*

2d. Comparing the results of any given plough in lea and stubble land, the discrepancies are striking. Take No. 4 again: its draught in stubble-land is nearly two-thirds only of that in lea, while the draught of No. 5 in stubble-land is little more than one-half of its draught in lea; and upon the whole, although the discrepancies are great in the lea-ploughing, there is a great assimilation in the stubble, No. 4 having *greatly the advantage* in the lea, but being approached in the stubble-land within half a stone by one of the heaviest draughts in the field in the lea-ploughing. These are interesting facts, and seem to point out that certain ploughs may be well adapted for ploughing stubble or light land, while they are indifferently so for lea-ploughing. And it was remarked by the judges, that No. 4 did not lay the lea-furrow well down—it was not *sufficiently turned over, or pressed home to the last slice*; hence *very probably arose its lightness of draught in that kind of land.**

3d. The remarkable, although by no means unlooked-for result was ascertained, namely, that the wheel ploughs were actually lighter in draught when deprived of their wheels than with them in the stubble-land, although the difference was not perceptible in the lea."

* There is a *volume* contained in this sentence. What, then, shall be said for a plough that turns its furrow *perfectly flat*—completely over—and yet requiring less draught than others which only turn it partially over, as is peculiarly the case in the use of Prouty's plough? J. M.

Agricultural Capital.

WHAT, in the hands of the farmer, constitutes capital? is an important query. With the merchant, cash is the capital; with the land-owner, land is the capital; and with the farmer, cash, land, and stock, is usually considered the capital. But there are many other items that enter into the capital of the farmer, generally overlooked, such as implements, manures, and the most important of all, labour. Capital may be productive or non-productive. A million of gold and silver locked in a strong box, or a thousand acres

of uncultivated land, may be capital; but so long as the property remains in this state it produces nothing, and the owner may be actually growing poorer, instead of becoming richer. Increase of wealth does not depend on the quantity of capital, so much as in the use made of it; and in nothing is this more observable than in farming. There is many a man who has commenced his career as a farmer with fifty acres of land; on this, he annually expended in manure, labour, &c., twenty per cent., and the produce was perhaps forty per cent. Encouraged by this success, he added another fifty acres, but his expenditure in *capital* is not proportionally increased, and the *profits* are lessened in proportion. Still he has not land enough; and he keeps purchasing land, while he adds little or nothing to his active *capital*; and the consequence is, while on fifty acres of land he realized forty per cent., on five hundred acres he realizes nothing. He has converted his productive into unproductive capital; and from his five hundred acres he does not clear as much as he did from fifty acres, or perhaps he actually falls behind. There is nothing more true, than that the inordinate desire for large farms has been the ruin of thousands. It is true that a large farm may be made as productive as a small one, but there must be the same proportion of *capital* in manure, labour, &c., put upon it—a thing rarely or never done. The part of the farm upon which most capital is expended, is the garden, and this is clearly the most productive and profitable; and so with a small farm, when compared with a large one. Let no one, therefore, desire to possess more land, or undertake the cultivation of more acres, than he has capital to manage well. If he does, he will find he is rapidly sinking what little productive capital he possesses, and may become a poor man, with the means of exhaustless wealth in his hands.—Anon.

Boiling Food.

IN feeding live-stock, much corn might be saved by boiling it before it is given to them. Every farmer should have a large kettle for this purpose. It has been ascertained that one-third of the corn may be saved in this way. Being cooked, it is more nourishing and more easily digested. The trouble of preparing it is very inconsiderable. It is well known that the cob of corn contains a great deal of nutriment. A bushel of corn ground in the cob, will make one-third more of whiskey, as has been ascertained by experiment. To grind the cob and corn in a bark mill, or something of the kind, before boiling, would be an additional improvement and saving.

For the Farmers' Cabinet.

Rotation of Crops.

MR. EDITOR,—Perhaps there is nothing that has received less of the American Farmer's consideration than a rotation of crops—a term, indeed, whose very meaning is unknown to some of my neighbours, while there are still fewer who understand its importance; but to this want of consideration on a matter of the greatest moment, I am inclined to attribute much of the ill success which so often attends us in our labours, confessing, however, that until very lately I thought as little about it as any of my friends. And this conviction is not the only advantage that I have derived from the perusal of the Cabinet, for from its pages have I treasured up a stock of knowledge and wisdom, that has richly repaid my subscription-price, ten times told. But from those who have so freely received, it is but reasonable to expect that they should as freely give; and having drawn for myself a rotation of crops from its instructive pages, I am desirous of presenting the following scheme to your notice, and of detailing a plan of operations which will, I conceive, tend very much to the profit and advantage of those who are concerned in cultivating crops of grain. The simplicity of the course will strike every one at first sight, and must recommend itself to notice by its perfect feasibility; here it is:

1. Corn and turnips. 2. Oats. 3. Clover.
4. Wheat and turnips, or buckwheat.

1st. The land designed for corn, to be broken up in the autumn by means of a deep furrow, and to be manured for, planted and dressed in the usual manner; and at the last cleaning of the corn, the land to be sown with early turnips, broadcast, and the head-lands ploughed and worked fine and sown with the same. The crop of corn to be removed as soon as cut, to give space for the growth of the turnips, the largest of the roots to be pulled and housed for winter use, the smaller to remain in the field, and be fed by sheep or young cattle during the autumn and the open weather of winter. 2d. Oats sown thickly, and seeded with red clover alone, with a large allowance of seed. 3d. Clover, heavily top dressed during winter and early spring, with compost of all kinds, and two crops of hay to be taken. 4th. Wheat, the clover lay turned deep with a small furrow for an early sowing. A large quantity of seed, but no manure; and so soon as the wheat is carried, plough up the land and sow buckwheat, or turnips or beets, for winter cattle food; and the next year begin again the rotation; corn, &c.

Now, sir, I should be glad to be told in what this rotation would be found defective. Here are three crops of grain, two crops of

turnips, and two of clover for hay, in four years, with two heavy dressings of manure in that time, which would be found amply sufficient for the support of the land. It need not be added, the two dressings of manure ought to be the heaviest that can be administered, and if the turnips were sprinkled with plaster, it would no doubt be the means of doubling the crop; but no dressing of any kind must be given either to the oats or the wheat; then a larger portion of seed might be sown, and a proportionably larger crop of grain may be reaped at harvest, and of much finer quality, with no fear of the crop lodging. By this rotation, three important objects are obtained: 1st, The weeds are most effectually kept under; 2d, A very large provision is made for the support of live stock; 3d, No two exhausting crops succeed each other; and 4th, No crop, except the corn, requires more than one preparatory ploughing; while the most ample resources are provided for the renovation of the soil. And all this is accomplished merely by substituting the oat crop for the wheat, to form a seed-bed for the clover! A small point of difference, truly, but upon which will be found to turn a *difference* of about 50 per cent. in our farming operations.

T. MELLAR.

Live Stock.

Too much attention cannot be paid by the farmer to the improvement of his live-stock. In this country nothing is more shamefully neglected. This utter neglect may be seen in almost every horse, cow, and hog, we find on the farms in this district. A good horse will cost no more than a scrub. It requires as much to raise a "tackey," as it does a colt of "better blood." The one will not sell for more than fifty or sixty dollars at three years old, whilst the other may be sold for one, two or three hundred dollars. The same may be said in regard to milch cows. It is the habit of most farmers, not only to have the smallest kind, but to keep three times as many as they ought. One good cow, well fed, will give more milk than four such as we generally see. Instead of keeping hogs two or three years, half perished all the time, it would be a great saving to give them the same food in one year. Hogs should never be kept more than one winter. Every farmer knows that some hogs are more thrifty than others. Let him improve his breed by selecting such.—*Am. Far.*

THE farmer is identified in a peculiar manner with the earth that he cultivates—when that is poor, he is poor; when that is rich, he is rich, also.

For the Farmers' Cabinet.

Orr's Air-Tight Stove.

MR. EDITOR,—I approve of the rule to exclude advertisements, *as such*, from the pages of the Cabinet; but when a real advantage to the community can be made known by mention of it in the course of its publication—particularly when the recommendation comes from one who has tested its pretensions, and found them in every respect what they purport to be, and who is, moreover, in no way interested in the sale of the article, either directly or indirectly—it would appear to be doing general service to point it out as a thing to be desired, and not as a thing to be advertised.

In the Philadelphia Ledger of this morning, is an article on the burning of anthracite coal in stoves, in which the writer remarks, that great use is made of iron vessels for evaporating water to regulate the atmosphere of the apartments thus heated by coal fires; and recommends the substitution of earthen vessels for this purpose, renewing the water every day and rinsing out the bowl; water evaporated in iron vessels being very offensive, rendering the atmosphere of the apartments impure as well as disagreeable; advising, for parlours where the atmosphere is desired to be pleasant and agreeable, a small quantity of *Cologne water* to be added to the clean water, which will diffuse itself in the atmosphere of the room, and make it pleasant! The writer adds, "The heat produced by hard or anthracite coal, is very different from that produced by bituminous coal, and is *injurious* to persons in delicate health; rooms in which hard coal is burnt, require more ventilation than where bituminous coal is used."

Now, having myself been long subject to the inconvenience and injury arising from burning anthracite coal in close stoves, and having suffered considerably in my health from the cause above alluded to, I have at length been induced to substitute in their place the air-tight stove invented by Orr, for the burning of wood; and if it were possible, would describe the difference experienced from the change—but words are inadequate, and therefore I need not attempt it. The price, \$10, will be saved in the difference in the cost of fuel the present winter; while the convenience, cleanliness, comfort, and *consolation*, arising from the circumstance of having at all times, by night as well as by day, just so much heat and no more, as you desire and in an instant, merely by turning off or on the draught by the finger and thumb, are just inconceivable, and not to be appreciated except by experience. It may be added, the fire is made up in the morning by supplying

half a dozen short billets of wood, and no more will be required, under ordinary circumstances, for twenty-four or perhaps thirty-six hours, the stove being perfectly closed on retiring for the night, during which the process of *charring* goes on, but no flaming. I am tempted to say, I closed tight the door of my stove at ten o'clock last night, and having occasion to rise at three this morning, preparatory for a journey, I found the atmosphere of the room 70 degrees of heat by the thermometer, at the farthest part from the fire; and by raising the draught half an inch, I increased it to a degree that quite surprised me. It is not too much to say, I calculate that one-tenth part of the wood required to heat a room by burning in an open chimney, will be more than sufficient to keep the same room at the same temperature by means of the air-tight stove; and then, the convenience of having to light the fire but once in the season, and taking from the stove in the morning sufficient charcoal to light all the other fires in the house, will render it the most profitable, as well as desirable, of all the numerous contrivances that have come down to us in the shape of about five hundred varieties of stoves, of all sizes, shapes, and prices. I am now quite convinced that the expensive apparatus for warming houses by hot air is no longer necessary, for by means of the air-tight stove, all that is desirable can be obtained far more certainly, quicker, and incomparably more pleasant in its effects, at a tenth of the expense; and by which, also, the very prevalent complaint of bronchitis will, I am satisfied, be avoided, the cause of that disorder being the inhaling of air that has passed over a red-hot body of metal, thus having been rendered unfit for respiration—at least, this is my firm conviction, in which I am justified by the effects of the last few days, since I have discarded the iron cylinder coal-stove, and obtained one of the air-tight wood-stoves. For the sick-chamber it is peculiarly adapted, as it emits no unpleasant smell, creates no noise or dust in managing, diffusing a gentle heat, or rather *glow*, that can be regulated to a *degree* by means of a thermometer at any moment, keeping it up to that point which might be recommended by the physician—a point which, in many cases, is of vital importance; while to the medical practitioner himself, whose office-hours are uncertain to a proverb, and whose nights are so often broken in upon by professional calls, the use of this stove is most desirable; for on leaving home, he can regulate the draught by closing the door, and in an instant, on his return, raise the heat to the degree he might choose, and that, after the absence of twelve hours, or even double that time. And the student, also, whose hours of recreation are so often

taxed with a cold reception on return to his studies, can now determine upon the exact degree of warmth which the spirit of his subject may require for its full development, and regulate the damper accordingly, be it poetry or be it prose, by night or by day.

But to none will it be more convenient than to the farmer, whose concerns so often call him and the members of his family abroad, or into the kitchen or dairy, at which time friends may call and render a fire in the best room very desirable, although it might be required but for a short time; it is, therefore, but to leave one of these stoves pretty well filled with wood in the morning, closing the door, and he has it in his power to give his warmest friend a correspondent welcome in an instant by opening the draught; and on his taking leave, to shut it, and as effectually to put a stop to any further expense of fuel, be it even until the end of the day. In short, I know of nothing of the kind that can at all compare with the air-tight stove, either for economy, comfort, cleanliness, or convenience. I pray you, Mr. Editor, try it.

J. C. M.

7th of December, 1841.

We have tried it, and bear willing testimony to all that our correspondent has advanced in its favour, adding the answer of a friend, of whom we inquired its character after a year's trial—"We would not be without it for ten times its cost." In fixing it, the chimney-board should be made perfectly tight, by putty, if necessary, or, perhaps better, by pasting stout paper over it. And before laying the wood, cover the bottom of the stove about two inches thick with wood-ashes, upon which place your kindling, and upon that the wood; after the first lighting, let the wood be as large as will pass in at the door, and the rougher and harder it is, the better. A degree of care will be necessary in regulating the draught, both at the door and the valve in the smoke-pipe, but the art will be very soon acquired by practice. It may be well to add, it is said a slight explosion has sometimes taken place in the stoves on first lighting the fire, when the air in the chimney has been so cold and heavy as to prevent the warm air in the stove from passing quickly, but that is no more than what all stoves are liable to, if the chimney-board is very tight, as it ought to be; we have, however, guarded against this contingency, by cutting a round hole in the chimney-board just below the smoke-pipe, over which is suspended by a small nail a piece of tin, which, in the event of a pressure of air in the chimney, opens into the room and forms a safety-valve. And we have hitherto observed, that the pressure of the air in the room has the power to press it so closely, as to render the opening perfectly air-tight—there it is, however, if at any time, its preventive powers should be called into requisition.

In the "Yankee Farmer" for the past week, we find the description of a stove which might be supposed to have been taken from the air-tight stove of which we have been speaking; it is given under the head, "The true principle of stoves," and is worthy particular no-

tion. "In order to produce the greatest quantity of heat in proportion to the quantity of fuel consumed, a stove should present a large quantity of vertical surface to the surrounding air, and that surface should be smooth, for the purpose of facilitating the ascent of a current of rarefied air. If any projection impedes this upward current, the heat accumulates and remains comparatively stationary, and thus prevents the free radiation of heat from within; but when there is a brisk circulation of air outside, the heat, as it passes through the iron surface, is instantly carried off, and is circulated in the room; thus allowing the free radiation of more. Atmospheric air should always be excluded from the interior of a stove, except so much as is requisite to produce the required quantity of heat; by admitting too much air, a rapid current is produced within, and the emanating heat is driven into the chimney before it has time to radiate through the iron plate. In most of the stoves now in use, more than two-thirds of the heat, which might otherwise be useful, is totally lost."

We feel pleasure in informing our friends, that "Orr's Air-Tight Stoves" may be obtained of Mr. W. W. Hughes, 147 south Front street, Philadelphia.—Ed.

Stump Extractor.

PROCURE a dry red-elm lever, about twenty feet long, and six or eight inches in diameter; a good stout log chain, with two yokes of oxen, and that is all the machinery requisite. The mode of operation is this: Wrap the log-chain around the stump, a little above the ground, and make what is called a log hitch; then lay the lever horizontally on the ground, the larger end next to the chain and against the stump.—Now make the other end of the chain fast to this end of the lever, drawing the lever tight to the stump, and hitch the cattle to the small end of the lever, driving them around the stump in a circle, of which the lever is the radius, and one revolution of the oxen around the stump will generally twist out the largest of them. But should not the power applied be sufficient, the side roots of the stump may be uncovered, and cut partly off; and this done, the stump will be easily removed.—*Wt. Far.*

Raise Everything.

EVERY farmer should make it a rule to purchase nothing that he can raise or make on his farm. There can be no higher evidence of an unprofitable farmer, than to see him purchasing his pork, his beef, his horses, his corn, or his flour. He should be ashamed to have it said that he is a purchaser of any of those articles. If he thinks it cheaper to purchase than to raise, it is only additional evidence of his folly. If we look through the district for our best farmers, we shall find them selling instead of purchasing those articles.—*Am. Far.*

To the Editor of the Farmers' Cabinet.

Missouri Leviathan.

WE regret that the following communication did not come to hand in time for our last number; it ought to have accompanied the article, page 146, on the same subject. The pages of the Cabinet are the property of our correspondents, and are neither to be bought nor sold; they it is who make them what they are, while our province is to take care that every one has his right. Truth will bear the strictest investigation, and was never in fear for the result; her advocates, therefore, need be under no apprehension on her account, and it will always afford us real pleasure to assist in the search after the truth, wherever it may lead. Will our unknown correspondent accept our best thanks for his tribute of praise? It shall be our endeavour to deserve it.—Ed.

SIR,—The readers of the Cabinet are under heavy obligations for your continued efforts to amuse and instruct them on every proper subject; and there are few scientific ones with which an agriculturist of taste and industry may not, and should not, be familiar. They are indebted not only for the great variety, and, in general, judicious selection of reading matter, but for the excellent portraits of animals and engravings of implements, which so constantly adorn its pages. The effort to convey to your subscribers a knowledge of the Missouri Leviathan, so called, by means of the drawing in your last number, will be duly appreciated by the naturalist and geologist—pursuits, interesting and instructive to all, and which, in the march of general knowledge, will, we may trust, soon be no hidden mysteries to the accomplished cultivator of the soil, as no class, certainly, has more at stake in their daily development of important principles.

Few, acquainted with the conduct of the Cabinet, I presume, would permit themselves to doubt the "faithful delineation of the wonderful work of the Almighty" referred to—but there are other considerations connected with this subject, for which you are in no way responsible, that deserve some attention. To be applicable to any useful purpose, it is important that our first impressions should, as far as practicable, be correct, especially in matters of science; and in none more so than that which is involved in the examination of fossil remains, requiring, in many cases, much of careful comparison and minute and patient investigation. No one, however, who has given any attention to comparative anatomy, can avoid being struck, not only with the anomaly, but the violation of all anatomical rules presented in the description which accompanies the drawing, much more in the appearance of the object itself; and notwithstanding the remarks of your correspondent, *H.*, in the same number, many of the cultivators of this branch of science will, I am

ready to conclude, still continue to lean to the opinions of the Editor of the Farmers' Register, that though it may not be justly termed a "counterfeit," it is "at least so far factitious," as to render probable the attempt to present, under another name, "a larger size of the well-known mastodon, of which it is in truth a specimen."

The communication of *H.* would lead us into the belief that the "only wood that has been added to the whole skeleton, are small blocks inserted between the vertebræ of the back, to take place of the cartilaginous substance which had been consumed by time, which blocks seem by no means sufficiently large for the purpose of exhibiting the animal in his perfect size, but merely forming *interstices* on which to attach the ribs;" and that "in every other part the bones appear in their natural state." From these opinions of *H.*, I was about to express my humble dissent, as well as the reasons for such; but having observed a reference to the subject at the last meeting of the Academy of Natural Science, by Dr. Goddard, of your city, a gentleman well known for his researches in comparative anatomy, I prefer transcribing his observations in part, as far more likely to efface any erroneous impressions that may be drawn from a hurried view, or interested description of the remains, than any thing that could be urged by an anonymous writer, with less opportunity, perhaps, of examination and observation than that anatomist. The issue between Mr. Koch, H., and Dr. Goddard, is thus made up. [Here follows Dr. Goddard's Report—which see at page 146 of our last number.]

I have not seen the passage from the "Western Journal of Medicine," referred to in your extract from the "*Friend*," page 133, but the editor of the latter journal may console himself on the score of injury to the discoverer in the publication of the remarks of the former; as no doubt equally severe justice will be meted out to the remains in England, to which place it appears to be on its way. The attempt to cast "ridicule on the whole affair," was natural, upon the discovery of the false representations essayed to be palmed off on the public; and though it is true that, so far from being a "sheer deception," the skeleton is really one of great interest, yet it can hardly be regretted that the errors to which I have referred have been detected and exposed before it undergoes the scrutiny of European anatomists—else they might conclude that the shrewd Yankee was easier imposed upon, in matters of science at least, than common report affirmed, if they had swallowed unscrupulously all that has been said of the singularities of this animal.

The great matter of complaint and error, supposing it no worse, has been in the viola-

tion of all known principles and rules in putting the bones together, and then offering it as a nondescript of great interest. The particulars of these errors have been given in a way, and from authority, which would seem to set the matter at rest.

One word as to the motive for this communication. I have witnessed with pleasure the eagerness with which the Cabinet is received and perused by the younger members of those families where it is a regular visiter, and, as an old subscriber, feel jealous that nothing should be placed in their hands, through its instrumentality, calculated to produce erroneous impressions—thus first teaching them what they must again unlearn. The object, then, is truth, not controversy; and if you should think that you subserve the cause of the former by inserting this in your forthcoming number, do so; if otherwise, do not hesitate to throw it aside, as in either case I shall remain your friend, and constant reader.

M.

Mill Creek Hund., New Castle Co., Del., Dec. 4th, 1841.

For the Farmers' Cabinet.

Commerce vs. Agriculture.

MUCH pains has been taken by the author of an article, entitled American Farming, in the "Cabinet" for the present month, over the caption of "Vir," to show that the profits of the farmer are, or ought to be, equal to those resulting from any legitimate business, the capital, enterprise, and intelligent application, being in both cases the same. To prove his position beyond all doubt, he goes into an elaborate comparison between the relative condition of the English and American farmers, in the course of which he gives valuable information, for which I thank him cordially, though to my mind it does not settle the truth of the conclusion at which he arrives, that "It will pay as good a return for capital invested, as any legitimate business whatever."

I shall, in very few words, offer another mode of reasoning, and shall, accordingly, deduce a different result. I reside in a section of Chester county, Pa., which, in point of fertility, local advantages, and the intelligence of its inhabitants, has few superiors, at the same distance from the great emporiums of commerce; yet, such is the state of affairs hereaway, that a person purchasing a medium-sized farm for \$6000, and entering upon its cultivation with the utmost industry and good management, will find that by the time he pays all expenses, and maintains a moderate family decently, nothing will be left to provide against a "stormy day," or for a "season of infirmity!" Now, supposing the available proceeds of \$6000, at interest, to be

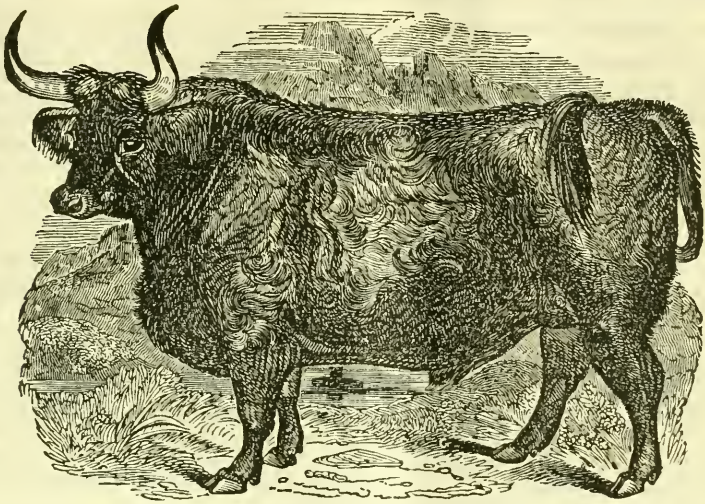
\$300, I maintain that the latter sum would, in my neighbourhood, maintain *decently* such a family as I have contemplated above, in *perfect idleness*; so that, so far as mere lucre is concerned, the *idlers* have the advantage, by the prodigious difference of a whole year's toil. Of the moral tendency of the two conditions I do not speak, as it would be irrelevant to my subject. Now, I believe I may assert and challenge a disproof of my position, that \$6000 could hardly be invested in a fair "legitimate business" in the country, under the management of ordinary intelligence and industry, without a more generous return than I have awarded to it from farming. The above remarks are from the spur of the moment, and though the reasoning is of a very ordinary cast, I presume the conclusions are correct. Time permitting, much might be said touching sundry articles and sentiments now and then published in this valuable work, the "Cabinet"—but let the above suffice at present. From a subscriber and

PRACTICAL FARMER.

West Grove, 12th mo., 1841.

Grapes in Pots.

THE following is a certain way to insure a crop of grapes in pots:—When the vines that are let into a house have reached the top of the rafters, instead of topping the leading shoot, as is commonly done, turn the shoot back, and, having a pot of suitable size, well filled with turfy loam and perfectly rotted dung, equal parts, place it upon the back shelf of the pit, and as soon as the shoot has attained a sufficient length to be laid in it, cut out two or three eyes and as many of its leaves; and scrape off a little of the bark the whole length of the part intended for roots, which bend into the pot, and cover with six or seven inches of the mould; no other attention is necessary, except to train the shoot as it advances in growth, keeping the mould in the pot a little moist to encourage the emission of roots, which will appear in two or three weeks, and soon fill the pot. Allow the shoot to grow to the length of from four to eight feet, according to the strength of the parent vine, and leave it attached to it until it has done growing, and has perfectly ripened its wood. When these plants are severed from the parent vine, they are put out under a wall, where they are protected from the frost until they are taken into the house for forcing, at which time they are shifted into pots a foot over and fourteen inches deep, and in these they remain. A fresh supply of plants can thus be obtained every year, and with the greatest ease, which will produce fruit the second year, and often the first year from striking.—*Gard. Chron.*



NORTH ARGYLESHIRE OX.

THE North Argyleshire cattle are now bred to the full size which the soil or the qualities of the animal will bear. That fundamental principle in breeding is generally adopted here, that the size must be determined by the soil and the food; and that it is far more profitable to the farmer to have the size of his breed *under*, rather than *over*, the produce of his land. Both will gradually adapt themselves to the soil; but the small beast will become more bulky, and improve in all his points, while the large one will degenerate in form, and in every good quality. Therefore, the soil and management here, being, generally speaking, more judicious than that of the country more north, it was found that a somewhat larger animal might be admitted. He was, however, procured, not by crossing with a breed of superior size, but by careful selection from the best of the native breed; and experience and judgment soon discovered when the proper point, the profitable weight, was gained; and then the breeder went back to the equally pure but smaller breed of Skye, lest the form should be deteriorated and the fattening quality should not be so equable and true, and the beef should lose some of its beautiful character and flavour.

There is no part of the Highlands of Scotland where the soil and climate are better adapted to the perfection of this beautiful breed of cattle than in Argyle, or where we so often see the true characteristics of the very best Highland cattle. Short, and somewhat strong in the shank, round in the body, straight on the back, well haired, long in the muzzle, with a well-turned horn; and there is no district in which the farmer so superstitiously, and yet we will say, properly, refrains from all foreign mixture; and could the two great errors of the Highland farmer be remedied, namely, overstocking in the summer and starving in the winter, there would be nothing more to desire, so far as the grazier is concerned, except, perhaps, docility of character and temper; but that will be gradually acquired, when further improvements in agriculture have rendered it unnecessary for the beast to wander so far, and over so wild a country, in search of food, and when he will be earlier and more perfectly domesticated. But this breed must be reared for the grazier alone; every attention to increase his weight, in order to make him capable of agricultural labour—every effort to qualify for the dairy, will not only lessen their native hardiness of constitution and propensity to fatten, but will fail in rendering them valuable for the purpose at which the farmer foolishly aims. The character of the Highland ox must still be, that he will pay better for the food which he eats than any other breed, and will fatten where any other breed would scarcely live; and this is the grand secret of profitably breeding or grazing Scotch black cattle; and from whence a lesson might be learned in the art of rearing and feeding any other breed whatever. But it is remarked, although the Highland cattle fatten very rapidly for a certain time, and begin early to fatten where the pasturage will give them opportunity to show it, they do not thrive so well when old; a cow destined for slaughter, must not be permitted to breed after six years old.

To the Editor of the Farmers' Cabinet.

Advantages of Travel.

WORTHY FRIEND,—I believe that you will be gratified to hear that I am once more in the enjoyment of the comforts of *home*; for however it may be less splendid than many of the mansions in which I have enjoyed hospitality during the past summer, it is yet a happy home—the home of the wife of my bosom, and the children of our love. It is the home of those who had, for many days before my arrival, been anxiously looking and praying for my safe return; for at this late season of the year, a voyage around our northern lakes is always attended with anxiety, if not danger. But at length I came in health, and found health, and an abundance of joy! It is good for a man to be separated from his family occasionally, merely to enable him and them to enjoy the great gratification of meeting after a long absence.

You will please assure your family, that the joy of meeting my own wife and children, has not crowded out an affectionate remembrance of them, and therefore you will make my best respects to them. I hope it will be long before they do, or wish to, forget their old friend of the Western Prairies.

My late tour through the United States has formed many links with my heart, that will always vibrate to the tune of sweet and pleasant sensations. I am well persuaded that I return home a better man than I left; at all events, a wiser one. I have formed a great many new and excellent acquaintances, and I have seen a good share of what every man ought to see—that is his *own* country, at least before he yearns after foreign ones. My opportunity to learn a great deal that will be useful to me through life, has been greater than many travellers, because my association has been with the nobility of the land—the cultivators of the soil. I have seen and observed the different kinds of soil, and mode of cultivation, and the different kinds of stock, and their adaptation to different sections of the country. I have carefully examined a great many improved implements of husbandry; and above all things, I have observed that there is an evident spirit of improvement abroad that has, and that will elevate the character and standing of the agricultural population of the United States. I have found a strong evidence of this good spirit in the cordial manner that I have everywhere been received throughout my journey. I had no claims from political notoriety or official station to draw attention, but everywhere I found myself known and welcomed, as a friend of the agricultural interest of the country, in a manner that astonished me not a little. I have often asked myself

the question, What have I done to cause all this? It is true that I had devoted a share of the talent which nature had endowed me with, for the benefit of my agricultural brethren; but I did not feel that on that account I merited the honour and respect which I have met with. But let this fact encourage others to do likewise. Let them bear in mind that a good reputation, so easily earned, is worth their attention, and will prove of a value that cannot be computed in dollars and cents. I have reason to hope, although I may never meet a return in that currency for the time and money spent during the past summer, that I have done some good. I have aided in awakening the public mind to pay more attention to the best interest of the country; and I am fully persuaded, if agricultural writers would take the trouble to make themselves more personally known, that they would increase their own usefulness, while adding days of pleasure to their lives.

I reached home on the 13th instant, by way of the lakes, from Buffalo to Chicago, having had rather a rough passage, though not more than could be expected at this late season of the year. I hope to be able, after I recover from the fatigue of my journey, to let you and your readers hear from me occasionally. I remain with respect and esteem,

Your friend,

SOLON ROBINSON.

Lake Court House, Ind., Nov. 22, 1841.

Our amiable friend must excuse us for making public a private communication; we knew not how to debar his friends in this part of the country from the perusal of a document so honourable to the head and heart of the writer, to say nothing of the pleasure it affords us, showing that we enjoy the happiness of his friendly recollections. May he long continue an ornament to his country, a treasure to his neighbourhood, and a blessing to his family.—ED.

For the Farmers' Cabinet.

Correction.

MR. EDITOR,—If, instead of cutting off three inches from one leg of the triangle or span level, (see page 161 of the Cabinet for December,) our friend of the Southern Planter had merely raised it by placing underneath a block three inches in thickness, to be removed when the bob-line had marked its proper deviation from the plumb, he would not, perhaps, have fallen into the error of directing the *short* foot of the level to be placed forward, while laying off drains on a descent. Both feet of the level must be of the same length, if the bob-line is to mark the obliquity properly, and there can be no declivity in the drains if this be not the case.

T. B.

For the Farmers' Cabinet.

Review of Agricultural Works.

MR. EDITOR, — I am a subscriber and a faithful reader of the Cabinet; indeed, I might almost say it is never out of my hands, for I keep the five volumes, as well as the new numbers, always by me, not only referring to them when I want information on any particular subject relating to agriculture, but many a leisure moment do I fill up by their perusal. The form of the publication is peculiarly adapted to this, and the articles generally being short, a few moments, otherwise idle, can be most profitably employed. One may, for instance, while waiting for dinner, obtain information worth more than years of subscription to your paper, and many good dinners besides.

My object now, however, is not to commend the Cabinet, which would lead me into a very lengthy epistle, for "too much cannot be said in its praise," but to draw your attention to the propriety of devoting a few of its columns, from time to time, to the review of works on agriculture, particularly the new publications of the day. This would be interesting to your readers generally, and of great use to such as reside in the country; for when they see in the newspapers a work advertised, they have no means of ascertaining its practical value, until, perhaps, an opportunity is afforded of a visit to the city, when the work may be only superficially glanced over at the bookstore before purchasing. Now, a good review and criticism would obviate this, besides the utility of the articles in drawing attention to the correct or fallacious reasonings of the author. Indeed, even a list of the new publications would be interesting. Much advantage would be derived, also, from a notice occasionally of standard works (agricultural, of course); and a corner of your paper thus devoted, would add to its interest. A correct taste would be aided; for those disposed to study, would be directed to profitable works, and many induced to read more on the subject, and to better advantage, if their interest was excited by a judicious critical notice of a good work.

There are yet a few of the "old school" farmers who have a prejudice against reading, or "book-farming," as it is called; but I believe that the time has passed, when it is doubted that intelligence and research produce beneficial and profitable results upon any subject to which they are applied; nor is agriculture so poor, as to furnish an exception to the rule.

Hoping you will excuse the liberty I have taken in attempting to improve that which already is so excellent,

I am, &c.,
V.

Cazenovia, Dec. 16, 1841.

For the Farmers' Cabinet.

Span Level for Draining.

THE short article under this title, transferred from the Southern Planter to page 161 of the last number of the Cabinet, contains about as strange a jumble of ideas as could well be squeezed into so small a space. The writer first sets out with stating the important advantages of draining, &c., which is all well enough. Next comes the important information, that *open* drains require a fall of 3 inches in 15, to enable the water to drain off effectually, which is afterwards stated to be 3 inches in 15 feet; who made the mistake, the writer or the printer, I know not—but let it pass. Then comes a description of his span level, which turns out to be identical in principle, and very nearly so in form, with the rafter level—an instrument long known and used for similar purposes.

I would observe in this place, that if any farmer or land-holder has a large body of land, or even a large field to drain, he will save himself an infinite deal of trouble, vexation, and disappointment, by discarding, in the first instance, the use of the span level, and employing a competent person, with proper instruments, to ascertain the whole fall to be obtained, and so lay out the drains that it shall be properly distributed among them. Then, if the depth it will be necessary to sink the heads of the drains to catch the water to be carried off, is once ascertained, and the size of the drains fixed on, an estimate of the whole amount of excavation, and of course of the cost of the work, can be readily made, previous to commencing other operations. The span, or rafter level, when properly made, will then be found a useful help in finishing the bottom of the drains.

The strange assertion, that "in *open* drains it has been found by experience that to carry off water effectually, a fall of 3 inches in 15 feet is necessary," merits further notice. A fall of 3 inches in 15 feet, is 88 feet to the mile, or a fraction less than an angle of one degree; and about the grade considered desirable for a M'Adamized road. Of land that requires draining, we do not believe there is one acre in 100 that has a fall of 88 feet to the mile, or even the half of it. Such land has not commonly a fall of even 20 feet to the mile. If the assertion were then correct, a vast quantity of such land must for ever lay an irreclaimable morass. The assertion will, indeed, be news to engineers and canal companies, and if true, good news, too. They generally find, and often much to their annoyance, that a fall of much less than one foot to the mile will very effectually carry off the water from their reaches of canal, when the lower wickets are opened and the upper ones closed.

But what is the fall given to streams by nature? We will give an instance. The average fall in the Schuylkill, from Port Carbon to Philadelphia, 108 miles, is less than six feet to the mile. The lower 20 miles do not exceed $2\frac{1}{2}$ feet to the mile; and no part of it exceeds 30 feet. It is true that some of its branches, which rise on the mountain heights, may have a fall of 200 feet to the mile, but their beds are rather a succession of small cascades—the water leaping from rock to rock—than the regular slope of an uniform current. But, leaving our mountain chains, there is not a stream in all our country, ten miles long, with an average fall of 88 feet to the mile. And we venture to say, there is not one in eastern Virginia, five miles long, with that average fall. It is also generally true, that streams have much more fall near their sources than near their mouths. Land requiring draining, has frequently a substratum of clay or other matter, easily abraded by water. If straight drains are cut in such grounds with the proposed fall, and left open to receive the torrents of water rushing from the neighbouring high grounds in wet times, they will soon become washed into frightful gullies instead of useful drains. Nature generally makes a provision against such effects, by the crooked and serpentine course small streams assume, checking the velocity of the current.

But the most curious part of the whole article, are the directions for making the span level. The writer tells us, the feet are to be placed exactly 15 feet apart, and that one of its legs must be made three inches shorter than the other. It is then to be placed on a perfect level, and a mark made on the cross piece, where the string of the plumb-bob crosses it. That in using it, the short leg must be kept in the direction it is intended the water shall run in the drain, and lowered until the bob-line falls on the mark on the cross piece, giving of course a fall of 3 inches in 15 feet. Now, it is difficult to conceive how any one at all acquainted with the subject should give such instructions; for if the instrument is placed on a perfectly level surface, and a mark made where the bob-line falls on the cross-piece, whenever the instrument is placed on any other level surface, the bob-line will again fall on the same mark, and conversely, whenever the instrument is so placed that the bob-line falls on the mark, the two feet are in the same horizontal or level line. And it makes not a particle of difference whether one of the legs is made 3 inches or 3 feet shorter than the other, nor which end of the instrument is put foremost, provided no alteration is made in the relative length of the legs after the mark is made on the cross piece. Perhaps the whole mystery

and confusion of the article may arise from this blunder in making the span level. And while the good man thought he was giving his drains a fall of 3 inches in 15 feet, he was actually giving them no fall at all. Or if any were given them, it was through the carelessness or awkwardness of his workmen, or the inaccuracy of his instrument.

As the span or rafter level is a very useful instrument, and ought to be in the possession of every farmer, I had intended to have added directions for making one, and how to fit and use it, so as to give the bottom of a drain any required fall, but this article is already too long.

S. LEWIS.

December 21st, 1841.

Our esteemed correspondent would confer an obligation on the readers of the Cabinet, if he would resume the consideration of this interesting subject in the next number.—ED.

To the Editor of the Farmers' Cabinet.

Boiled Cabbages for Swine.

SIR,—I notice that one of your correspondents, in the November number of the Cabinet, recommends boiled cabbages as a wholesome and economical food for swine. My experience, which, in regard to those animals, is not inconsiderable, does not confirm that opinion. I have never been able to induce my hogs to eat boiled cabbages with avidity; on the contrary, they have generally shown a marked aversion to them, unless they were combined with a pretty strong proportion of grain of some kind; and even then, I have doubted whether the cooking process made the cabbages more conducive to the health and nourishment of the animals, than agreeable to their palates. If, as it has been said, brutes, particularly swine, have an instinctive partiality for both such sorts and such preparations of food as are most congenial to their constitutions; and if, as I have also heard, the intestines of a hog are more like those of a man, than are the intestines of any other domestic animal, the preference of swine for raw rather than boiled cabbages, may be accounted for. You have probably seen the work of Dr. Beaumont, describing the experiments made by him in relation to the comparative digestibility of food in the stomach of the soldier whose side, having been pierced by a musket-ball, left a hole when the wound healed, big enough to carry on such experiments with accuracy. The doctor puts down raw cabbage as having been about as easy again for his patient to digest as boiled. So, I have no doubt, hogs find it, and therefore prefer it. My experience, too, has convinced me that hogs not only prefer raw cabbage to boiled, but to any other vegetable, whether

cooked or raw, if given alone; and that they will eat raw cabbage first, when given to them at the same time with other vegetables, whether cooked or not. I have never succeeded in attempts to make my hogs eat raw carrots, parsneps, or white turnips. Yellow turnips they will devour as if they liked them; but I have often thought that, even of these they preferred the tops to the roots. Beets, of which they relish both the tops and roots, I am inclined to think, make, with shorts or bran, and a due proportion of salt and ashes, the best and cheapest winter food for store swine.

As to the comparative economy of cooked or raw food for swine in general, I have no doubt that, with the exception of cabbages, all vegetables, and all grain without exception, will go much further if thoroughly boiled than when raw; but the cost of the boiling apparatus, of fuel, and of the labour necessary for the purpose, must be taken into consideration; and if they be, it will be found that for a small number of hogs—say less than twenty or thirty—raw food will be cheaper than cooked.

BRAWN.

Haerlam, near Washington, D. C., Dec. 21, 1841.

To the Editor of the Farmers' Cabinet.

Pro and Con.

MR. EDITOR.—I hand you for publication, a very interesting paper on the comparative value of two remarkable crops of potatoes, as I find it in the New England Farmer of the 8th of December. The witty and sensible remarks of the editor are invaluable, and go far to reconcile many of those little discrepancies which we so often meet in the *pro and con* accounts of profit and loss, as they are made to circulate by means of the agricultural periodicals of the day. J. A. D.

“The following communication, from Mr. Rich, is of a kind which we always welcome. *Exact* accounts are what all farmers like to look at—they are what *all farmers should keep*. In what way is it possible for a man to determine *accurately* which of his crops are, taking a series of years together, the most profitable, unless he does note down the expenses of each, and its worth? It is true that observation and good judgment may help him to get *near the truth*, but this is all. The first of January will soon come round again; and before it arrives, we advise every young farmer—(we don't very willingly except the old ones)—to provide himself with a book in which to keep a journal. If this is done, he has it in his power to turn at any time to all the minutes he wants, to enable him to sum up the profits and loss of every crop.

Shoreham, Vt., Nov. 15th, 1841.

MR. EDITOR—Sir—In reading the agricultural papers of the day, I frequently meet with the mode, culture, expenses, and loss or gain of farm crops, which I think is an advantage to the farmer, especially where they are particular in giving the description of soil and mode of treatment. Being induced, from the frequent recommendations in the papers, to keep debit and credit of farm crops, I will give you a statement of one acre and five-eighths of potatoes. Soil, about one-half a deep loam, the other loam and sand, (rather moist). It had lain to grass two years; and on the 12th of June I drew twenty-one cart-loads of long manure, and spread it evenly over the ground, and ploughed it under to the depth of eight inches, immediately after spreading. The herds-grass and clover had attained a good growth; so much so, that it was necessary to have one hand keep up with the plough, and with a forked stick prevent the grass from accumulating about the coulter. It was then thoroughly harrowed, and then furrowed and planted as soon as possible. The ground was furrowed three feet one way, and planted about two feet the other; the potatoes being cut and covered two inches deep. First hoeing, 15th of July; cultivator run twice in each furrow; second hoeing, 28th of July, and cultivator used as in the first. I endeavoured to have my hands hoe them on the level system as much as possible; but owing to their being furrowed very shallow, and the mode new, they were hilled more than I intended to have them. The season was good until the second hoeing, and from that time to the 15th of September was too dry, (which was the case throughout the county). From that time to the 14th of October, they grew very fast, and on harvesting them I had four hundred and seventy-seven and a half bushels of potatoes. Now for the account:—

<i>Dr.</i>	
To 21 loads of long manure, at 3s.	\$10.00
“ 1½ days' ploughing, with 2 yoke of oxen and 3 men,	5.25
“ Man and horse 3 hours in furrowing,	50
“ 32 bushel seed potatoes, at 2s. per bushel,	10.67
“ 1½ days' planting, at 75 cts. per day,	1.13
“ First hoeing, 3½ days, at 75 cts. per day,	2.63
“ Second hoeing, 2½ days, at 75 cts. per day, ...	2.06
“ Use of horse for both hoeings,	1.00
“ 12½ days in harvesting,	9.56
“ Interest on land, at \$50 per acre,	4.87
	<u>\$48.17</u>
Deduct two thirds expense of manure for succeeding crops,	7.00
	<u>\$41.17</u>
<i>Cr.</i>	
By 477½ bushels of potatoes, at 2s.	\$159.17
Deduct expenses,	41.17
	<u>Profit, \$118.00</u>

or \$72.62 per acre.

Your friend and subscriber,
QUINTUS C. RICH.

I am tempted by the foregoing statement to give an account, *from memory*, of my own potato crop. My book is twenty miles from here. It was a *wonderful crop*.

About the last week in May, I took a strip of land three rods wide and forty long; plain pasture land, with but little herbage on it. Soil mostly a light coloured loam, inclining to a sandy loam. Broke up and subsoiled two-thirds of this with two yoke of oxen, and two men half a day. Next morning, broke up the remainder with one yoke of oxen and one man, one hour and a half. One-fourth of an acre of this land was planted to potatoes. Before ploughing, I spread upon the quarter acre three loads of *rotting* (not exactly *rotted*) straw, potato vines, meadow mud, &c., which I found in the barn-yard when I purchased the place. After ploughing, I spread about four loads of the same *powerful* manure upon the furrows, and harrowed it in. The land was then marked out four feet one way, and three feet three inches the other. Then I planted four and a half bushels of as wormy and inferior potatoes *as were ever seen*. (Why plant such? They were brought on to the ground before I saw them, and I then knew not where I could get any others—*look next time before you buy*, said I to myself.) Also, I planted seven pecks of a new variety, far-fetched, which cost \$4 per barrel. They were hoed twice—and now how many potatoes do you suppose I obtained from the whole piece? Why, about *thirteen bushels*; and these about as good as I planted.

And now for the debit and credit:—

<i>Dr.</i>	
To interest on $\frac{1}{2}$ acre, at \$25 per acre,	\$0.31
" Ploughing and barrowing,	1.00
" 7 loads of manure (?),	3.50
" $\frac{1}{2}$ bushels of seed, at 2s.	1.50
" 7 pecks	3.25
" Hoeing,	50
" Harvesting,	1.00
	\$11.06
<i>Cr.</i> ... By 13 bushels, at 2s.	4.33
	Loss,
	\$6.73

It would spoil a good story to state that a hail-storm shattered the vines of these potatoes into shreds, and that they never recovered from the effects of the pelting—and there may be no occasion to say, that the main object was to get the land somewhat mellowed and fitted for a crop the next season. Were such things mentioned, the main object of these statements might be defeated, which is to show that though farmers often get a large profit from particular acres, they also are liable to losses on other parts of the farm; and that their business, though a good and respectable one, is not, on the whole, so lucrative as many may imagine, who make their inferences only from such accounts as appear in the papers, where writers gene-

rally speak of those parts of the farm which have done well, and leave failures, blacksmiths' bills, repairs of fences, repairs of buildings, &c. &c., unnoticed. I could make out an account—and as fairly, too, as many others are made—which would show a farm

<i>Dr.</i> ... 1841, about	\$500.00
<i>Cr.</i> ... $\frac{1}{2}$ bushel turnips sold,	12
	Loss,
	\$499.88

And yet it would require a statement of *facts* to satisfy me that I have fared worse than many others, who can give accounts of large and profitable crops.

An effort is making, and we rejoice at it, to bring agriculture into more marked favour than it has hitherto enjoyed. But partial and delusive statements can never do this. Every man who is allured into it *to his cost*, will be likely afterwards to speak of the pursuit in terms of disapprobation and contempt. Unfairness will obstruct the efforts of those who would have farmers hold their own occupation in higher esteem. The unfairness we refer to, is not any that can be pointed out in particular accounts, but it is necessarily found to run through the agricultural press, where no pains are taken to keep the public informed that there is another side to the picture.

Remarks like these would be unnecessary, were farmers accustomed to give accounts of failures as freely as they do of success; but this is hardly to be expected of them. But do not misunderstand us: we have no wish to decry husbandry—we are making no attempts to do it. But our desire is, that its merits should be fairly and fully presented—let its discouragements and its hardships be told in connection with its profits and pleasures, for even then it will stand, and command attention and respect. It will make its way better in the world for a full and frank account of itself.—ED. N. E. FAR.

Examine your Implements.

It is well at this season of the year to make a careful examination of your farming implements; ascertain what are wanting, what new repairs, what new ones are to be introduced, &c., that all may be ready when required for use. It is not good policy, when the seed is sown, to find you must wait until a harrow can be constructed, or your neighbour has done his, before you can cover it; or when you are ready to plant or mow, to find that you have hoes without handles, and broken snaths to your scythes. All are more or less dependent; but the practice of borrowing agricultural implements should be discountenanced as much as possible, since they are all so cheap, that where they are wanted frequently, the old adage, that it is better to borrow than to buy, is fully reversed.—*Cult.*

To the Editor of the Farmers' Cabinet.

Artificial Manures.

Sir,—It would indeed appear somewhat unaccountable that the manufacture of poudrette has not yet been undertaken at Philadelphia; the business seems to succeed elsewhere, and our citizens are not behind those of any other part of the Union in capacity, either as regards ingenuity or capital, and yet the thing slumbers. Is it because there are yet doubts as to its intrinsic value, when compared with other articles in more general use? or a reluctance to engage in a concern which may be considered somewhat derogatory to the "genius of the age?" Whatever be the cause, there is no question of our being behind the Eastern States in a matter which, as you remark, is essentially interwoven with our agricultural interests. At the same time, it is but fair to add, the comparative trials in other countries between this article and several others called artificial, with those, the produce of the farm-yard, &c., have not been in favour of the former; and I am tempted to copy, from the last number of the Quarterly Journal of Agriculture, a series of experiments which have been made in Scotland, with a view of ascertaining the actual worth of these articles, when brought into competition with those which have been long known amongst us. The detail of the experiments forms an essay, for which the premium of twenty sovereigns was awarded by the Highland and Agricultural Society of Scotland, to Mr. W. Adam, of Aberdeen: the subject being, "On the comparative value of certain common and artificial manures for raising grain and green crops," and thus commences:

"Being desirous of making the cost value of the artificial manures used in the experiments bear some proportion to the value of those manures in common use, I procured as much of each of these kinds of artificial manures as I thought would, including freight and cartage, be equal in value to a given portion of the common manures, and proceeded accordingly.

Clark's desiccated compost,	£4 10 0
Sea freight and cartage,	1 3 9
	<u>£5 13 9</u>
Lance's carbonized humus,	£3 18 9
Freight and cartage,	1 3 9
	<u>£5 2 6</u>
Owen's animalized carbon,	£4 1 3
Freight and cartage,	1 3 9
	<u>£5 5 0</u>
Poittevin's disinfected manure,	£3 15 11
Freight and cartage,	1 3 9
	<u>£4 19 8</u>

As it was my object to have a comparative trial made of the value of all these manures,

not only in reference to one another, but also in reference to the other manures after-mentioned, for oats as well as turnips, I divided each of these artificial manures into three equal parts, and applied them on two fields of oats and one field of turnips, as follows: viz. one-third of each kind on half an acre of each of the two fields intended for oats, and one-third of each kind on a quarter of an acre of the field for turnips.

The $\frac{1}{2}$ acre with Clark's compost, cost	£1 17 11
" Lance's humerus,	1 17 6
" Owen's carbon,	1 17 0
" Poittevin's disinfected com.,	1 19 2
" street-dirt,	2 2 0
" well rotted cow & horse-dung,	2 2 0
" bone-dust,	2 2 3
" soot,	19 2

From the very marked difference of the crops on the different parts of the field on which these manures were spread, no one who saw them when growing, or after they were cut, could for a moment hesitate as to which had the superiority, or at least in pronouncing that the crop raised by the soot, and cow and street manure, had greatly the advantage over that raised by bone-dust, and the artificial manures; the soot producing by far the best crop on each of the two fields of oats before-mentioned, although the cost of it was only about half that of most of the other manures, the crop continuing to keep before the others during the season, the oats being distinguished by a healthier and darker green colour at the distance of a mile. The crop was stronger and ranker in the straw, and the bulk when cut was much larger, than on the ground manured with either cow-dung or street-dirt, and at least a third more bulky than that on the ground manured with bone-dust, and the artificial manures. The crop after cow and horse-dung, and that after the street-dirt, seemed much alike whilst growing, and both were very superior to that after the bones and artificial manures, although inferior to that after soot; but after being cut, the bulk and richness of the crop seemed to be in favour of the street-dirt over the horse and cow-dung. The crops after the bones and artificial manures were all alike inferior, and did not seem much, if any, better than that which was produced on a small part of the ground adjoining, which had been sown without any manure at all; but if there was any difference, I should say the bone-dust had rather the advantage of the artificial manures.

As to the turnip crop, the same quantity of each of the artificial manures was applied to a quarter of an acre, as was applied to the half acre of oats, the cost being

$\frac{1}{4}$ acre manured with Clark's compost,	£1 17 11
" Owen's "	1 17 0
" Lance's "	1 17 6
" Poittevin's "	1 19 2

No trial made with soot, which is to be regretted, but bones, cow-dung, and street-dirt, were applied to a quarter of an acre, at the cost of £1 9 1
 One quarter acre manured with bone-dust and street-dirt, sifted, 0 11 0

The turnips manured with a mixture of cow-dung and street-dirt and bones, were decidedly the best of the whole; those sown with bone-dust and street-dirt, were next best, although not equal. Those sown with the artificial manures came up very quickly, and for a time maintained a degree of superiority in appearance; but by the beginning of harvest, their leaves began to turn yellow, and were left behind all the others; those, however, from Owen's and Poittevin's compost being better than those raised from Clark's and Lance's.

The oats, when threshed, measured as follows:—

	Bushels.
After soot,	24
“ cow and horse-dung,	19
“ street-dirt,	16
“ bones,	12½
“ Poittevin's compost,	15
“ Clark's “	14½
“ Lance's “	13
“ Owen's “	10

It may be proper to mention that the seed, when sown, weighed 43 lbs. per bushel, and that the produce, when threshed, weighed from 41 to 42 lbs. per bushel. The grain raised by the street-dirt and cow and horse-dung being the weightiest, and that raised from the soot and Clark's compost being the lightest.”

The circumstance of the seed gathered from land thus highly manured being lighter in weight, and inferior in quality, to that which had been sown—the most stimulating, soot, producing the lightest grain—speaks to us a volume on the oft-repeated remark, that all manures are improper when applied immediately to grain crops; these dressings should be given to the grass and corn-crops, where they might be used to any degree and in any state, with perfect impunity; nay, with most certain and beneficial results.—J. B.

A Gentleman Farmer.

Mr. Derby gave, at a late agricultural meeting, a sketch of a farm he owns on an island in Winnipissioege Lake—a region where one would hardly expect the state of things he described. This farm includes 500 acres; 170 acres in wood, 280 acres in pasture, 50 acres in mowing and tillage; usually eight or ten acres under the plough. There are now 37 cows, and sometimes 44. The original cost of the farm and stock was \$4,200. The sales in 1838 had amounted to \$1,968; this year, \$1,500: the falling off being attributable to the decline in the prices. The sales consist of butter, cheese, and pork.

The cows and swine gave him abundant resources for manure, which he applied liberally; on cultivated grounds, from 38 to 40 loads per acre. Mr. D. had, this year, ten acres under the plough: two in potatoes, one in wheat, one in oats, and six in Indian-corn. His six in corn produced him 400 bushels. One acre of this corn gave him 131 bushels, and he applied to the agricultural society of that county for a premium, but was defeated by a competitor, who claimed it for 132 bushels. Mr. D. stated that one ground of his success was, that his farm-manager was himself directly interested in the results.

In the first place, he has what he needs from the farm for the support of his family. In addition to this, he had in cash \$300 a year, and on his sales was allowed, when his butter sold at 30 cents per pound, four cents per pound; on cheese sold, 1½ cent; on pork, 1½ cent. This gave the farmer nearly \$500 per year. His sales the last year were, new milk cheese, 5900 lbs.; butter, 2350 lbs.; pork, 2600, besides reserving enough for the consumption of the family; the male labour on the farm consisting of the farmer and two hired men. The female department is filled by one woman, the wife of the manager, who performs all the household work and makes all the butter and cheese. Under this management, Mr. Derby has received from his farm an income of 15 per cent, on the original investment, and the farm is in a course of improvement.—*Carolina Planter.*

Large and Small Farms.

If those who have poor farms of large size were to curtail the dimensions of their fields fifty per cent., and expend the amount they receive in labour in manure, they would be enabled, in a few years devoted to such policy, to improve all their arable lands, and bring their entire estates into a condition of profitable fertility; and while this would be going on, they would find, by the increase of manure applied to their corn-land, and attention to its culture, that their crops would increase. The great fault with us is, that we attempt to achieve too much; and owing to that circumstance, fail of achieving anything worthy of the character of good farmers. Large corn-fields unmanured and half tended, reflect no credit, and give no profit to their owners.—*Am. Far.*

We have to notice the publication of “The Diary” for 1842, a book of memorandum which no farmer ought to be without. It is for sale at the Farmers' Cabinet office, No. 50 north Fourth street: price 50 cents. It contains an almanack, and 144 pages ruled and headed with the day of the week and month, inviting a regular entry of the weather, the daily occurrences that take place, with other memoranda that might form a valuable record for future examination and reference.—*Ed.*



THE IRISH GREYHOUND.

This exquisite specimen of the ability of our engraver, is a correct copy of that chef-d'œuvre of art, the IRISH GREYHOUND, painted from the life by Reinagle, and engraved by Scott. It is given in our pages for the purpose of introducing to the notice of agriculturists generally, and to those especially whose residences are remote from neighbourhoods, an invaluable appendage to their household establishments. With courage to attack, and strength to pull down the deer, the wolf, or the midnight marauder, this noble animal possesses a fleetness and agility to overtake and pick up the fox or the rabbit; while his docility and faithfulness render him the safeguard of the farmer's family at home, when business calls him to a distance abroad. He is an excellent sporting companion; and thus his owner is often induced to remain at home in his business, instead of seeking abroad an amusement, which so many of his neighbours pursue, to the neglect of home and all its duties; and often, indeed, is it found, that by means of such a fleet and courageous assistant, he takes more game than do those whose *sport* oftentimes consists in the fatigue of themselves, their horses, and their hounds.

We once knew a man who had been bred to the law, had become eminent in his profession, and had reaped the fruits of his labours; but perceiving that an anxious attention to business was silently undermining his constitution, had the moral courage to choose the better part of valour—discretion; relinquished the labours of the brain and the consequent horrors of dyspepsia, bought a farm and cultivated it; breakfasted by lamp-light during winter, and dined at twelve o'clock the whole year round; retiring early to rest, instead of burning midnight oil as heretofore—often with the endeavour to make the worse appear the better reason—occupying himself during the day in sowing the seeds of peace and plenty instead of those of discord, as was often his professional duty to do; becoming as eminent for his skill in agriculture, as he had ever been in the profession of the law—his live-stock being the best, his crops the largest, his example the brightest in all that part of the country. And he was known, even at a distance, by his constant companion—just such a dog as is here portrayed; one of the same breed having been the bosom friend of Walter Scott, also. In his evening rounds, to see that all was right, he would take his gun and dog, and enjoy a peace of mind and health of body which the wealth of the Indies could not purchase; remarking, that he possessed, within the bounds of his farm, all that the world could give, and more than it could take away! And often, when speaking of his blessings, would he turn and caress his dog, repeating from "Cotton's Fireside,"

If solid happiness we prize,
Within our breast that jewel lies,
And they are fools who roam :

The world has little to bestow;
From our own selves our comforts flow,
And that dear cot—our home!

For the Farmers' Cabinet.

Berkshires.

MR. EDITOR,—So much has been said and written about the Berkshire hogs, that people have procured them, at a heavy price, merely because they have been highly recommended in the agricultural papers of the day, and because it has become fashionable to have them, so that when a friend drops in, why, if you have nothing else to show, you must fain show your Berkshires. Now, what I am going to say will no doubt raise the hue and cry of the whole fraternity of Berkshire breeders. Yet I care not: what I seek are facts, and these must be told, and cannot be controverted. I am a subscriber to your valuable paper, and as such, I have always been pleased to see that your columns are open to a temperate discussion of matters and things, even when men do differ, and this fact is the cause of my troubling you for the first time with my observations. This is, however, digression. In the first place, then, the Berkshire hogs are not what they have been “cracked up to be.” I have a neighbour, who has given them a fair trial, to which I have been an eye-witness. The experiment was made in this way:—two Berkshires were placed in a stable with two of the common breed, all of the same age, and were carefully fed, and at the end of nine months they were killed, and the result was, that the common breed exceeded the Berkshires in weight, one fifty and the other sixty pounds. Experiments have been made, to my knowledge, in other instances, with similar results, and even with worse credit to the far-famed Berkshires. They are not prolific: a gentleman of my acquaintance had four sows, each of which had but *one pig*, being a loss of at least ten per cent. a head, and the generality of them, I believe, do not get more than four or five. The only redeeming quality which they possess is, that they fatten easier and quicker than some breeds of the native hog; but even this is counterbalanced by their diminished weight when slaughtered. They may be considered an improvement on the common China hog, and that is about all. I have a number of common hogs in a pen for killing, which are but nine months old, but they will weigh 300 pounds a-piece by Christmas; they have been fed on nothing but the offal of a kitchen, and a run at grass, until within about four weeks, since which they have been fed on corn and boiled potatoes. Considering their feed—for after all that makes the hog—these hogs of mine will challenge competition with any Berkshires in the land, for symmetry, heavy hams, finely turned shoulders, thick and deep in the sides, &c., &c. I purchased them when small, but not being

aware of their qualities, I did not preserve the breed; I shall, however, endeavour to get others, and by a judicious crossing, I have no doubt they will make a far superior hog to the Berkshire, which a number of my neighbours have given up, preferring the best of the common kind to them, and in so doing, I think they are perfectly right. I have no disposition to discourage the propagation of a superior breed of animals; on the contrary, I would do all in my power to further so laudable an object; but the Berkshire pig mania, like the mulberry speculation, is upon the wane, and if A. B. Allen, of Buffalo, N. Y., has in his late trip to England, brought no better specimen of improved animals than Berkshire hogs, he might have saved himself the risk of a ducking in the Atlantic for such an object.

R. S. B.

Hanover township, Northampton Co., Pa.,
Dec. 5, 1841.

For the Farmers' Cabinet.

Agriculture versus Commerce.

MR. EDITOR,—On reading the article of your city correspondent, G. M. in the last number of the Cabinet, I have been led to the conclusion that the writer is either an extravagant liver, or that mercantile business is not what it has been “cracked up to be.” He informs us that he invested \$15,000 in the year 1827 in commercial business, and has been considered ever since a *successful* merchant, and that for the fifteen years he has been in business, his living has consumed all the profits, and that he is now not worth more than when he began, if so much.

Now, if that living which has absorbed all the profits of a business with a clear capital of \$15,000 has been an economical one, I should say that the sooner the capital is diverted to another channel of industry, the better; and as your correspondent wishes to escape the reverses incident to his present business, and seems desirous to turn his attention to the independent and noble pursuit of agriculture, for which he is prepared, at least in *capital and theory*, I would, therefore, for his information, and that of like inquirers, contrast his mercantile operations, and the results as given by himself, with the agricultural operations of my neighbour, S. G., and their happy results worked out, through an experience of 17 years, on land that in this section of the country is considered *naturally* third rate. Mr. G., by close application for some years to a mechanical trade, and at the same time living economically, accumulated a considerable sum, with which he purchased a poor farm of about 130 acres, and the *necessary* stock for the same, which consisted of a yoke of oxen, a horse, and two

cows. In conveying an idea of the condition of this farm, I could not use language more significant than that used by Mr. G., when speaking on the subject of his commencement in farming. He stated, that his farm was so poor when he purchased it, which was in the spring of 1824, that "he did not believe that his two cows, pair of oxen and horse, got a belly-full of grass on the farm the first summer." This poor land cost him 30 dollars per acre; his stock and farming utensils amounted, perhaps, to about \$400; this will increase the investment to \$4300. The farm-stock and utensils, he informed me, "he had *about clear*." The first year he put on this worn-out land 2000 bushels of lime, and the manure made in the yard the preceding winter, which was carted out with a yoke of oxen in less than a day. This lime was spread on the land at the rate of 100 bushels to 3 acres, or 33½ bushels to the acre; and from an experience of 17 years, he finds that a top-dressing of about that quantity repeated every five years, keeps the land in a better condition than when put on in larger quantities at more distant periods. But this experience, it may be remarked, has been altogether confined to the treatment of *mica slate land*. The lime acted with magical effect. The manure-heaps, (the farmer's gold mine,) which in the fall of 1824 had been *quarried* out, and carted on the land with a yoke of oxen in less than a day, increased, until double that power was required from ten days to two weeks to remove it from the yards and stables. The capacity of the farm to support animal life consequently increased; and in a little time Mr. G. stood by the side of his more favoured neighbours as a respectable farmer, no more to receive the jocular expressions of "poor farm," "starved stock;" and the thousand and one mortifying thrusts of home-spun wit and neighbourly jest. Actuated by the right agricultural spirit, he has continued his excellent treatment of repeated liming and manuring, until he has brought his farm into a state of improvement for grazing, and indeed for any other purpose, equal, perhaps, to the best land in the country. He has fed this year upwards of 40 head of cattle; and as an evidence of the capacity of his farm to produce grain, his field of corn, containing about ten acres, averaged about 85 bushels of shelled corn to the acre. In speaking of the powerful effects of lime as a fertilizer, Mr. G. made the remark that "*if lime put a man in jail, it would soon take him out again.*" Thus conveying a good deal in favour of that valuable mineral in a few words. But is it saying too much? Every experienced agriculturist in this section of country, I am inclined to think, will unite in opinion with my neighbour G.; and I believe that if the truth

conveyed in the remark were impressed more generally, we should find through the country more good land, and hear less complaint of hard times. We now have the case presented, of an investment of \$4300 in agriculture, and a successful and judicious pursuit of the same for 17 years; and what is the result? First, a good living for a large family. Second, an increase of the value of the farm from \$30 per acre to \$90 per acre. Third, an increase in the value of stock and farming utensils, from \$400 to from \$1000 to \$1200. Fourth, several thousand dollars at interest, as profits from the farm on good security—not bank stock—besides suitable marriage portions to several of his children. I have now drawn the contrast, and without comment, would conclude by observing that Mr. G. is worth from \$15,000 to \$20,000, without a creditor; and is now enjoying his *otium cum dignitate* in the character of "Gentleman Farmer." POA VIRIDIS.

Goshen, Chester County, Dec. 9th, 1841.

For the Farmers' Cabinet.

Lime-Slaking and Spreading.

MR. EDITOR.—An agricultural friend has put into my hand the last number of the Cabinet; for, knowing that I was once a cultivator of the earth, he thought very naturally, and I am sure very correctly, that I was still attached to that most interesting of all occupations—an occupation that is at length commanding its due share of attention amongst the inhabitants of our land. On looking over its pages, I was much interested with Mr. Reybolds' account of the management of his poor farm by means of shell-marl, an article that I have been conversant with ere now, and should be happy to renew an acquaintanceship with it, had not fate decreed otherwise; but I should feel less the deprivation, could I be permitted sometimes to fight my old battles over again, by furnishing out an article now and then—the result of old reminiscences—for the pages of the Cabinet. And in anticipation of this permission, I feel a desire to make a remark on the paper of that very successful cultivator, urging upon him to continue to give his experience under his own proper signature, an example which I would gladly follow, did I not fear that my present occupation would lead some of our brethren to ask, "can any good thing come out of Nazareth?"—a question to which I should be afraid to answer, "come and see." But let that pass for a while; perhaps I may some day emerge from my obscurity, when I will endeavour to make what little light I possess to shine, by practising what I am now constrained only to preach.

But my present purpose is, to notice a

remark in a letter lately received from a friend, who dates from that interesting section of country, saying he has used the shell-marl in connexion with lime: at the same time expressing his surprise to find that it is of itself sufficient for every purpose. "for," adds he, "where the lime was carelessly spread, and was not made to cover the whole of the land, the crop was equal to that which had the benefit of the double dose." Now, there is such an easy way to make lime reach in spreading, that I am induced to point it out for adoption. It consists merely in the manner in which it is placed on the land when taken from the cart. It has always appeared to me an useless and troublesome business to put lime down for the purpose of slaking, and to take it up again in a state the most unfit for handling, namely, when it is in powder, and so liable to waste by being borne off by the wind, all which inconvenience and trouble could be done away by adopting the mode in use in other countries, which is simply this:—The cart takes the lime from the kiln or wharf, and proceeds in a straight line across the field, at the exact distance which might have been decided upon, to allow just so many bushels per acre; one man or boy filling a basket with the lime, and another taking it from the cart and placing it in a round heap on the ground, just on the spot where it is required, while a third boy covers it by throwing on it some earth, if the land is ploughed, or a turf, &c., if stubble; and in a very short time the lime is found perfectly pulverized, having been operated upon by the hot steam which rises from the earth at the bottom of the heap—according to the theory contained in an article on this subject, p. 227 of the Cabinet, vol. V.—in the exact spot where it is desired, and in quantity just so much as is required, without any mistake. It is then spread in a state of powder, by which its greatest efficacy is insured, and without loss, for no indurated lumps remain on the surface of the land to be rolled about under foot, perhaps for years, as is often found to be the case, when lime has been slaked and spread, after the usual manner.

When this business is left to the common labourers on the farm, it is customary to be yet more particular in setting off the land for liming, and this is done very conveniently, by striking out a slight mark with the plough, crossing the field at right angles as for corn, by which each basket of lime is dropped in the centre of a square, over which it can be spread to an exactitude, and without the least fear that it will not "meet;" but this mode is applicable only on ploughed land before cropping. In the hands of a careful man, the greatest nicety of delivery may be observed,

and the utmost precision in spreading, so as to make it "meet" over the whole field, whether on grass or any other crop, simply by adopting the mode of proceeding above-mentioned.

But why does my friend lime at all! Surely he has a sufficient quantity of lime contained in his marl, which, as far as I know, is richer in this respect than any other, yielding as much as 24 per cent. of carbonate—a glorious dressing, truly! and at once accounts for the success in his operations of which he speaks. But, would it not be advisable, for more reasons than one, to excavate the marl during the summer, and let it lie on the sides of the pit to drain and sweeten? and would not such a process cause it to operate more quickly and beneficially when used as a top-dressing to the crops! a mode of application which I am quite satisfied will one day become very general: for we all know that when any body or substance is first raised from the earth, it is *effete*, and calculated rather to injure than to benefit vegetation; and with this view I am convinced that it would richly reward the labour and defray the expense of turning and pulverizing while lying to dry, by which a partial fermentation would be induced. Thus the acidity contained in the marl would be neutralized, and be rendered far more fertilizing, securing also a more perfect distribution, by means of its state of pulverization, and a more speedy action on vegetation; and I am inclined to believe, if this *sweetening process* were properly attended to, and due regard paid by a careful turning over and exposure to the atmosphere for some months before using, that a more decided action might be expected from its application the first year, without the least diminution for succeeding years. Our Delaware friends are indeed highly favoured in the possession of such an inexhaustible supply of this remarkably fertilizing mineral, which is all in addition to their internal means of raising manure; a mine of wealth, from whence may be drawn the means of enriching and completely renovating a tract of land which has for an age been lying a reproach to the country. Their facilities for improvement are boundless, and when that state of society which renders manual labour disreputable shall have passed away from amongst them—a time which I pray God in his mercy to hasten—there will not, perhaps be a more desirable spot in the union for a permanent settlement. True, it has the character of being unhealthy, and I should be glad to be told what part of the country is not so, periodically; but for many years back it has been what the doctors there denominate *distressingly healthy*, and I am strongly inclined to believe that the enormous quantities of quick-lime which are

now spread abroad upon the surface of the earth, adds greatly to the health of the country, neutralizing the acidity of the soil, and opening its pores to the influence of the sun and air, and destroying the nuisance arising from an uncultivated surface, in many places moist and cold from the want of draining and clearing. The soil is naturally *happy*, neither too moist nor too dry; the roads superlatively good, and the society *enviable*: what more is required? only the one thing needful.

JOHN SEYMOUR.

Lancaster County, Pa., 28th Dec. 1841.

We shall at all times be pleased to hear from our unknown but interesting correspondent on the inviting topic which he seems so well to know how to discuss.—Ed.

The Testimony of a "Friend."

We know not when we have been so much gratified as with the notice which appeared in the *FRIEND* of the last week, in commendation of our humble labours; it was indeed unsolicited and unexpected, although not the less acceptable on that account, as will readily be believed. All who know the editor of that highly respectable journal would find it difficult to suggest a mode of drawing from him such testimony if it were not his conviction that it was merited; we therefore value it above any price, and thank him for his kind and generous expression of good-will. It shall be our endeavour to continue to deserve the *bene facis* of our amiable friend, and if our readers will pardon the weakness, would transfer to the pages of the *Cabinet* an offering which is peculiarly grateful to all who are concerned in its publication.—Ed.

Dec. 23d, 1841.

"We are disposed to volunteer a remark or two in relation to that unassuming but valuable monthly journal, the 'Farmer's Cabinet,' edited by James Pedder, of this city. We say volunteer, for although it is issued from an apartment of the same building in which the office of 'The Friend' is located, we have no connexion with it, pecuniary or otherwise, and what we now offer is altogether unsolicited. The number for the present month is now before us, containing not less than fifteen original essays on various topics, mostly relating to agriculture and gardening, besides a rich scattering of selected matter:—embellished likewise with two beautiful wood engravings, the first of a horse, a specimen of the old English black horse, a variety from which originated some of the finest of the old dray-horses of London; the other of that interesting and amiable variety of the canine race, the shepherd's dog, from the life, by Reinagle, in respect to which it is observed by the editor, that the artist has done eminent justice to his subject. Nearly, if not every number of the *Cabinet* since it has fallen into the hands of Kimber & Sharpless, the present proprietors, has been

enriched by one or more delineations in the same improved style of the graphic art, representing different varieties of the horse, the cow, sheep, swine, &c., besides sketches of newly invented implements, &c., pertaining to husbandry. These pictorial illustrations and embellishments, which must constitute a heavy item of expense to the proprietors, are of themselves, in our estimation, a full equivalent to the subscriber for the small sum per annum which is paid for the publication, without taking into the account the diversified supply of useful reading matter with which each monthly number comes abundantly freighted."

Trial of the Prouty Plough.

To the president of the Philadelphia Society for the Promotion of Agriculture.

SIR,—I wish to place at the disposal of the Agricultural Society of Philadelphia a Centre-Draught Plough, with apparatus complete, horses and man, for the purpose of testing its powers in any kind of soil, and at any time and place that may be designated by them, for one whole day, but not for competition with others: requesting that they will be pleased to appoint a committee to superintend the trial, and report upon the same.

I would also be pleased to furnish a two-horse Subsoil Plough, to be tested at the same time and place, with the Centre-Draught Plough. With respect,

D. O. PROUTY.

Philadelphia, Dec. 10th, 1841.

January 5, 1842. At a meeting of the Philadelphia Society for Promoting Agriculture, it was Resolved, that the above letter from Mr. Prouty be referred to the Committee of arrangement, with authority to act upon the same.

K. SMITH, Sec.

Marriage.—With all its ills and evils, man knows no happiness until he marries. Let him possess a woman of sense and virtue, and of whom he himself is worthy, and he will feel a solid and permanent joy of which he never was before sensible; for the happiness of marriage, like the *interest* of money, arises from a regular and established fund, while unmarried libertines live upon the *principal*, and become bankrupt in character and respectability. To be sure, uninterrupted happiness no man can or ought to expect; life is no sinecure—fruits do not spring spontaneously from the earth, as they did in the Garden of Eden; nor does manna drop from the clouds, as it did in the wilderness; but as a scheme of solid comfort, matrimony affords to well regulated minds a double share of pleasure in prosperity, and a solace in sorrow and adversity.

For the Farmers' Cabinet.

Oat Hay.

MR. EDITOR.—It has long been known that the oat crop, when thickly sown on a highly manured soil, forms one of the most valuable green crops for soiling all kinds of cattle, as well as horses, coming off in time for the land to be sown with turnips, beets or buckwheat, or even to be planted to potatoes, leaving the soil perfectly clean and in the most suitable order for these crops; but it appears from a late account, that the same crop when cut green has been made into hay of the finest quality, the quantity being also very great. I here present you with the particulars of an experiment made by W. Stewart, Esq., Peebleshire, Scotland, for insertion in your valuable pages. He says,

“Having a field of 14 acres which had been partially furrow-drained, and from which a crop of oats had been taken to prepare for a green crop; finding there were about four acres which required complete draining, and that it would be the better for extra-working, I determined upon sowing it with oats for the purpose of making them into hay; and this I did on the 11th day of March, sowing 26 bushels of seed on the four acres, without manure. So soon as the flower was a week out of the shot-blade, on the 27th of July, I began mowing them; the crop was put into temporary stack on the 7th of August, and after a few days it was carted to the barn-yard and put into ricks of three or four cart-loads each, for the convenience of leading into the hay-loft. The produce of the four acres was 15,224 pounds of hay. The horses prefer this fodder to every other kind of hay, and I have now before me my farm-steward's letter, saying, “The horses getting common oat fodder are in tolerable condition, but those getting oat hay and eating the same quantity of oats and doing the same work, are as fat as they can be.” Annexed is a statement of the expense of the oat-hay experiment.

Cost of 26 bushels oats for seed.....	£4 6 8
Work on the land	1 16 0
Mowing, four days.....	1 1 0
Making hay from 27th July to 7th Aug. . .	0 18 6
Carting and stacking	0 13 6
	£8 15 8

692 stones hay—22 lbs.—at 6d. 17 6 0

Leaving a clear profit of £8 12 4

independent of the manure.”

Now, sir, I think your readers will agree with me in considering this one of the most curious and interesting statements that have ever found their way to this country; and if it does not go far to bear out the reasoning of your correspondent “Vir” in your last number, on “American farming,” I must have read that article to little purpose to be so mistaken. But what must we think of sowing

six bushels and a half of seed-oats per acre! it would not be easy to persuade many, that any return can repay such an outlay, any how! And then the mowers, being four days cutting four acres of green oats, at an expense, for this work alone, of five dollars, and a farther expense of nearly as much for eleven days drying and preparing and putting into temporary stacks, to be pulled to pieces in a few days and taken to the barn-yard, there to be re-erected in larger stacks, preparatory and convenient for a final removal to the hay-loft, at an expense of three dollars more. Say, therefore, for mowing, making and carrying four acres of oats, thirteen dollars! And if to this be added the cost of seed and the labour of working the land, the last item alone being about nine dollars, we must be astonished to find that even then there remains a profit amounting, manure included, to more than the whole expense, valuing the hay at about one-half cent per pound. After this, I do not hesitate to put the difference between an American and a Scotch climate to a “whole rent,” and if eleven days spent in drying a crop of hay, sufficient only for carrying into temporary stacks, be not enough to confirm us of this fact, I know not what more we can expect to receive in the way of evidence. As is said by your correspondent, here is proof positive that neither the cradle-scythe nor the horse-rake are yet known there; and in a climate so humid as to require eleven days to dry a crop only partially, and so uncertain as to require that that crop shall be put into two separate fixings before it reaches the hay-loft, lest the rain should be down upon it and spoil all, no hope must ever be entertained of getting off the grain-crop in time for a second crop of turnips, beets or buckwheat, or of raising corn at all; while, judging from the account before us, the difference in the expenses in securing a general crop, and the difficulty and uncertainty arising from so late a period of harvest, must, indeed, warrant “Vir's” statement, that “the forwardness of the seasons here, by which the farmer is enabled to secure his crops, both hay and grain, so early as July, during long days and fine weather, often performing the labour of two days in one, with the advantage of immediately recropping his land on the removal of his first crops, for the use of himself and his out-door stock in the coming winter, with a moral certainty of obtaining a season of sufficient length to bring them to full maturity; and after that, to enjoy sufficient space to winter-fallow every acre of unemployed land during the fine weather of autumn—all this is cheap at an extra rent.” To be sure the Scotch are exempt from tythe and established-church-rates, nominally so called, but the English cal-

culate that they are paid in the shape of extra rent, and it is a fact that lands in Scotland are charged with very high rents.

With regard to the nutritive quality of oat hay, I presume there is no question that it is great, the saccharine properties being enhanced by sacrificing the crop of grain; but I should be inclined to allow it to stand a little longer, so as to give time for the grain to form, but not to ripen; it might require judgment to fix the exact period, but there would be no difficulty about it. To cut such hay into chaff, must be by far the best mode of expending it, and it is reasonable to suppose that such fodder would be particularly sweet and suitable for milk-cows in winter, especially when given with sugar-beet, which also might be raised in this country as a second crop of the greatest luxuriance. I tell you, Mr. Editor, *no one* knows the blessings of such a climate—in other countries it is, of course, unknown, while here, we are so accustomed to it as to be unable, properly to appreciate its advantages. A. RANKIN.

Perhaps our correspondent is not aware that the Scotch acre is one-fifth larger than the English acre—say, therefore, 4 Scotch acres are equal to five acres English.—Ed.

For the Farmers' Cabinet.
Delaware Marl.

MR. EDITOR,—I am much pleased and interested with Mr. P. Reybold's account of the management of his poor farm, by means of shell-marl, and would ask, what would be the result if the English mode of fallowing had been commenced on such a soil with such facilities for improvement? Would it not have been quite possible to raise the product of the land in the first year, to an extent which, in the common and ordinary course of things, requires the labour of about half a dozen? If, for instance, the soil had been turned deep and completely over in the autumn—and when I say *deep*, I mean so as to turn up a couple of inches, perhaps, of the subsoil if it be good and healthy—harrowing it well, and covering it during the winter with a *very heavy* dressing of marl, spreading it as quickly as possible, and harrowing and exposing it to the influence of the frosts and rain and snows, and ploughing it under so soon as the land will work in the spring, by which time the last year's weeds will be decomposed; then, harrowing the surface and covering it again with another very heavy dressing of marl, which should be well pulverized and mixed with the earth by repeated harrowing; and as soon as the seed-weeds appear, turning them down and bringing up the first covering of marl, to be again harrowed and worked with the soil, leaving it to

be again covered with seed-weeds; repeating the ploughings and harrowings five times, by the month of July, when turnips may be sown as winter food for stock, the crop drawn and housed; or, if preferred, the fallowing and working may be continued through the summer, and wheat sown early in the autumn, seeding it in the spring, if thought proper, with clover and herd-grass or timothy, top-dressing that crop the next spring with compost, formed of marl, stable-dung, virgin earth, or any other substance more convenient—I ask, what would be the result? and fancy I hear some of my neighbours answer, by asking the question, what result could ever pay for such expensive management? I reply, debit the land with the expense, and *await* the result.

I grant, that but little in extent could be done by the means which are within the reach of the generality of farmers, but my faith in the truth of our motto is so strong, that I feel confident of success, even in a pecuniary point of view; and the creative powers which would immediately be brought into operation by the enlargement of the dung-hill, would increase in four-fold ratio the means of an extended plan of cultivation, by which a saving of several years might be realized, in the time usually spent in the renovation of a worn-out soil. And this would be no more than the plan adopted by every wise man on coming to an exhausted farm, namely, to defer the purchase of live-stock until he had the means of feeding them—for what would be the use of cropping lands before they were able to feed and bring them to perfection?—a very interesting question, but one that is often overlooked in our calculations. Now to me it appears, that the power possessed by an industrious man, situated on the edge of such a marl-bank as that described by your correspondent, is about as inexhaustible as the marl-bank itself; and I would ask him to ascertain, by experiment, what would be the result, if a spot of land were to be covered by marl to the depth of six inches, when intimately mixed with the soil and worked regularly through in the common course of cropping—nothing but *good*, I presume. This would indeed be a "fact" worth fabricating, and the readers of the Cabinet would be much indebted to such men as Mr. Reybold, who have the means, would they give us the benefit of their experience from time to time in its pages; it would indeed be refreshing even to those of us whose lot has been cast in a land far removed from any of those stimulating manures which we hear so much about in the distance, and whose whole dependence is upon bog-earth and barn manure. JOHN TANNEY.

Luzerne Co., Pa.

The Sick Chamber.

Ventilation.—Few persons, who are in the habit of visiting the sick, can have done other than notice the great difference of the state of the air, in those chambers where cleanliness and good management have been in exercise, and those wherein the value and importance of neatness, and the careful admission of a free current of fresh air have been overlooked. If, then, temporary visitors are sensible of the difference, how much more deeply interested must the suffering patient be in the attainment of a free and healthy atmosphere!

Cleanliness.—Since it is often very difficult to get a sick room swept, it may be desirable, if it can be done unheard, to get at least a part of the carpeting away now and then, that it be well shaken. A few tea-leaves may be thrown over a part of the room at a time, and very quietly taken up with a hand-brush. And in those cases which are not at all critical, and where any thing damp can be admitted into the room with impunity, a mop, which after being dipped in water, has been *well trundled*, may be just used for a few minutes to remove the floe from under the bed; or it may be very carefully passed over a carpet, if nailed down.

Change of posture.—It is scarcely to be believed, until experienced, the relief from suffering which a change of posture produces; neither is it generally thought of, how much alleviation would be known in many instances, even by the fresh cording of the sacking of the bed, and a general attention to a level position; a hard bed, or hard mattress for a suffering invalid, is far from recommended, but an arrangement for a level position will often afford great comfort. The sacking first tightly corded, (but splints instead of sacking are much better,) then a straw paliasse, which, if not newly made, ought to be raised by a fresh supply of straw in the *middle*, where a heavy pressure may have rendered it very uneven; over this, a good feather bed, which ought to be gently pressed and made level, then a mattress, composed first of a thick bed of horse-hair, and well overlaid with wool; it ought to have room for the bed-post at each of its four corners, so that it may not only be turned *daily* from *side* to *side*, but also from the *head* to the *feet*; indeed, it is better, as it regards even the straw paliasse, to adopt such a plan as may admit of the turning of it, and as it is heavy, and unyielding, it is better to have the corners cut out at each of its two parts, making a small oblong of the same material and height, to tie on in the middle; or an inconvenient aperture might be made there. The proper arrangement of pillows is of no small importance, and in cases of high fever, a change of pillows is very desirable—this

too furnishes an opportunity for putting fresh pillow cases.

Cleanliness of the person.—Washing, refreshing, whenever able, also brushing the teeth and hair—the latter may be rubbed with lavender water, Eau de Cologne, &c. All this subject to the strength of the patient, and the permission of the medical attendant. It may, by some, be deemed needless to give the above hint, but it cannot be doubted, that by far too many lose the full enjoyment and benefit of a thorough attention to the cleanliness of the person.

Washing Cups and Glasses.—An appropriate table, not liable to injury, is a great convenience in a sick room, so is a small wicker basket, with compartments to hold the different bottles of medicine; and it may be also useful to have a couple of the said kind of baskets, wherein also are the said compartments to hold glasses or cups; one of these being sent out with the things which need washing, and always ready to be exchanged.

Change of Linen.—A frequent change of linen is a great comfort and benefit, in most cases. Let the bed linen be frequently changed (when suitable), and in serious cases of fever, it may be useful to untuck the bottom of the bed, and gently shake the upper clothes, so as to let the warm and impure air pass away. Let the sheets and blankets be of full size, that they may be *tucked thoroughly* under the mattress, or *whatever* is at the top. It is a comfort to the patient to have all straight and smooth under him; and nurses are recommended to attend to this more than once in a day.

Change of Room.—In some particular cases of long and depressing sickness, a change of room, conducted with great prudence, may be found a powerful auxiliary in the aid towards recovery.

Avoidance of Noises.—Much conversation often injurious—and *whispering offensive*. Place a pan covered with sand underneath the fire, to receive the cinders, and have a second ready, to make an exchange when taken up; also use a wooden poker. Let the number of the visitors to the room be chiefly confined to those whose services are effective, and let all wear list shoes, with list or cloth soles. The rustling of silk gowns may prove an annoyance to those who are in a very weak state, also the rattling of cups, stirring the fire, &c.

Sitting up.—Let the linen horse be timely placed before the fire, with every article likely to be needed; and if the clothes are to be put on, and washing included, let the hot water and all be ready, so as to avoid the least bustle. Spread a blanket on the floor for the patient to walk over.

Neatness.—An increased delicacy of the

stomach, and sense of nicety, is the concomitant of disease, and, therefore, the nurse and all around, should be particularly careful, not only as to the neatness of their own persons, but that every dose of medicine, and all food be presented in the most tempting, clean, and delicate way. To promote this, it may be desirable in long illnesses, to have a variety of small vessels: "Sick-mess basins," of different sizes, to be included.

Avoidance of Exciting Subjects.—Those only who have suffered from severe illness can well judge of the importance of preserving a quiet mental atmosphere, *how little* languor and pain are competent to sustain the pressure which a tale of woe may impose. The subjects of conversation should be much guarded, while a cheerful demeanour and innocently lively manner, may help to assuage or lessen the sense of distress.

Protection from Light, and from the blaze of Fire and Candle.—Diseases are so variable in their effects, that no minute plan is suggested for any particular case. However cheering the light of the sun, in many instances, there are affections where a judicious nurse would be called upon to screen the invalid from the blaze of day. She should remember, that by a little arrangement of shutters and curtains, a room may still be made cheerful by a sort of subdued light, while in some distressing affections of the head, &c., from severe fever, the patient can hardly be too much indulged by the darkening of the room; in such a case the blaze of the fire must greatly augment suffering. Screens ought to be at hand, as well for that as for the candle.

Important that the Nurse be taken care of.—Any nurse who is much engaged in night service, ought to be very carefully spared in the day. She must have rest, or she cannot long hold out. When sitting up at night, some strong coffee, ready made, should be prepared, that it be warmed, and taken without the least disturbance to the sick person. Some nurses make a great noise with the clattering of tea-things, which ought to be avoided.

Temperature.—On removing the patient into another room, the said room ought, if in the spring, autumn, or winter, (not to say part of the summer,) to be very carefully prepared with not only a good fire, but an attention to the doors and windows, that all be shut, and the temperature brought up to the state of the room about to be left. When at any time a patient's room is aired, the curtains should be drawn closely round the bed; just raising the window for an inch or two, will be useful, if it be for a short time, but rather than run any risk to the invalid, throw on an additional blanket; it is most important to keep the

air of the room in a fresh and wholesome state.

Fomentations.—A piece of *very stout* linen, say about fourteen inches by nine: at the two narrowest ends, enclose a lath in a deep hem, and let the said lath extend about four inches on each side the hem, then twist the flannels as they are wrung out, it will spare the hands of the nurse.

To prevent Pressure on any particular Part.—Circular cushions in the form of a ring, made of old linen and stuffed with bran. A patient, obliged by disease to lie continually on one side, will find great relief to the ear or prominent bones, by the said "ring cushions."

Leeches.—On taking off leeches plunge them into *quite* warm beer, they will in most cases immediately disgorge themselves. Apply a succession of warm poultices made of bread and water, or linseed meal. The linseed meal should be stirred *quickly* while *boiling* water is poured upon it.

Island Cotton.—This, as it comes in sheets from the South, is a very desirable shelter from the cold, and admirably adapted for a local affection; it should be thick and considerably extended over the diseased part. Fasten it on muslin.

Gentleness and Kindness.—All who surround the patient should be kind, and meek, and gentle, and patient, not a sound of harshness, or evidence of discord should reach his ear. Any discussion of the nearest relatives or friends, as to whether *this* or *that* be best, should be avoided in his presence. Some persons, with the greatest desire to do right, do *too much*, and without intending it, interrupt a sufferer by unimportant questions and inquiries, and by moving about the room, when they would often do a much greater service by sitting quietly beside the bed, attending to requests emanating from the patient, whose feelings and preferences should always be consulted and accorded with, if not in any way interfering either with medical directions, or being in themselves palpably improper and injurious. There is, perhaps, scarcely any situation in which the call is greater upon the Christian virtues than a sick chamber, for it very often happens that disease makes a great impression upon the nervous system, and pain and suffering disturb the accustomed placidity of the invalid, who, with every desire to bend patiently under the affliction, may now and then seem scarcely able to appreciate the kindest efforts to minister to his need.

To avoid Unseasonable Interruption.—Particularly guard the sufferer who has just fallen asleep. The person having the chief responsibility should be instructed to pass the feathery end of a quill through the key-hole,

whenever sleep or any other cause renders interruption unsuitable, and this sign should be strictly regarded, it is far better than risking disturbance to the patient by trying a locked door.—(i. e. Tie the quill to the handle of the door, that it be not lost.)

A Dying Bed.—Let no one annoy the patient by sitting on the bed, or indulging in earnest expressions of surprise, or grief. All around ought to be still—no calling out “Oh! he’s dying,” &c.

It should be carefully ascertained that the body be placed in the easiest posture. The bed curtains should be in most cases gently undrawn, and the least possible interruption given to the admission of fresh air. All, but those who are perhaps moistening the poor man’s mouth by means of a camel’s hair brush dipped in water (or whatever be deemed most proper), should be careful to keep at a distance from the bed, and be quietly seated. It is believed that few can tell the suffering often inflicted on the dying by the thoughtless bustle of attendants, and *even friends*. The speaking in a loud tone, the setting down of even a glass or phial may often cause distress. No sound should disturb, beyond an occasional and necessary whisper, at the solemn period of dissolution.—*English Tract.*

To the Editor of the Farmers’ Cabinet.

White Hogs.

MR. EDITOR,—It is really amusing to find that many of our friends are beginning already to *turn up their noses* at the black Albany Berkshires, and express a strong preference for Mr. A. B. Allen’s white *Kenilworths*, wondering if that gentleman will have a sufficient supply for all his customers the next season? and I have heard some apologizing for having gone into the black Albany breed, by declaring they *never liked them*, always having had a strong prejudice for a white hog—and so we go on. But I suspect the *Kenilworth* harvest will not be so profitable as has been the Berkshires, for nothing will be more easy than to compete with the *Kenilworths* by means of our own Chester and Delaware county white breeds; and I am sanguine in the belief that we shall be able to convince all disinterested persons, that so far as that distinct breed is concerned, our intelligent friend Allen might just as well have remained at home; and of this he might convince himself, by taking a journey to these parts, at a comparatively trifling sacrifice of time and money. And I take the opportunity of introducing to the notice of those who, having tried the Albany Berkshires, and found them wanting, a breed of hogs now in the hands of Mr. William Rey-

bold, Delaware state, which, or I am much mistaken, will not be found at all inferior to the imported *Kenilworths*, if they be not much superior, as I strongly suspect they will prove. They are perfectly white, too, and soft-haired, with the deep side of the old tawny Berkshire, cutting up nearly as thick in the side and belly as on the back, which is, I guess, about as much of an *antipode* to the black Albany, as the colour of the breed. Mr. W. Reybold is the son of Major Philip Reybold, the breeder and feeder of those superlative Leicester sheep which were slaughtered at Baltimore the last season, several of which weighed over 40 lbs. a quarter, dead weight, at the age of two years; and Mr. Allen would find that the major’s present stock of fat wethers would vie with any of the thoroughbred varieties in England, of any name or county. And I cannot but suspect, from the perusal of Mr. Allen’s letter, that the time *has come* when we may take our stand and breed from our own stock, without being beholden for any more help from abroad; for indeed it is curious to observe how very small have been the importations by this first of breeders and judges of stock, which, as far as I can learn from his letter, amount to *five* pigs of the *Kenilworth* breed, “three of them from a smaller and coarser boar, and from sows still less!” But what our friend means by stating that “he was informed this was always the case with this breed,” I am at a loss to conjecture. It might disclose my ignorance, perhaps, were I to ask, if this admission be meant as a recommendation or otherwise, of this particular breed? To these are to be added the number of Berkshires brought, which is not stated in his letter; the sheep for Mr. Rotch, Mr. Stevenson, and Bishop Mead; one dog, of a sort which requires *no instruction* to break into the management and care of a flock—which no one will believe who knows any thing about the matter—a few Dorking fowls, with extra toes to their heels, sometimes attaining to the *great* weight, when fatted, of 8 pounds, and a few pheasants! Of short-horns he brought none, and confesses that it pains him to see so many Durhams of ordinary quality imported; and as for horses, “England ought to come to us!” What, for carriage horses, the present racing blood, and the high-bred hunters? Try again, friend Allen.

On the subject of the Dorking fowls, I would just say, if Mr. Allen had come on to Jersey state, he would have found that Mr. Wood, of Haddonfield house, could “beat that hollow,” not sometimes, but always, many of his chickens weighing more by a couple of pounds than the *great* weight he mentions. He is in error in the statement that the game cock of England is from a cross with the

pheasant; if he had seen any of that particular cross, he would have known better. If I could say what I wish on the subject of the travels of our Eastern friends, without fear of offence, I would just hint the probability of their being more gratified, and of reaping more wisdom as well as profit, by going abroad in their own country, rather than by visiting foreign lands in the expectation of speculating in stock, a very precarious business at best. Mr. Allen complains of the enormous expense of shipping animals from England. I fear if his expenses of travel were to be spread over the few animals which he has brought over, the account would deter many from making the experiment in future. I wish that we could for once come down to the improvement of our breeds of cattle without the vile spirit of speculating for money; but that has been our easily-besetting sin, from the time of the Merino-mania to that of the multicaulis and the black Albany Berkshire fever. "All wrong, depend upon it."

I have heard that when John Lossing found that A. B. Allen had gone to England to import big Berkshires, he had the precaution to sell out his Albany Berkshires, making a profitable speculation of it. That was wise; for he may now either go back to the breed by which he has made thousands of dollars, or *forward*, into the Kenilworth; and as he knows so well how to "strike the iron while 'tis hot," he may make capital stock by commencing with such hogs as those described by Homer Eachus, at p. 329 of the Cabinet, vol. V., which might be denominated the improved-improved Kenilworth White Berkshires; he will not be at a loss for individual names, for there may as well be \$300 *white* Maximas, as black ones; but he had best be quick about it, for in this part of the country, where that breed has long been known and properly appreciated, persons may be found who will "hit the right nail upon the head,"* and go into the business at once.

G. H. D.

Chester Co.

For the Farmers' Cabinet.
Corn-Stalk Sugar.

In the last Cabinet now before me, I find an article over the signature J. M. C., on the subject of "Beet and Corn-Stalk Sugar." The writer, in his eagerness to demonstrate the entire want of originality in every thing that I have done in relation to the latter article, has fallen into several errors, which might have been easily avoided had he exercised a reasonable degree of care in the selection of authority upon which to found his

statements. In the first place, I have no patent-right for the manufacture of sugar from corn-stalks, nor do I expect to procure one. The field is open to J. M. C., or any one else who may choose to enter upon it, and reap the harvest "without money and without price."

Whether this harvest is worth the reaping, each one must judge for himself. All the facts in relation to it coming under my observation, either have been, or will be, given to the public without concealment or exaggeration: let them pass for what they are worth.

Mr. C. says that "the proportion of sugar obtained from corn-juice is very great, and not easily to be accounted for;" his surprise is very natural, for he remarks in another place, "that the whole operations were evidently performed in the most ignorant and ineffectual manner." It would indeed be wonderful, if such a blundering hap-hazard process (as he insinuates was actually employed) should produce an article pronounced by good judges to be so fair in quality—the very molasses containing 50 per cent. of crystallizable sugar! This view of the case is truly extraordinary; but it is still more wonderful that Mr. C. should not have perceived its unreasonableness, and been led at least to suspect that there might be some mistake about his "convincing fact." A few words of explanation will be sufficient on this point. The articles sent to the horticultural exhibition, were, as I expressly stated, sugar and *syrup*, not molasses.

Let it not be supposed, says Mr. C., "that I wish to detract an iota from the merit which is Mr. Webb's due; I am willing to award him a medal, &c., but hundreds of old people will tell him that they accomplished this thing of making sugar from corn-stalks long before he was born." These "hundreds of old people" admit, however, in the same breath, (according to Mr. C.,) that they did not make sugar—only molasses.

With respect to the medal above-mentioned, as far as I can gather Mr. C.'s meaning, he appears willing to award it to me as a testimony of merit, for having performed, in the most ineffectual and ignorant manner, a thing which hundreds of old people had done long before I was born. Now, with all due thanks for the kind intentions Mr. C. may entertain in making this proposition, I beg leave to decline its acceptance; hoping long to be preserved from the infliction of such doubtful honours, and much preferring that those aforesaid hundreds of old people may continue to wear their laurels undisturbed.

"The simple operation of extracting the ear in its embryo state, by which to concentrate the juices of the stalk, has been practised (says Mr. C.) for ages upon the cocoa-

* A favourite expression of Grant Thorburn, when peaking of his success in life.

tree for the very same purpose, and Mr. Webb *no doubt knew it*, and has merely adopted the process." This very serious charge of my attempting a piece of wilful deception is made by Mr. C. upon very slight evidence, or rather upon no evidence at all, for what can he know about the amount of my knowledge relative to the manufacture of "toddy." I certainly did not know that this plan had been applied to the cocoa, or any other tree; and notwithstanding the quotation given, I am still very far from being convinced of the fact. The author quoted by Mr. C. states, "that it is usual to deprive some of these trees of their fruit-buds, in order that they may produce a drink called paviah arrack." I have two works now before me, (which are considered good authority,) both giving very minute accounts of the many uses to which the cocoa-tree is applied. That part describing the manufacture of arrack, is as follows:—"The operator provides himself with a parcel of earthen pots, resembling bird-bottles, and with these fastened to his girdle, he climbs up the trunk of the cocoa-tree. When he comes to the boughs, he takes out his knife, and cutting off several of the small knots or buttons, he applies the mouths of the bottles to the wounds, fastening them with bandages. The next morning he takes off the bottles, which are generally filled, and empties the juice into the proper receptacle; in this state it is called toddy. After fermentation has progressed to a certain point, the spirit, or arrack, is drawn off by distillation." There is nothing said about taking off the fruit-buds, but it is positively stated the tree produces both fruit and toddy; which is positive evidence, as far as it goes, that the operation is not performed at all.

Mr. C.'s author, whoever he may happen to be, is evidently very ignorant about the matter which he attempts to describe. He says that "these trees are deprived of their fruit-buds in order that they may produce a drink called arrack, and it is the employment of some men to collect this article and sell it under the name of toddy." This is not the fact, for arrack is the product of fermentation and distillation, and to sell it under the name of toddy (which is the raw juice) is rather too green a proceeding to be credited, unless we suppose that the writer is relating his own operations. It is the same thing as if a person were to tell me the sugar-cane yields on being pressed, a certain kind of drink called Jamaica Rum, and it is the business of certain men to collect this rum and sell it under the name of cane-juice!

I now take leave of Mr. C., with the assurance that I entertain no harsh feelings towards him, and with the sincere hope that our future communications may have the de-

sirable effect to increase rather than diminish the good understanding which should exist between us.

The question, whether the manufacture of sugar in our middle and northern states can be carried on with profit, where circumstances are favourable, is one which has already been decided. Maple sugar to the extent of millions of pounds is produced annually, furnishing in many parts of the country a very large proportion of the whole amount consumed. It is estimated that an acre of ground planted with the sugar maple at due distances, will yield on an average of seasons, about 130 pounds of sugar; but this is the only product which can be calculated upon, as neither grass nor grain flourishes beneath the trees. Now, if a yield like this is found sufficient to induce a continuance at the business, it would seem that the manufacture of sugar from corn could hardly fail to be profitable, the operations with both are equally simple, while the corn, after the sugar is extracted from it, will be found more than equal in value (for fodder) to the whole crop of maple sugar. The most encouraging fact which has been developed in relation to this new business, is the extreme richness of the juice; it at least equals in this respect the very best extracted from the cane; marking 10° upon Beaumè's saccharometer. This fact has been deemed incredible by many persons, but, if necessary, it can be substantiated by better authority than my own assertion.

W. WEBB.

Woodland, near Wilmington, Del., Jan. 3d, 1842.

Cement for Floors.

THE manner of making earthen floors for country houses is as follows: Take two-thirds lime, and one of coal ashes, well sifted, with a small quantity of loam clay; mix the whole together, temper it well with water, and make it up into a heap, letting it lie a week or ten days, and then temper it well over again. After this, let it lie for three or four days longer, and temper again, until it becomes smooth, yielding, tough and gluey. The floor being then levelled, lay the plaster about two and a-half or three inches thick, making it smooth with a trowel. The hotter the season is, the better; and when it is thoroughly dry, nothing can make a better floor. If any one would wish their floors to look *very* handsome, let him take lime of rag-stones, well tempered with whites of eggs, covering the floor about half an inch thick with this mixture, before the under flooring is too dry. If this be well done and thoroughly dried, it will look, when rubbed with a little linseed oil, nearly as transparent as metal or glass, and endure for many years, without *crack* or *blemish*.

A Christmas Gift to the young Agriculturists of the United States.

By John S. Skinner. Published by order of the Board of Control of the U. S. Ag. Society.

My object is not to propose to you the tantalizing pursuit of any new agricultural humbug, or to recommend any new-fangled machine or process for the cultivation of old staple crops; it is rather to urge you to reflect on the intellectual condition and habits of American agriculturists as a class, and to consider how much and how justly your moral and political influence, as well as the actual proceeds of your labour, would be augmented, and more uniformity in prices be obtained, by an association to promote a more thorough and systematic investigation and study of subjects and sciences belonging or closely allied to your immediate pursuits.

Can it be that you imagine that, because you have not been regularly trained to a civil or military profession, you may therefore, without loss or disparagement, leave your mind to stagnate, like some irreclaimable morass, producing nought but rank and noxious weeds; yourselves distinguished, if at all, like the famed inhabitants of Bœotia, for great physical strength and development, but without any of the spirit of chivalry, or the arts and graces of science and civilization! Far be from citizens of a free Republic, and especially from tillers of American soil, such ignoble apathy. Look around at all other vocations, whether their pursuit be upon the land, or their home upon the deep! All have formed associations for general improvement.

The hardy mariner, boasting any pretensions to accomplishment in the line of his pursuit, having finished the usual course of mathematics and navigation, with well-stored libraries at his command, delights to beguile his long winter nights and tedious calms at sea, in reading the history and noting the productions of the various countries he visits, and the lives and actions of navigators and warriors, who have distinguished themselves on his favourite element. In constant exercise, amusing or severe, his mind is kept free from the rust of sloth, and the debility of inaction.

The soldier, at some military institution, maintained for his instruction by a general charge on the community, being early imbued with elementary knowledge of drawing, gunnery, strategy, fortifications, and all the death-dealing inventions contributory to the art of attack and defence; acquires and carries with him through life a habit of study, and a fondness for military memoirs and biographies, and works on the science of manslaughter, for which, unfortunately, the rapacity and injustice of mankind, and the wars they produce, have in all ages supplied but too many materials. Alas! to lend enchantment to this species of reading, there needs not the stimulus of self-interest or the habits of military life; there seems to be in our nature something essentially sanguinary; hence the nursery fictions of "Raw-head and Bloody-bones," and "Jack the Giant-killer," are listened to by children—

"Each trembling heart with grateful terror quelled,"

just as, at three score and ten, men read with intense avidity the bloody realities of the battle field. Who, by the way, is not sometimes forced to distrust the firmness of his republican creed, when he confesses how, like the rest of mankind, he is apt to be captivated by the glare of great military achievements?

The physician, too, will tell you that he sees no end to the road of inquiry and observation which lies before him. Botany, chemistry, the natural history of man and of inferior animals, their physiology, diseases and remedies, present to him so many fields for research, no less useful than entertaining, while medical repositories and more elaborate works, without number, serve at once to illustrate the never-ending discoveries of the active practitioner, and to stimulate and feed the voracious curiosity of the ambitious student. In numerous colleges, again—incorporated and liberally endowed for his instruction—he gathers the fruit of ages of practical experiment and scientific deduction. There stands the skillful surgeon, with his knife and nerve of iron, to rip up and lay bare the very fountains of life and of thought; and at his side the chemist, with his crucible, to extract medicine from the rudest mineral, or, in the simplest plant that grows upon your wayside, to detect "poison more deadly than the mad-

dog's tooth." Put into his hands the exquisitely delicate and beautiful poppy, and he will quickly draw from its stem a charm that can assuage or put an end to the bitterest agonies of the body or the mind!

The lawyer, again, after reaping all the advantages of established and well-endowed law schools, is forced to keep pace, whether he will or not, with the voluminous decisions of the courts, and the ever-varying enactments of the Legislature. To these he generally adds some knowledge of the sciences, and close familiarity with classical literature and the lighter contributions of an ever-teeming press. From these sources the late Mr. Pinkney, whose ambition of intellectual renown no measure of glory could satiate, was wont to derive his wonderful powers of illustration as well as the choicest flowers of his oratory. His very last moments, accelerated by an extraordinary exertion of the reasoning faculty in a case of great importance, were beguiled by a new and charming fiction from the pen of the Great Unknown. Thus did reason and imagination alternately sway and beguile the mind of that great advocate, and lend effulgence to the last moments of his brilliant career, as clouds are gilded by the rays of the setting sun.

The merchant, he whom the farmer supposes to confine his reading to prices-current and his pen to book-keeping—even he, too, is seen of late years forming "mercantile library associations," to provide a collection of authors, and a succession of learned lectures on mercantile law, the currency of different nations, and on all the arts and productions which furnish for commerce its materials, its security, and its profits. While too many young agriculturists are wasting their leisure hours in idle amusements, or dozing them away in listless vacuity, the merchant is studying, among the wants and the fabrics of foreign countries, where he can find the best market for all the products of American agriculture, and where he can buy on the best terms all those articles which he well knows the planter and farmer must have in exchange for the fruits of his own labour. But let me not wander from my leading object, which is to hold up to agriculturists the examples of the followers of other pursuits, and in pointing, among all of them, to the organization of societies and of extensive libraries for the diffusion of knowledge, incite American husbandmen to reflect seriously if it does not behoove them to go and do so likewise. Not only is it to be feared that there is a lamentable absence of all regular association of mind and of means, for prosecuting the inquiries and promulgating the discoveries and improvements of which agriculture is susceptible, but that even the codes and journals dedicated to their particular use and instruction, are not in the hands of the rising generation of husbandmen. How many have read even the Farmers' series of those excellent works published in England by the society for the diffusion of useful knowledge, telling, as they do, all about horses, cattle, sheep, grains, grasses, implements, buildings, &c.? Even Ruffin's great work on calcareous manures, meanly pirated by English writers, is not to be found, as it should be, in every farmer's library, with Sinclair's Code of Agriculture, the American Farmer, the New England Farmer, the Farmer's Register, the Cultivator, the Farmers' Cabinet, the Silk Journal, and many others of which no agriculturist should be ignorant, any more than an officer should plead ignorance of the army regulations.

There may be some whose lip will curl with a contemptuous smile at the very suggestion of any value or pleasure in book-learning for a farmer or planter, whose business is a field! How much to be pitied is the insensibility of such men to the most copious and lasting springs of enjoyment,—the pleasure which every man experiences in the very process of intellectual accretion!

Let those who would deride or undervalue the labours of agricultural writers tell, if they can, what American husbandry has derived from the experience and reflections of Taylor, as set forth in the practical essays of Arator, and from the more analytical and scientific investigations of Ruffin in the south—and from such men as Lowell and Colman and Buel in the north. Be assured, tillers of the soil, there is no occupation which opens a wider sphere for, or admits of more benefit from, scientific investigation and their recorded results, than yours. With our United States society, and all its instruments and facilities properly organized and arranged, as a leading branch of the great "National

Institution," the whole animal and vegetable kingdoms will be open before you, pouring in through every sense and faculty both wisdom and delight. And this brings me again to the leading purpose of this address—to solicit your support, in the manner pointed out in its constitution, to the agricultural society now formed at the seat of government, for the whole United States. Among the early fruits of such an association we may hope for the establishment of an extensive agricultural library and model farm, where new grains, and grasses, and plants, and fruits, sent in from abroad, may be propagated, and, if found valuable and adapted to our climate, their roots and seeds may be collected and gratuitously distributed through all the States of the Union. A great agricultural school will of course form a part of the plan of such an association. To that our young men may come, as to the great schools of science in Paris, to be freely taught and qualified to deliver lectures in State colleges and elsewhere, on agriculture, chemistry, botany, horticulture, mineralogy, natural history, and comparative anatomy. Is it unreasonable to hope that such an association, countenanced as it will be by men of just weight of character in the several States, will possess an influence that will ensure to it a portion of that liberal fund bestowed by the munificence of Mr. Smithson, for the "diffusion of useful knowledge among men?"—for what knowledge so useful as that which leads, as it advances, directly to augment the means of human subsistence and comfort? Though necessity is the mother of invention, the body must be fed before the mind can philosophize. If animated by that sense of duty and pride of understanding which becomes those whom God hath emphatically enjoined to "replenish and subdue the earth," will they not naturally desire, by more thorough knowledge of their nature and properties, to extend their appointed dominion "over every living thing that moveth upon the earth; and every herb bearing seed which is upon the face of the earth, and every tree in the which is the fruit of a tree bearing seed?" In all these you may be instructed by the fields, the experiments, and the lectures of the United States Agricultural Society, and through its annals you may learn in what temperature various seeds will germinate and ripen, and, hence, to what latitudes they are adapted. Among other advantages to American agriculture, through its corresponding members, or branch societies in all the States, it may be expected to obtain information and give monthly reports as to the state of the crops. Such reports will serve as a sort of agricultural thermometer, by which to indicate the points of demand and supply, and thus assist in regulating prices.

What, let me ask you, is *steam* doing for agriculture? What but the want of associated capital and enterprise has prevented the husbandman from making this magic power subservient to his uses, as it has been made, and is every day made, more and more obedient to the purposes of commerce, of manufactures, and of war? Behold how clearly the application by different classes of this greatest of all substitutes for manual labour serves to illustrate the effect of combined wealth and science, applied to useful objects. Do you see steam employed to turn the furrow, to sow the seed, to drag the harrow, to reap the harvest, or to thresh the grain? To none of these has it been applied. Now mark the contrast, the moment the grain passes from the hand of the farmer to that of the navigator, the merchant-miller, and the mill-wright, behold steam becomes the agent to take it from his landing, and bear it to the wharves of the crowded city. There this wonderful agent again takes it from the hold of the vessel, and, as by some power of necromancy, for exercise of which in times past a man would have been burned for a witch, steam bears it aloft unseen to the hopper, and you see it no more until it is packed to be exported by steam, again, to all parts of the world! Is there any branch in the whole circle of human industry which suffers more for want of capital, or in which improvement is more retarded by the high price of labour, than agriculture, and which needs more the benefit of all labour-saving contrivances? Would these applications of steam to the agricultural purposes I have indicated be more in advance of what it has already achieved than that which has been accomplished since Darwin was deemed an enthusiast for predicting the time when it would "*drive the rapid car?*" That in vapour there is a tremendous power, which science can make subservient to human wants, is no longer a problem; but

"ear hath not heard nor eye seen, neither hath it entered into the heart of man to conceive" the variety of uses, *great and small, to which it will yet be applied!* Why not, then, I repeat, have it felling our timber and digging our ditches, and sowing and reaping and threshing, as well as grinding our grain and transporting our flour?

Look, again, at our exploring expeditions, to extend the boundaries of nautical discovery and astronomical science! Who pays for these? The husbandman! But who asks the government to send out corps of mineralogists and botanists into our own fields, and mountains, and valleys, to explore for new substances to fertilize the earth, and new vegetables and plants to furnish more elements of subsistence to the poor, or greater variety to the luxuries of the rich man's table? Who shall gainsay, that as American forests abound beyond all comparison in the richness and variety of their growth, so may our valleys and fields contain various vegetables, yet uncultivated, which may prove equal to that insignificant-looking root which, though not even known in Europe until the close of the 16th century, nor planted in Ireland until the commencement of the 17th, has yet long since furnished to that gallant and ill-governed people from *three to four-fifths of their entire food!*

Unprompted by the same necessities, or by the hope of offered premiums for their discovery, who shall say how many remain unknown or neglected in the vast range of our climate and territory?—plants which, like the humble potato, cultivation would bring into great excellence and usefulness!—flowers that, like the gorgeous and stately dahlia, a few years since blooming unnoticed in the desert, has been nurtured into ample fullness of expansion and infinite variety of colours.

But vain would be my effort to give an outline of the information which may be collected and the benefits to be diffused by this Society, if well supported; but then you want, and fortunately you have, men full of zeal, full of industry, and full of ambition to be useful. Let me exhort you, then, young agriculturists throughout the country, with a voice which has cried aloud and ceased not in your behalf, for a quarter of a century, as you covet an equal share of honour, and illumination, and influence, for your class, to come forward in support of this "UNITED STATES AGRICULTURAL SOCIETY," and contend, in union and harmony with the "NATIONAL INSTITUTION," for that splendid donation of a magnificent foreigner, with which to establish a great school and library of agricultural science and experiment, with a garden that shall bear and be worthy of the name of SMITHSON! Here shall the good and the wise rival each other in diffusing "useful knowledge among men."

Laying Land to Grass.

To the question, What course would you advise to reclaim a worn-out meadow, so as to bring it again into permanent pasture in the shortest possible time? we would answer, plough up immediately the sward by a deep and small furrow, and let it lie all winter. On this ploughed surface, carry on a very heavy covering of street-dirt during the frosts, spreading it immediately, if practicable, and in spring—say by February, if the season will admit of such early cultivation—take the first opportunity of sowing oats without further ploughing, four bushels to the acre, and harrow in heavily. The crop will be ready for soiling in May; feed it to milk cows by cutting and carrying to the stalls; and when the land is cleared, plough, harrow, roll and clean it by collecting the weeds and burning them, repeating the operation in about three weeks or a month, by which time the seed-weeds will have vegetated. Follow this course until the time for wheat-sowing, when plough carefully, throwing the land level, and sow the crop without grass-seeds. Then in the spring, sow a mixture of white clover, green and orchard grass, sprinkling the surface with a top-dressing of street dirt, or compost well fermented and decomposed; and during the next winter, spread on the young grass 30 bushels of lime per acre, calculating on a cutting of hay, with a certainty of repayment for capital invested.—Ed.

To T. K. Esq., Dec. 16, 1841.

The late Mr. J. Vaughan.

We are tempted to transfer to our pages the following notice of the death of that truly excellent and amiable friend of man and of agriculture—as well as of every other culture of the mind and heart—Mr. JOHN VAUGHAN. He had been a subscriber and occasional correspondent of the Cabinet since its commencement, and his loss will be severely felt by every class in society; but by none will it be so truly deplored, as by the destitute of every name and denomination, for truly might it be said of him, "He delivered the poor that cried, the fatherless, and him that had none to help him." Some late articles that have appeared in the Cabinet, see pp. 19 and 46 of the present volume, will have introduced his character favourably to those who had not the happiness to know him personally; but by a very extended circle, indeed, his memory will be cherished and embalmed while life shall last.

JOHN VAUGHAN,

"Who went about doing good."

OBIIT DEC. 30, 1841.

ÆT. AN. 86.

Forgive, blest shade! the tributary tear,
That mourns thy exit from a world like this;
Forgive the wish that would have kept thee here,
And stayed thy progress to the seats of bliss!

No more confined to grov'ling scenes of night,
No more a tenant pent in mortal clay;
Now should we rather hail thy glorious flight,
And trace thy journey to the realms of day.

Mr. Vaughan was treasurer and librarian of the American Philosophical Society; and at special meetings of the officers, council, and members of that body, the following minutes were presented and adopted:—

"They remember Mr. Vaughan as the patriarch representative of the society, its oldest member, who had for more than fifty years been an officer at this board. They can never forget his zeal for science, in all its departments, his sympathy with scientific men, and his unlimited devotion to the interests and honour of this institution. They have proved the warmth of his social affections, and the constancy of his friendship. They have seen his active, unwearied, yet discriminating benevolence, as it extended itself through every circle—rejoicing with the happy, cheering the distressed, counselling the friendless, and succouring the needy. Like the rest of this community, they have venerated the moral beauty of his daily life; and they feel that even in his peaceful death, he has not ceased to be a benefactor to the city in which he lived, bequeathing to it, as he has done, the rich legacy of his admirable example, and a memory without reproach."

"The oldest member of the society, he was also among its most diligent, faithful, and

efficient. Long devoted to the furtherance of its objects, he failed not at the same time to conciliate the confidence and affection of all with whom he was connected, by the elevation and moral tone of his spirit, the purity of his disposition, and the amenity of his manners. A zealous promoter of science, he was actuated by the contemplation of its inherent excellence and tendencies to benefit the great concerns of mankind, without a single aspiration after its honours, distinctions, or emoluments. Content to occupy in the society stations of laborious usefulness, he continued to the last moment of his life to render to it services of inestimable value, and was only diverted from the exclusive advancement of its prosperity by the claims of similar institutions of learning, or of charity, or of benevolence; none of which were ever presented to him without awakening his zeal, and enlisting a share of his active exertions in their behalf. Modest and unassuming, disinterested, generous, social and hospitable, beneficent, cordial, and sincere, it may truly be affirmed of him that no one was more uniformly esteemed by a singularly extensive acquaintance; and no one, certainly, among us has contributed more largely to the cause of humanity in its several relations, or can bequeath to this society and community a brighter example to venerate and to follow."

The Christian.

"Come ye, blessed of my Father, inherit the kingdom prepared for you from the foundation of the world.

"For I was an hungred, and ye gave me meat; I was thirsty, and ye gave me drink; I was a stranger, and ye took me in; naked, and ye clothed me; I was sick, and ye visited me; I was in prison, and ye came unto me."

Well sleeps the good, who sinks to rest,
By each poor neighbour's wishes blest;
For God shall mark the hallow'd clay,
That wraps his mould 'till judgment day!

When the last trumpet rends the skies,
And the Life-giver shouts, "Arise!"
O'er him shall stir the heaving earth,
While angels watch his second birth.

His form ascends, array'd in light,
While seraphs harbinger his flight;
Their greenest palms of triumph strow,
And deck with golden crown his brow.

To JESUS, the deliverer dear,
His everlasting home is near,
Where pain, and doubt, and trouble cease—
The mansion of delightful peace.

"Every man has his price."—Indeed: pray what was the price of Oberlin, Washington, Luther, Hugh Latimer, and a host of others whose memory the world still treats with reverence? We pity the man who has so mean an opinion of his fellows.

Notices.

We hope to give, in an early number, a portrait of a remarkably fine wether sheep, of the full-blooded Leicester or Bakewell breed, now feeding by Major Philip Reybold, of Delaware, whose name is in all the country as a breeder of the finest sheep in the Union. He is fattening twenty-one pure bred Leicester wethers, which it is expected will equal those fed by him the last winter, and slaughtered by Sterling Thomas and Jos. M. Turner, of Baltimore. The weights of which were as follow—No. 1, 157 lbs.; 2, 156; 3, 150; 4, 167; 5, 145; 6, 162; 7, 137½; 8, 143½; 9, 123; 10, 166½. The mutton was unequalled in fatness and the quality remarkably fine, not too fat to be eaten, although measuring 4½ inches thick on the ribs. The Major is feeding 65 half-bred wethers also, a cross between the Leicester and common stock, of which we hope to give an account in a future number. The buck of the flock is expected to weigh, dead weight, upwards of 50 lbs. per quarter.

We are indebted to Mr. W. Worthington, Darlington, Hartford Co., Md., for several remarkably large ears of corn, two of them counting 30 rows on each cob.

We would inform Mr. Waring of Cecil County, that Prouty and Mears's plough may be obtained of D. O. Prouty, No. 176 Market Street, of several different sizes, all of the same pattern; but we would advise our correspondent to venture upon the C. sod-plough at once. It will not be found too large for the lightest work, but sufficiently so for almost the heaviest; the prices are governed by size alone. The price of sod C being \$11, without wheel.

OUR best thanks are due to R. M. C. for his kind offer; we shall be happy to be informed of his readiness to commence the experiment to which he alludes. It has always appeared to us that some cause, other than the heat of the climate, must exist for the very great difference between the crops of potatoes in this part of Pennsylvania and the Eastern States, a difference amounting to four or six hundred bushels per acre. He has commenced well, and the present frosts and thaws must operate very beneficially upon a subsoil turned up two months ago. We would suggest the propriety of

well dragging the surface before turning it back, preparatory to a spring working of the land before planting; the long dung turned in will, at that time, be found well decomposed, and the intended surface-dressing of lime will tend much to render the crop clean and free from worms, keeping under, in a remarkable manner, the spontaneous growth of seed weeds.

For the Farmers' Cabinet.

Water Gauge.

STATEMENT of the quantity of rain and melted snow which has fallen from the 1st of January 1810, to the 1st of January 1842, a period of 32 years. The first 14 years by the gauge of P. Legeaux, of Springmill, about 12 miles from Philadelphia, and the following 18 years by that kept at the Pennsylvania Hospital, in Philadelphia.

	inches.		inches.
1810	32.656	1827	38.500
1811	34.968	1828	37.970
1812	39.300	1829	41.850
1813	35.625	1830	45.070
1814	43.135	1831	43.940
1815	34.666	1832	39.876
1816	27.947	1833	48.550
1817	36.005	1834	34.240
1818	30.177	1835	35.300
1819	23.354	1836	42.660
1820	39.009	1837	39.040
1821	32.182	1838	45.289
1822	29.864	1839	43.739
1823	41.815	1840	47.400
1824	38.740	1841	55.500
1825	29.570		
1826	35.140	Total inches	1223.671

Average quantity fallen in each year for 32 years	38.240
Average quantity fallen in each year for 18 years, since the Hospital account commenced	41.242
The largest quantity which fell in any year since the account was kept, was in 1841	55.500
The smallest quantity which fell in any year since this account began, was in 1819	23.354
Difference of extremes	32.146

The quantity of rain and melted snow which fell during the 12th month, (December), 1841, was five inches and nine hundred and seventeen thousandths of an inch..... 5.917

The quantity for the year 1841 was fifty-five and a half inches.

JOHN CONRAD.

Pennsylvania Hospital, 1st mo. 1, 1842.

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"The Productions of the Earth will always be in proportion to the culture bestowed upon it."

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For the Farmers' Cabinet.

Lime, No. 1.

MR. EDITOR,—The following essays were written to while the tedium occasioned by confinement to the house consequent on a fractured limb. It is not pretended that they contain any thing new, or that they will settle the long-contested question on which they treat. That was not so much the object in view, as by pointing out the results of experience to show what the real questions at issue are, and also to point out the true methods of acquiring knowledge, and of philosophizing, which, if we are to judge by the many crude essays daily appearing, are either not understood at all, or are fast being lost sight of in the mists of metaphysical disquisition.

I am not engaged in farming at present, though my youth and many subsequent years of my life were spent in its practical duties. A recollection of the difficulties then encountered in acquiring knowledge, and a deep-seated conviction of its importance in the prosecution of an art on which the comfort and wealth of every civilized nation mainly depend, has induced me to throw my mite into the general stock. Should you deem my lucubrations worthy of insertion, and other avocations permit, I shall occasionally send you an essay on some subject connected with agriculture, and in the mean time I remain,

Very respectfully,

SAMUEL LEWIS.

Pottsville, 3d Jan. 1842.

On turning over the pages of the Cabinet I observe many essays on lime. Some practical—some speculative—and some a mixture of both. Many of the speculative class incline to the English doctrine of the deleterious nature of magnesian lime to vegetation. Some of your correspondents, however, have taken up the cudgels on the other side, and I think with some effect; but the subject is not yet exhausted, and, from its importance, merits

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further illustration. I shall not attempt to add any thing new, but only endeavour to place the teachings of theory and practice in striking contrast. The opinion, so far as we have any account of its origin, that magnesia, and of course magnesian lime, is deleterious to vegetation, has the very narrowest possible foundation in fact; and has been copied by subsequent writers, with little inquiry, from the deference paid to great names, or from that apathy which sometimes comes over great and inquisitive minds; and hence has become widely disseminated, and, what is more, I believe, pretty generally believed in.

But while this doctrine was spreading wide and taking deep root in Europe and even in this country, our farmers of south-eastern Pennsylvania, by their silent unostentatious practice, were knocking the whole theory on the head—or, in common parlance, "into a cocked hat." They have conclusively shown, and not on a very small scale either, that the whole doctrine is without foundation as respects this country, and have given us good ground to infer that, with respect to Europe, it is little better than sheer humbug.

Lime has been used for manure in the south-eastern part of Pennsylvania, to some extent, for at least 80 years, and for more than half that time in immense quantities. This lime was procured, in a great measure, from the deposit of limestone in the Great Valley in Chester county. At least it was with lime from this stone that the great value of the article as a manure was first proved in America. This limestone has been shown by repeated analysis to belong to the magnesian class, and much of that, the most esteemed for manure, highly magnesian in its composition.

Sixty years ago the soil of this part of the state was so reduced and worn out by severe cropping and bad management as scarcely to repay the cost of cultivation. What it is now is well enough known without any elaborate description of mine. Yet in all this time, lime, and highly magnesian lime too, has been spread on it in immense quantities. Enough of it, if it were as deleterious as it has been represented, has been put on some of this land to ruin it for ever. But so far from this being the case, the whole country has improved and is improving rapidly, and the

highest limed farms the fastest; until they have become as patterns to be referred to in other places. We by no means wish it to be understood that we impute all this improvement to the use of lime;—good management, judicious rotations of crops, &c., have all assisted, and largely too. But we contend that whatever part of this improvement is owing to the use of lime, is owing to magnesian lime, and to none other. This is no two-penny experiment made in a garden-pot or the corner of a field, and continued for a single year, but it has extended over hundreds of thousands of acres, through a long period of years, and in all kinds of soils, wet and dry, heavy and light. From the tertiary, or rather perhaps diluvial sand of Jersey, to the unchanged remains of the primary rocks of south-eastern Pennsylvania.

Having thus shown that the wide-extended and long experience of this district of country is entirely at variance with the doctrine of the injurious nature of magnesian lime to vegetation, and not only so, but diametrically opposed to it, let no young or timid farmer be deterred from the use of this kind of lime merely because they see its injurious nature formally set forth in books, or hear it strenuously contended for by some of the would-be oracles of the day. Whenever they are out-argued by such, let them point, and triumphantly point, to this great and decisive experiment, as destructive of the theory—worth a thousand times more than all the theory that has ever been babbled on the subject. But still let them proceed with their liming. They will never regret the expense.

S. LEWIS.

Dec. 24, 1841.

To the Editor of the Farmers' Cabinet.

Subsoil Ploughing.

MR. EDITOR,—I am glad to see the notice of a day's ploughing, under the auspices of the Pennsylvania Agricultural Society, for the purpose of testing the merits of the Centre-draught plough, as also for the trial of the subsoil plough, an instrument of which we hear so much and know so little. I had understood that they were always made of monstrous size, requiring great power of draught, but Mr. Prouty informs us the plough intended for trial is to be a two-horse plough only, and if with that we are enabled to break up our subsoils, I shall consider the implement above all price, for although I have never witnessed the operation, I am prepared to expect the greatest and best results from a mode of management which carries conviction to the mind of every practical man. The effect of a pulverized subsoil must indeed be peculiarly friendly to the growth of potatoes, while to

any crop, be it of what description it might, its power of retaining moisture in a season of drought, or of permitting a superabundance to pass away, must be of paramount importance to any soil.

In a late number of the Southern Cultivator mention is made of a person who, "while taking in his corn fodder, observed a great difference between two pieces which were planted at the same time and in the same soil; the fodder in one piece of ground dried up so fast that he could scarcely get through with stripping it, before it was entirely burnt up, to use the common phrase; when, on going to the other piece, he found it green to the ground, and in good plight for stripping. He was struck with this difference in the two lots of corn, and, on reflection, recollected that, on getting ready to plant his corn in the spring, he ran a furrow with a large bar-share plough, after which he followed with a small plough, called a *Bull-tongue*, running it pretty deep in the same furrow, until he had proceeded over half the piece, when he concluded to plant the balance in the single furrow, and discontinued the use of the bull-tongue. The result was, the part planted in the opening made by the small plough, where the large one had been previously run, produced a third more fodder, and of a better quality than that planted in the shallow one made by the large plough alone; besides the great difference there must be in the weight of the corn when drying too fast, for the purpose of making bread. This should be remembered, and the evils of shallow planting be avoided." Now, here was an instance of subsoiling on a very simple plan, which all might adopt and reap the benefit of, without much extra cost or labour. I look forward to the trial of the above ploughs with very great interest, and consider that Mr. Prouty has taken just the best mode possible to bring his ploughs into notice. I hope he will provide a very strong span of horses.

A. C.

For the Farmers' Cabinet.

Cooking Food for Stock.

AT length a due regard to the importance of cooking food for stock seems to be awakening up amongst us, and many are the inquiries for the best mode of conducting the process—whether by steaming or boiling—as also for the best and most convenient and economical apparatus for the purpose. Steaming has generally obtained the preference in the estimation of those who have been cogitating on the subject, but I am inclined to believe that, when it becomes generally practised, boiling will be preferred, and chiefly for these reasons:—first, all articles may be properly and easily cooked by boiling, but not by

steaming — witness cabbage, meal, and the flesh of animals, that might often be devoted as food for hogs, under circumstances that would not warrant its use for man. And, second, the water in which these and all other articles are boiled will be found to contain a very large portion of their essence: consequently, it ought to be retained for use; the opinion that the water in which potatoes have been boiled is deleterious, being without foundation. And in this a quantity of meal should always be boiled for the whole of the time the operation is going on, when, at the end, the *soup* will be of greater importance, as an article of food, than any steaming could be made to produce—the dead carcass of a sheep, for instance, with a dozen large heads of cabbage cut fine, and a bushel or two of corn and cob meal stewed together in a couple of hog-heads of water, until the whole forms an amalgam — what could constitute a more luscious repast to fattening hogs? and in a proper apparatus the cooking could be performed slowly and effectually for a very trifling cost of fuel. Then, again, the cooking of corn-stalks—how much better could this be done by boiling, when a small quantity of corn and cob meal might be added, and a thick soup prepared that, with a small quantity of cut hay mixed, would form altogether the most palatable food either for cows or horses. There appears to me no question which would be the *best mode* of preparing cut food, while those who advocate steaming seem to have been biased by the consideration that it is a *quicker* mode of proceeding. Mr. Editor, all our proceedings are marked by a *hurry* that would almost deserve the name of recklessness—we cannot be content to do a thing well, it must be done quickly and cheaply, and often indeed without regard to any other consideration. It is granted that steaming may be made a quicker process, but by properly constructed boilers working in pairs, according to a plan that has been proposed, a sufficient quantity of food for a very large stock of cattle and hogs could be prepared by a lad of fifteen, the cost of labour being more than repaid even by the superior quality of the manure produced—a consideration which some of our friends might designate as a trading in trifles—well, be it so; I am sure that the manure prepared by such a process would be found very essential to the raising of heavy crops.

I find that Mott's portable cast-iron furnaces are getting much into vogue for this purpose; they are very convenient and economical, but it is objected their egg-shaped bottom robs the boiler of its capacity, and is not the best form to economize fuel. The patent consists in enclosing a common iron boiler in a cast-iron jacket, by which the heat

is *given out*, and not *retained*, as is the case when boilers are set in brick-work; iron being a conductor of heat—brick a non-conductor. If, therefore, any one having a boiler were to surround it with a sheet of thin boiler-iron bent into circular form and riveted, leaving a space between it and the boiler about two inches wide, for the heat and smoke to pass, and build up his bricks against it, he would find a great saving of time as well as fuel to arise from the alteration. At all events, the cooking of food for stock, by some mode or other, ought to be adopted, by which an additional profit could be obtained without an additional outlay of capital—an important consideration.

JOSIAH KENT.

Conservatory at Chatsworth.

THIS magnificent structure has been recently erected under the direction of Mr. Paxton, the superintendent of the splendid establishment of the Duke of Devonshire. It is finished except as to the gateway leading to it, the cost being about \$250,000. The length of the building is 275 feet, width 130 feet, height 65 feet. It is of stout glass from the ground and on all its surface. A palm tree brought from a distance, and between 30 and 40 feet high, is now flourishing in it; it was given to the Duke by Lord Tankerville, and the removal and expense of planting it cost upwards of \$2000. The house is heated by hot water, and the chimneys communicating with the furnaces are not seen when at the conservatory, the smoke being conveyed by horizontal iron pipes some hundred feet distant, and is lost in the forest. A piece of rock-work, more than 20 feet high, and which is ascended by a flight of stone steps, is at one end of the house; it is covered by orchideous plants, and from it is a fine view of the disposition of the plants which adorn the parterre below. There is a gallery quite round the house, and from it, by opening a valve, water is thrown quite over the house. The house is stocked with most choice exotics from all the habitable globe, and it is, in fact, the *ne plus ultra* of conservatories! The mansion of the Duke—the paintings, furniture, amongst which are the coronation chairs from the time of the first George; the gateway, and park, and water-works are all in keeping with the structure spoken of. The grape, peach and pine houses (the garden being twelve acres in extent) are at a distance from the residence; and in the centre of which is Mr. Paxton's house—embracing all that could be desired by any private gentleman.—*Hort. Mag.*

AGRICULTURE *alone* can be considered as the *creator* of wealth.

For the Farmers' Cabinet.

Hospital for Sick Animals.

EVERY farm should be furnished with a field set apart as a hospital for sick animals, and I believe it is customary to make some such arrangement, the orchard being often appropriated to that purpose; but when we reflect upon it, we know not that a worse selection can be made, for there the herbage is always inferior, in consequence of the continual shade of trees, which engenders the growth of a long and sour grass, that animals in a state of sickness, with depraved appetites, are often found to prefer to that which is more nutritious and grown on more healthy spots; by which their malady is often increased. Add to which, the orchard is often situated on low ground, perpetual shade rendering the place cold and chilly. But this is not the worst of it, for here also are found the hogs, the calves and the poultry, which, by continually travelling over the sod, render the herbage particularly offensive to sick animals of other descriptions, turning their enclosure into a *hospital* indeed, with sight and sounds and smells that are calculated to increase rather than to alleviate their woes. And to this close and unwholesome spot the poor creatures are often confined, until the nausea arising from their own filth—which is in many disorders peculiarly offensive—has rendered their food disgusting to them; and this is particularly the case with sick sheep, whose natural habits of cleanliness are proverbial.

Now it is desirable that the hospital for sick animals should be as different a place as possible from that which has been described; it should be a field that is dry, well watered, with sufficient shade, but not continuous; with good shelter from rain and wind, fine herbage and plenty of it; for cattle should not be compelled to the labour of toiling early and late to procure a belly-full while sick, but rather be enabled to recruit their strength, and pay something for their holidays of sickness and cessation from labour. And certainly the most expert veterinary surgeon I ever knew, and almost the only one I employ, is *Dr. Green*; for whenever I have a horse that is ailing, or a cow that is queer, I send them to *Dr. Green*, and a month's run in good grass is the cheapest physic that I can find; the Doctor returning them to me at the end of that time, able and willing to work and make up for lost time, and not emaciated by bleeding, and purging, and blistering, and starvation.

But the hospital should be so situated as to admit of sub-division by means of good fences, so that at any time the sick stock could be shifted from one compartment to another with

care and quietness, by which the pasture might be preserved sweet and uncontaminated, and a fresh growth of herbage be encouraged against another removal: and this should be done on the same principle that we endeavour to excite the appetite of our sick friends by administering to them a change of diet, with cleanliness and quietness—things so essential, we all know, to the recovery of lost health in *man*, and therefore in *animals*.

I am led to these remarks from having lately visited the *hospital* of a farm belonging to a friend in — county, into which animals of many kinds were crowded, with a number of sick sheep, whose woe-begone countenances—and what animal has a countenance so deplorable as a sick and pining sheep?—spoke in a language, silent but deep, the peculiar discomfort of their situation; while the filth from them had contaminated even the atmosphere of the enclosure! Indeed, I have no doubt many animals are sacrificed to a want of attention, convenience and cleanliness during a time of sickness, while the danger arising from infection is great, and is often severely felt. Every practical man must have remarked, that many individuals of his flock of sheep during the autumn, when there is a short supply of food, are very apt to become lax in their bowels; this, I believe, is often occasioned by a want of fresh pasture, the chilly state of the atmosphere, and the impurity of the air, arising from a filthy and close-fed sod, in many places covered thickly with their excrements, causing disorganization in their digestive organs, and exhibiting the effect in a disarrangement of their bowels; all which I believe might often be remedied by a change to a high and dry and sweet pasture. The subject is of more importance than will at first be imagined, and the consideration of it would richly repay the interests of the stock-breeder. SUBSCRIBER.

Blossom Buds Perishing in Winter.

A CORRESPONDENT wishes to know why the blossom buds of the peach and apricot perish in winter? and also, if there is any way to prevent such loss?

A flowing of the sap late in autumn, or in winter, followed by intense cold, has long been considered as the cause of this damage; and we have no doubt of its being the true cause; for those buds can endure a very low temperature, if they are not *started* by unseasonable warmth. We have no knowledge that they have ever been killed in this condition, by the severest cold of this climate—perhaps ten or fifteen degrees below zero, and in the elevated region between the Susquehanna and the Delaware, they have probably endured a depression of ten degrees more.

Our coldest winters, when not interrupted by thaws, have generally, if not always, been succeeded by fruitful seasons. In the winter of 1831-2, the snow drifted around a peach tree in our fruit garden, so that one low limb was entirely buried. This rough weather was succeeded by a thaw soon after New Year's, and the thaw by intense cold.—Peaches were very scarce in the following season. The highest limbs—the very tops—to which the reflected heat from the ground could scarcely reach—had a few, while the limb which was buried in the snow, was loaded down with fruit. The same effect was produced on a limb that rested on the roof of a building, and was covered up in a drift. The warm winds that started the other buds, passed over without touching, and left it torpid. On bleak northern aspects, we believe the peach tree is generally productive in this climate; and we explain the following cases on the same principle:

For many years we resided in a wide valley, bounded on two sides by high hills. In the valley the peach was an uncertain crop; but on the hills it rarely failed. A careful observer, who lived in a more sheltered valley of the same district, assured us that the peach tree with them was unfruitful as often as six years out of seven. In valleys the temperature is more variable than on the hills—warmer at one time and colder at another; for it has been ascertained that in severe but calm weather, the cold air settles down in the lowest places. Last winter was milder than usual, and yet we had *some* shrubs more injured than in seasons of intense cold. It appears that in these shrubs the sap had started, and the sharp frosts that followed were destructive to a part of their branches. Treading down the snow so as to accumulate a compact mass round the tree, and then covering it with straw, has been found useful. We have seen an apple-tree retarded in its vegetation for a fortnight in the spring, by piling wood round it; but the weather here is so variable and uncertain, that what was useful in one season, may be useless in another.—*Gen. Far.*

A Beautiful Discovery.

THE beautiful discovery of Dr. Priestley, that plants absorb carbonic acid gas, and after assimilating the carbon to their own bodies, exhale from the leaves the oxygen with which the carbon was combined, proves to us how necessary to each other's existence plants and animals are, and gives us an impressive lesson of the wisdom which has thus bound the several parts and systems of the universe as it were so intimately, that not a link of the chain can well be dispensed with.

For the Farmers' Cabinet.

Premiums on Crops.

THE committee appointed by "the Philadelphia Society for promoting Agriculture," to examine certain crops designated for premiums, Report,

That they award to Mr. Isaac Newton, of Delaware county, the premium of \$15 for the best crop of Indian corn on not less than five acres. He having raised 145 bushels of ears per acre on $6\frac{1}{2}$ acres.

For the best crop of potatoes on not less than three acres, they award to Mr. James Gowen, of Mount Airy, the premium of \$15. He having grown on five acres 1000 bushels of large and superior Mercer potatoes.

For the "best crop of parsneps, not less than one-quarter of an acre," they award the premium of \$10 to Mr. James Gowen. He having raised, on five-eighths of an acre, 480 bushels, at the rate of 768 bushels per acre.

For the best crop of carrots, on not less than one-quarter of an acre, they award the premium of \$10 to Mr. James Gowen. He having grown, on seven-eighths of an acre, 600 bushels, at the rate of 688 bushels per acre.

In addition to the heavy crop of corn grown by Mr. Newton, he also raised in the same field amongst his corn, 50 bushels per acre of very fine Mercer potatoes, and a large quantity of pumpkins. Had the ground been entirely devoted to the corn crop, it would no doubt have been more abundant. But taking all together, the yield from the field was very great, and reflected great credit on Mr. Newton for skill and good management.

The committee take pleasure also in bearing testimony to the beautiful appearance of the different crops on the farm of Mr. Gowen at the time of their visit; the great regularity with which they grew, their cleanliness and healthful appearance, were convincing proofs of the great skill and care bestowed on them by the cultivator.

In conclusion, the committee cannot but express their regret, that there should have been so few competitors in the field engaged in such an honourable and praiseworthy contest—that of trying who could do the most good for their country.

AARON CLEMENT,
ISAAC W. ROBERTS, } *Com.*

Philadelphia, Dec. 29, 1841.

GENTLEMEN,—Agreeably to usage, I beg leave to present a statement of the culture and product of certain root crops grown on my farm at Mount Airy, in the season of 1841. Such of them as come under the class for which premiums were offered by "the Philadelphia Society for promoting Agriculture," I submit to the society, through you its com-

mittee, for such distinction as your judgment may see fit to award.

Potatoes.—The field in which these were planted was intended for corn. Late in the season of 1840 it was ploughed, but the frost and snow setting in before finished, left the remainder to be ploughed as opportunity might serve, which was done in January, during a thaw. The thinness and poverty of the soil led me to abandon the idea of corn, and to substitute potatoes, in hopes the crop would pay for the present labour, and the succeeding crops of grain and grass remunerate for the manure applied to the field. But to this there were obstacles. The stiff old sod laid down was not rotted, and owing to the frost, and the stones which lay in several places very thick and near the surface, the ploughing was by no means deep enough. Then to cross-plough would throw up the old sward to the top; to not do it, would leave the stones in possession, without soil enough to cover the potatoes. I concluded upon a thorough ploughing. Accordingly as soon as the frost was out, I started to cross-plough, with an extra hand to follow the plough with crowbar and grub, to take out the stone. This performed, the harrow was put in requisition to tear the sods, but with little effect, they were only a little shaken and brought to the surface. The roller was applied with the view of making them compact, so that when I began to plant they might cut into furrow; but in this I was disappointed, for in the latter part of April, when the planting took place, the sods yielded before the plough, pushing on all sides, so that when the potatoes were planted the field presented a rough surface of sod of various hues, black, brown, and green—the green predominating. Some of my neighbours, who I fear forgot their own work in the interest they seemed to take in mine, encouraged me to *hope at least for a good crop of blue grass*. Appearances, I confess, were rather favourable to their views. The soil was finely pulverized and well manured. The frequent heavy rains had embedded the grass roots, and the cool moist weather was favourable to their vegetating. By the middle of May, before the potatoes were up, there were several fine dry days—cold winds and scorching suns—from 11 A.M. till 3 P.M. the sun was terrible. The harrow was started occasionally at these periods, and the grass disappeared instanter in the withering sun. A cleaner patch of about five acres of potatoes, during all their growth, could nowhere be seen.

The soil light sandy, parts approaching to sandy clay, all intermixed with mica. The manure was stable yard, applied broad-cast, with 50 bushels of lime to the acre. The seed was the Mercer of my own raising.

They were not worked with the plough. About two acres first planted between the 22d of April and the 1st of May, was dressed but once with the cultivator, the remaining three acres planted from 1st of May till 5th, had two dressings; and a ridge or pitch of a hill in this section was once hoed by hand, to deepen the earth around the plants, to protect from drought. These three acres, I have no doubt, yielded 250 bushels to the acre. The whole patch, not quite five acres, yielded over 1000 bushels large potatoes of a superior quality for table use.

Parsneps.—40 rows of sugar parsneps two feet apart—in length 384 feet; about five-eighths of an acre, sown on the 17th of May by hand, produced 480 bushels—at the rate of 768 bushels to the acre.

Carrots.—50 rows of carrots two feet apart—length 384 feet; about seven-eighths of an acre, produced 12 to 13 bushels to the row—assuming 12—product 600 bushels, at the rate of 688 bushels to the acre. These were sown on the 17th and 18th of May.

Sugar Beet.—1½ acres of sugar beet, sown on the 19th and 20th of May, in rows two feet six inches apart—yield only 830 bushels. This was owing to the severe drought between the 18th and 24th of June, which, for severity, while it continued, has no parallel in my recollection. The beets encountered this when they had made their first rapid growth. After they had partially recovered, a violent tornado of wind and hail tore them to tatters—the next growth of leaves were devoured by the caterpillars.

Turnips.—About six to seven acres of turnips, sown broad-cast with orchard grass and clover, on the 10th of August. The heaviest rain of the whole season was on the night of the 10th—it was a perfect deluge, and did great injury to my newly-sown field, yet I gathered upwards of 3000 bushels of the finest turnips, and left the field as finely set with young orchard grass and clover as any one could desire to see. The land on which the turnips were sown was under corn last year in part—about two acres in turnips after hay.

The ground in carrots, parsnips, and beets under same culture last season—manure broad-cast, soil sandy, with much mica. Manure did not exceed the quantity which would be required for potatoes.

RECAPITULATION.

Potatoes herein described, 1,000 bushels	} .. 1,500
Do. another patch, 500 "	
Parsneps.....	400
Carrots.....	600
Beets.....	830
Turnips.....	3,000
Total.....	6,330
Land employed in this culture, 16 acres.	
Equal to 169 tons, 11 cwt., 8 lbs.	

EXPENSE OF CULTURE.

Potatoes.—Every farmer knows the expense of this crop.
Parsneps, $\frac{1}{2}$ acre. Manure, \$75 00; ploughing, harrowing, &c., 8 00; thinning, weeding, gathering and topping, 30 00..... \$113 00
 For $\frac{1}{2}$ acre.
 If the 480 bushels be worth 50 cts. per bu. \$240,
 The profit would be..... \$127 00

Carrots, $\frac{1}{2}$ acre. Manure, \$100; ploughing and harrowing, 10; thinning, weeding, gathering topping, 45 days, 45 \$155 00
 If the 600 bushels be worth 50 cts. per bu. 300 00

The profit on $\frac{1}{2}$ acre would be..... \$145 00

Beets, $1\frac{1}{2}$ acre. Manure, \$150; ploughing, &c., 15; thinning, weeding, and gathering. 39 days, 39..... \$204 00
 If 830 bushels be worth 25 cts. per bu. 207 50

The profit on the $1\frac{1}{2}$ acre would be..... \$3 50
 But this crop is no criterion—1500 bushels would be a fair good crop.

Turnips, 6 to 7 acres. The ploughing, harrowing, and manure were mainly for the grass crop to come. But suppose we charge turnips, \$150; gathering and topping 75 days. \$225 00
 Then if 3000 bushels be worth 20 cts. per bushel..... 600 00

Profit on these 6 to 7 acres..... \$375 00

Assuming then that on the 1500 bushels of potatoes would be 25 cts. profit per bushel.... \$375 00
 Profit on parsneps..... 127 00
 " carrots..... 145 00
 " beets..... 3 50
 " turnips..... 375 00

\$1,025 50

It is but fair to remark, that the working of these crops was heavy and sometimes vexatious—few farmers could accomplish it, for it is mainly performed about the time of hay harvest—say thinning and weeding of the roots. You took a fair estimate of it on your visits, and I believe you feared I never would accomplish all; I did it however in good season, and I am sure you will be willing to allow, from your former knowledge of my practice, that *it was well done*. In addition to this, I cut and housed some fifty acres of hay and three acres of rye. This, with the care of some 50 head of cattle, and as many hogs, you will say was business enough for the time being. But this is not all. I manured and sowed some 20 to 25 acres of rye in the midst of a wood in Cheltenham township, Montgomery county, and sowed the five acre field where the potatoes grew with wheat. That is, putting in thirty acres of grain, and gathering all the roots which are herein described, and which you have seen growing. My next ambition in farming will be, if Providence spares us, to show you the field of rye in the woods next summer—to point out what was its condition in 1838, and the practice that obtained in bringing it to the perfection I hope it will present to your experienced eyes, and the expense incident thereto. Very respectfully and sincerely,

Your friend, JAMES GOWEN.

MESSRS. ISAAC W. ROBERTS, } Com.
 AARON CLEMENTS, }
 Mount Airy, Dec. 11, 1841.

[Read before the Society, and ordered to be printed.]

For the Farmers' Cabinet.

Attraction and Repulsion.

SOME years ago a friend put into my hand a very small book on a most interesting subject; I was so struck with much of the theory contained therein, that I was induced to take extracts from portions of it, and feel a desire to hand them to you for insertion in the pages of the Cabinet. The title of the book, of which I have never since heard or seen a copy, is as follows—"A new Philosophical Theory, to prove that Gravitation and Caloric are the sole Causes of every Phenomena in Nature; with a Practical Application to Vegetation and Agriculture. By John Selton."

The present article is confined to the introduction of the Theory—its application to the "process of vegetation" may follow in a subsequent number of your interesting work.

V.

"Introduction.—It has been long since demonstrated, that all the particles of matter composing the universe are constantly and mutually drawn each to the other by a power called attraction, or gravitation. Now, if there were nothing to oppose this power, the universe itself would be drawn into one dead, inanimate, immovable mass. It is necessary then to existence that there should be some *antagonist* to this power; and it has also been discovered that attraction is uniformly opposed by an agent, the nature of which has been illustrated by numerous experiments, and which has been termed *caloric*. All things then are held together by attraction, and caloric is the sole antagonist which opposes this power. In all the numerous experiments which have been made on this subject, there has never yet been discovered *one exception* to this general rule.

From this fact follows the self-evident conclusion, "that the powers which thus keep in existence all creation, must be the primary agents employed by the Supreme Being in every operation of nature; that they must be the principle of vegetable and animal life, and by means of caloric counteracting gravitation, every process in nature is carried on:" so that the most stupendous, the most minute, the most complicated as well as the most simple operations of nature are effected by these two agents, and these only.

Gravitation.—As gravitation influences all the particles of matter equally, it must be exerted in all bodies with greater or less power, proportioned to their specific quantity of matter. And it follows, that it operates with increasing force as the particles approach each other, the power increasing in the ratio of the squares of the distance; thus, if a body falls from the distance of two feet from the

ground, and should descend the first foot in four minutes, it would fall the next in one minute: it is upon this universal law that many of the remarks and experiments which follow are grounded.

Caloric.—Chemists have discovered that this subtle agent pervades all nature, and constantly opposes gravitation; it is omnipresent, exerting as great influence in the minutest as in the most stupendous wonders of creation; it may be collected from all parts of the material world, and rendered evident to the senses; it cannot be subject to gravitation, for every experiment tends to prove that its particles are mutually repellent.

The world then is composed of *matter* (the particles of which attract and are attracted by each other) and of *caloric* (the particles of which repel and are repelled by each other); but the particles of matter attract and are attracted by caloric, and those of caloric attract and are attracted by matter—from these principles, universally known and allowed, the following facts appear to be clearly deducible.

From the mutual repellency of the particles of caloric, it is plain that they must have a constant tendency to diffuse themselves equally over all space; so that were there nothing to oppose this repellent power, they would be present everywhere in equal quantity; but as this repellency is uniformly counteracted by gravitation, they exist in larger quantities in those bodies where the power of gravitation is so far overcome as to leave more space between their particles than in those which are in greater subjection to this power, and consequently have less space; but as the power of attraction increases as the particles approach, and decreases as they recede from each other, in the ratio of the squares of the distance, the power necessary to overcome or counterbalance it must vary according to the same proportion; therefore if it required a power as twenty to separate to any given distance particles within each other's attraction, it would only require a power of thirty-five to place them at a double distance.

From hence it is plain that a much greater power is necessary to balance attraction in denser bodies than in those of less density; and though in two bodies of unequal densities, *weight for weight*, the *least* dense will contain the largest quantity of caloric, yet *space for space* the *densest* will contain considerably the most; thus a *pound* of cork would have in itself more caloric than a pound of lead, because it would contain more space between its particles, but a *square inch* of lead would contain much more than the same *space* of cork, and of course in a more compressed state, because the particles of the lead being held together by a stronger power of attrac-

tion than those of the cork, it would require a proportionably greater power of caloric to counterbalance attraction in the lead than in the cork. As the particles of caloric are thus mutually repellent, they are regulated by the same law which holds good in all elastic bodies, and exert, when compressed, a greater force of repellency in proportion to the compression; and as the power of attraction increases in the proportion of the squares of the distance, so the repellency of caloric increases in the proportion of the squares of the compression: so, if we compress any quantity of caloric into half the space which it formerly occupied, its repellency will be thereby increased four-fold; thus exactly tallying with the increase of attraction in matter. If then any quantity of caloric is sufficiently compressed to cause the repellency of its particles to overcome the attraction by which they are drawn towards matter, it will fly off in rays through the surrounding medium, and that with a greater or less degree of force, proportionate to the compression which it has undergone. These are the most obvious properties of caloric, all arising from the power of repulsion exerted by its particles. We see then that the particles of matter *attract*, and those of caloric *repel* each other: and thus, though they mutually attract each other, the repulsion of caloric opposes the attraction of matter, and the attraction of matter opposes the repulsion of caloric; and that the repellency of one and the attraction of the other are regulated by the same principle. Upon this simple arrangement depend all the infinitely varied, and seemingly complicated processes of nature."

For the Farmers' Cabinet.

The Soiling System.

MR. EDITOR,—In reference to the soiling system I have heard a fact stated which I have not seen noticed in any publication, viz. that clover fields that are not pastured in the fall invariably suffer from the frost, especially in open winters. The reason given is, that the treading of the cattle makes the surface of the soil more compact, and consequently the clover roots are better protected. An instance has been named to me of two adjacent lots, of which one was pastured and the other not, in which the difference in the crops was equal to 100 per cent. in favour of the pastured lot.

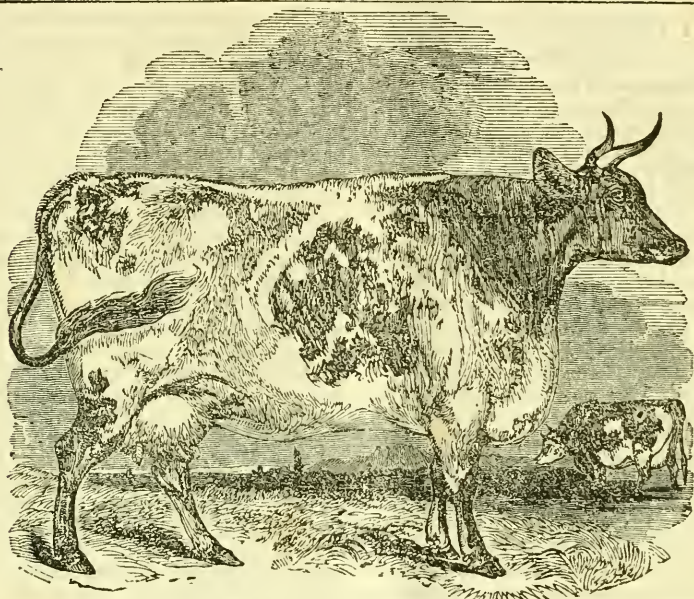
It is also said here, that in fields not pastured the mice do great injury to the clover roots in dry seasons; but that the vermin will not burrow where cattle tread frequently.

I should like to hear the experience of some of your numerous readers in these matters.

Yours, &c.

X.

York Co., Pa.



THE IMPROVED YORKSHIRE COW.

TWENTY years ago the Yorkshire Cow was, compared with other breeds, as great a favourite in the London market as at present. She then yielded more milk in proportion to the quantity of food consumed than could be obtained from any other breed, but when turned off to fatten, it took a long time to get much flesh upon her bones. By a single cross with the improved short-horn, and going immediately back to the pure blood, a breed has been obtained that has lost but little of the grazing properties of the new, and retained almost undiminished, the excellencies of the old breed for the pail. The above is a fair specimen of one of these valuable animals—the character of the Holderness and Durham beautifully mingled—good for the pail as long as she is wanted, and then quickly got into marketable condition. She has a long and rather small head, the eye bright, yet with a peculiar placidness and quietness of expression; the chops thin and the horns small. The neck thin towards the head, but soon thickening, especially as it approaches the shoulder. The dewlap small, the breast far from narrow, projecting before the legs; the chine fleshy and inclined to fullness, the girth behind the shoulder deep, and the ribs spread out wide, each projecting farther than the preceding one, to the very loins, giving—if after all the milch-cow *must* be a little wider below than above—as much breadth as can possibly be afforded to the more valuable parts. She is well formed across the hips and on the rump, with greater length there than the *milker* generally possesses. The legs neither long or short, the thighs thin, with a very slight tendency to crookedness or being sickle-hammed behind; the tail thick at the upper part, but tapering below, with a mellow hide and rather coarse hair. Large milk-veins, which, although the milk-vein has nothing to do with the udder, properly speaking, its office being to convey the blood from the fore-part of the chest and the sides to the inguinal vein, yet a large milk-vein certainly indicates a strongly developed vascular system, favourable to secretion generally, and to that of the milk amongst the rest. The udder is large in proportion to the size of the animal, and sufficiently capacious to contain the proper quantity of milk, but not too bulky, lest it should thicken and become fat and fleshy; the skin of the udder thin, and free from lumps, the teats of moderate size, and at equal distance from each other every way, and of equal size from the udder to nearly the end, running to a kind of point; for when they are too large near the udder, they permit the milk to flow down too freely from the bag and lodge in them, and when too broad at the extremity, the orifice is often so large that the cow cannot retain her milk after the bag begins to be full and heavy; the udder being of nearly equal size before and behind, or if any difference, broader and fuller before than behind. The quantity of milk given by such a cow is very great, it being by no means uncommon to amount to 30 quarts per day, while 36 quarts have been taken, the average being from 22 to 24 quarts per day.

For the Farmers' Cabinet.

Lucerne.

MR. EDITOR,—At length we have mention made in the "American Farmer," of Mr. Beltzhoover's "patch of Lucerne, the third of an acre," on his farm near the city of Baltimore. This, I presume, is the crop which we were given to understand some two years ago, was about to be cultivated, with the view to ascertain the value of its pretensions in this country—a small affair, truly! particularly after so much has been said, and so many estimates made of its enormous yield in other countries, where it has been known for ages. Nevertheless, it is a "fact" that has been fabricated amongst us, and is deserving the honourable mention that has been made of it in the leading journal above-mentioned, the editor of which says:

"We have paid a flying visit to Mr. Beltzhoover's farm, where we have had the pleasure of seeing a patch of about a third of an acre (of Lucerne) and was pleased to learn that it had fully realized the highest expectations which that gentleman had formed of its value as a soiling grass; and as a proof, we were pointed to an additional patch which had been sown this fall, the which, if we were not opposed to croaking, we would say we fear its setting was delayed too late. We learned that the first patch to which we have alluded above, afforded five or six cuttings the present spring, summer and fall, yielding well at each cutting. The advantages of an acre or two of this grass upon a farm, to be used as green meat for the working horses and milch cows, we think cannot be too highly appreciated, and we would again urge upon our brethren to make the necessary arrangements this winter, to set a small quantity of ground next spring with it."

Now, I cannot but look upon this account, although it is the result of only a flying visit, as somewhat singular and very curious: here is a crop that has fully realized the highest expectations of its owner, still circumscribed to *two patches*, perhaps less than the one-half of an acre, although it is admitted, that one of the patches yielded five or six cuttings for soiling during the past summer; the worthy editor himself, considering that an *acre or two* of this grass upon a farm would be an abundant supply for the work-horses and milch-cows, and, urging his brethren to set a *small* quantity of ground with it in the spring. With the satisfactory proof of such perfect success before his eyes, would it be more than reasonable to expect to hear him advocate its cultivation to the extent of twenty or thirty acres, rather than to one or two; and instead of recommending a *small* quantity of ground to be appropriated to its growth the next

spring, can too much be said or done for it? I confess there is something here that I cannot understand, and I would respectfully ask for further information. I had hoped that so soon as it had been ascertained that the soil and climate of any part of our country were congenial to the growth of this invaluable crop, that its cultivation would have been entered upon with the greatest avidity, for, assuredly, no crop can at all compare with it for quantity or quality, whether as green food for soiling or as hay, of the most nutritious and fattening properties. It is a grand mistake to suppose that a rich soil is necessary for its growth or well-being; it is rather otherwise, the only *sine qua non* being a very dry sub-soil and light surface; upon such a soil the necessary means of support can be given by temporary top-dressings of well composted manure, the chief regard being, that it contain no seeds of weeds. And if it should be found that marl is congenial to its growth, there are situations in this country where the land might be rendered of four-fold value by the culture of Lucerne. It is to be remarked, that hogs pastured upon this grass require no other food, being often slaughtered in fine condition while feeding on that alone. The culture by drilling is not to be recommended; sow the seed thickly on a clean and well pulverized soil, either in the spring, the summer, or the autumn, without any other crop; the plants will appear in a few days, and if they are not choked with weeds, will soon over-spread the land, an early and frequent cutting giving them a fresh start over the weeds, and a slight harrowing after every cutting will enable them to keep it. Truly, it is strange that such an invaluable crop is still confined to patches "the third of an acre."

JOSHUA LOADER.

"If beginning harvest a fortnight earlier enables a man to save a crop from spoiling once in a lifetime—if the improved quality of his straw as fodder for his stock allows him to plough out an acre more, or to pasture another acre of clover with feeding or fattening stock, instead of mowing it for his lean stock, every grain saved, every extra bushel of corn produced, and every extra head of stock fed, is a public benefit, as well as to himself, and is so much added to the gross produce and wealth of the country; these being, in fact, an increased return, without any increased outlay."

How much better would it have been for the country, if the time, money and attention which have been spent on fruitless political subjects, had been devoted to improvements in agriculture!

For the Farmers' Cabinet.

Delaware Lands and Cattle.

MR. EDITOR,—I have ventured to give you some account of the *destructive* mode in which I have been treating a part of my farm, which, however, is nothing like so bad as much of the land in this region has been served for perhaps the last hundred years, for, would you believe it, since my residence here, I have seen on a field adjoining me, large stacks of straw burnt in the spring, to get them out of the way of corn-planting! But this course has greatly changed, and the person who did it, is now amongst the first in improving his land.

When on a tour of observation through this part of the country, you inquired what I had done for the cross-road field through which Mason and Dixon's line runs, and where you saw the clover growing so luxuriantly? In answer to your inquiry, I will state, that this farm came into my hands on the 25th of March, 1833, since which, including the corn-crop of that year, and the wheat-crop of 1841, that part of the field has produced eight crops in these nine years. In 1835 it had a partial rest in clover sown thin, only at the rate of one bushel of seed to ten acres. In 1837 it was in corn, after a wheat stubble, which had received a dressing of $33\frac{1}{4}$ bushels of lime per acre. In 1840 the field was in oats, and on the 17th of June of that year, this neighbourhood was visited by a tremendous hail-storm, which entirely destroyed the oat-crop; many of the hail-stones measured five inches in circumference. Upon sight of this, I decided upon ploughing in the oats as a preparative for wheat, which operation I commenced in a few days after, and continued at times until the middle of July, going over about seventy acres in that time. The young oats were again turned under towards the last of September and first of October, and wheat was sown on about 32 acres of the land, which yielded 430 bushels, or a little over 13 bushels of merchantable wheat to the acre. The crop was seeded with white clover early in March, at the rate of one bushel of seed to five acres of land, and the wet season of that year caused as fine a growth as I ever witnessed. The balance of the 70 acres of oats so turned under in July, I did not seed in wheat or plough it again until March following, when I again seeded the land with oats. The return at harvest was light, not being over 500 bushels, or 12 bushels to the acre, and this, upon decidedly better land than that which had grown wheat. Perhaps the failure of the oats may be accounted for in one of two ways; first, from the heavy crop of dead oats that was turned under without rolling after seeding, thus leaving the ground too

light: or it might have been from seeding the same land with oats three times in succession. The same lot was then sown with clover, which looks well after following three crops of oats. I would remark, no part of this lot or field in question has had any manure worth naming since the land has been in my possession, as my stock has been small until a year or two since, and the little manure made upon the premises was generally consumed by my root-crops. I would further remark, at no season had the lot in question yielded more than an average of five bushels of wheat per acre, since it came into my possession, until the present year. You will readily perceive that owing to hard cropping, the lime had but little vegetable matter to act upon until the oats were turned under. It is to be observed, the older the oats were when first turned under, the better was the wheat, and also is the clover. But from the manner that my land has been worked and tilled, and the little return it has received in the way of manure, do you not think it deserves a better mode of treatment than it has had, at least in the "rotation of crops?"

And now, agreeably to your request, I send you a description of my cow "Yellow Flower;" and, first, as to her measurement, which I have taken very accurately. Length from head to tail six feet six inches, girth over loin six feet six inches, girth back of shoulder five feet six inches, height at withers three feet ten inches, height at hips four feet. Her quarter is long, neck long and very thin, and also thin in the shoulder, but full and round in the body. Udder round and capacious, the legs short, her body coming within 18 inches of the floor while standing. Those who are judges lay her weight under 400 pounds; so she is very small, and ill compares, in point of size and beauty, with either of those justly celebrated animals Blossom and Dairymaid, nor is she so remarkable for her deep milking qualities as they; it is for the richness of her milk that she is so conspicuous. A trial was made on the 4th and 5th of June last, and I had intended to continue the experiment for one week, but the weather was so hot, the thermometer being up to 93° in the shade, and not then having a suitable milk-house, I thought it unjust to the cow to continue it at that time longer; the result as far as made was $26\frac{1}{2}$ quarts of milk the first day, 26 quarts the second, which yielded $4\frac{1}{2}$ lbs. of well-worked butter—equal to $15\frac{3}{4}$ lbs. per week. She was five years old on the 10th of June last, and has brought three heifer calves, with their mother's points, but much better in appearance than she was at their respective ages, owing, no doubt, to the greater care taken of them. She is in calf by my premium bull, "R. M. Johnson," by imported Max-

well. "Yellow Flower" takes her milk and butteraceous qualities and her country appearance from her dam, whose weight when slaughtered was but 72 lbs. per quarter; but from her milk alone her owner sold eight pounds of butter every week, besides the milk and cream, &c., used in his family, a knowledge of which induced me to purchase her, which I did at the price of \$18. "Yellow Flower's" sire was raised by me; he was from a cow of the Pea-Patch Island stock, owned by Dr. Smith, of the U. S. Army, sired by a first-rate Devon bull.

I have been thus lengthy in my description of the size, weight and qualities of my cow, for the reason that I hope, by care, to see her progeny turn out superior for dairy purposes to the best imported breeds of whatever country, pedigree or name: and that if this my hope should be realized, a reference to the pages of "The Farmers' Cabinet and American Herd-Book" may show that they sprang from the LITTLE DELAWARE STOCK. I must here state, that I was mainly induced to make the experiment with my cow, from perusing the pages of the "Cabinet," in which the portraits of the finest animals of this or any other country are to be found—need I say, that single result has amply repaid me for the cost of all the volumes of that work since its first publication? J. JONES.

Wheatland, New Castle Co., Del., Dec. 28, 1841.

Comparative Value of Hay, Vegetables and Corn.

I wish briefly to draw the attention of farmers to the value of hay, compared with other crops, for the feeding of stock. An acre of hay yields one ton and a half of vegetable food. An acre of carrots or Swedish turnips will yield from ten to twenty tons; say fifteen tons, which is by no means an exaggerated estimate. It has been ascertained by experiment, that three working horses, fifteen and a half hands high, consumed at the rate of two hundred and twenty-four pounds of hay per week, or five tons one thousand and forty-eight pounds of hay per year, besides twelve gallons of oats each per week, or seventy-eight bushels by the year. An unworked horse consumed at the rate of four and one-quarter tons of hay in the year. The produce, therefore, of nearly six acres of land is necessary to support a working-horse by the year; but half an acre of carrots, at six hundred bushels to the acre, with the addition of chopped straw, while the season for their use lasts, will do it as well, if not better. These things do not admit of doubt. They have been subjects of exact trial.

It is believed that the value of a bushel of Indian-corn in straw and meal, will keep a

healthy horse in good condition for work a week. An acre of Indian-corn, which yields sixty bushels, will be ample for the support of a horse through the year. Let the farmer then consider whether it be better to maintain his horse upon the produce of half an acre of ruta-baga, which can be raised at a less expense than potatoes, or upon the grain produced off an acre of Indian-corn, or, on the other hand, upon the produce of six acres of his best land in hay and grain; for six acres will hardly do more than to yield nearly six tons of hay and seventy-eight bushels of oats. The same economy might be as successfully introduced into the feeding of our neat cattle and sheep.

These facts deserve the particular attention of the farmers who are desirous of improving their pecuniary condition. It is obvious how much would be gained by the cultivation which is here suggested; how much more stock would be raised; how much the dairy produce might be increased; and how much the means of enriching the land and improving the cultivation would be constantly extending and accumulating. But when we find, on a farm of two hundred acres, that the farmer cultivates only two acres of potatoes, one acre of ruta-baga, and perhaps a quarter of an acre of carrots, we call this "getting along," in the common phrase; but we can hardly dignify it with the name of farming. I am aware that labour of a proper kind is in many cases difficult to be procured, and with our habits, as difficult to be managed. Farming, likewise, can in few situations be successfully managed, unless the farmer has capital to employ, equal at least to one year's manure and one year's crops. A large portion of our farmers, also, from the nature of their habits and style of living, are so prosperous and independent, that they have no occasion to extend their cultivation beyond what it now is, in order to meet their wants; and to incur all the trouble, vexation and risk of employing more labour, expending more capital, and increasing their cares.

But it is not fair to produce such instances as any examples of the profit or unprofitableness of husbandry, when carried on, as all other branches of business, to be successful, must be carried on with intelligence, skill, industry, enterprise; and all the capital and all the labour which can be advantageously employed in it. I will not, however, anticipate such general views of the subject, as I propose to take in the retrospect of the whole survey.—*Coleman.*

WHAT constitutes the wealth of the country but her cotton, hemp, sugar, rice, tobacco, wool, wheat, beef, pork?

For the Farmers' Cabinet.

French Theory of Renovation.

ON the first publication of the French Theory of Renovation, many persons were prepared to treat the system with ridicule, and others expressed their contempt for a notion so perfectly irrational; in a little while, however, it was discovered that the thing had long been practised in this country, and that there was nothing new in it, for Mr. A. had planted potatoes on the sod and covered them with straw, and Mr. B. had allowed his crop of grass to fall and rot on the ground, thus to replenish the soil at a trifling expense, &c.; and all had benefited amazingly by a system, which the French seem to have an idea has something original in it. Now, whatever may be the result of experiments making in many parts of the country, to ascertain whether wheat can be brought to perfect maturity merely by sowing the seed on land unploughed and undressed, and covering it with a portion of the last year's crop of straw—to say nothing of the rationality of the attempt to raise it on a *pane of glass*, thus preventing entirely all communication with the earth, it must be permitted me to say, I consider the subject as bearing most favourably on the system of top-dressing in general, a system which a few years ago would have been scouted as the *most* irrational and wasteful that could be devised, by which the tiller of the soil would incur a loss of more than half his manure, by permitting the winds of heaven to dissipate those *elastic gases* which are continually arising and flying off by their levity, little dreaming of the present theory and very prevalent belief, that the gases which are alone valuable, are those which, by their density, are confined so near the surface as to be always within reach of the plants growing thereon; while those of a more volatile nature, which are not taken up and held as it were in solution by the denser gases, after performing their allotted parts, are liberated, and are carried off into the atmosphere, there to form fresh combinations, and become fit again to take their station in the wonderful and never-ceasing round of RENOVATION.

These reflections bring to my remembrance a circumstance, the result of which I lately witnessed while on a visit to a friend in a distant county, which is, I think, worth recording as "a fact." On walking over a clover field which had then been mown the second time for seed, and the crop raked into wind-rows, I observed that a square space, about an acre, was much more thickly set, and the leaves of a more vigorous appearance than any other portion of the field, and seeing that the great thickness of the crop was

marked with the exactitude of a line, I pointed it out to my friend from a distance, as the work of a bad mower, who had left a part of the crop on the land, not having cut "the bottom half inch;" but on a closer inspection I could perceive that the line ran *across* the swathes, and not *with* them; so that this could not be the cause of the very great difference in the appearance of the crop, which was found to proceed altogether from a closer plant of much more vigorous growth; on which my friend remarked—"The clover-seed with which this field was sown was saved by myself, was carefully cleaned in the barn, and taken immediately from thence and sown in the field; but my seeds-man scattered it too plentifully at first, and the consequence was, the clean seed was all exhausted and the square which you see was left unsown; but not being willing to leave this portion of the field without a crop, and having no seed at hand, I took the clover-chaff from the barn and scattered it very thickly over the unsown portion of land, thinking there might be a few seeds contained amongst it; and you now see the result, after two crops of far heavier bulk have been removed from the spot before us." Here was an exemplification of the French theory before our eyes, as well as an *open volume* in favour of top-dressing, and I thought I could not do better than appropriate a leisure half-hour to the detail of the fact, for the amusement, perhaps the information and benefit, of the readers of the pages of the Cabinet.

Jan. 28, 1842.

R. CLAYES.

For the Farmers' Cabinet.

The Bee-Hive.

WE often hear it said that bees will not work downward—that it is contrary to their nature—but an English Journal informs us that a Mr. Jeston recommends this mode in preference to that of raising the boxes—he says, "I place a board, half an inch in thickness, and 18 inches square, perforated with two holes an inch in diameter, over a butter-tub, and upon that place the hive as early as March, as the bees have a great dislike to any disturbance of their arrangement. I last year took upwards of 40 lbs. of honey in this way, and left an ample supply for the swarm to subsist on during the winter, although the season was remarkably bad. And in this way have I carried off the prizes for honey at the Henley Horticultural Society for the last four years. This plan will prove a good substitute for the modes of 'rearing' according to the usual custom; it has the advantage of obtaining a supply of honey from the strong *swarms*, as well as from the old hives." The time will soon be at hand to make the experiment.

JOHN ELLIS.

To the Editor of the Farmers' Cabinet.

Delaware Lands.

SIR,—I am informed that the people of Pennsylvania have received a very wrong impression in regard to the healthfulness of the state of Delaware. A very respectable gentleman of Philadelphia recently told me "he was very much surprised to find such fine lands in Delaware." He expected, from what he understood, to have found it a complete frog-hole; enough to give any man in good health the chills to look at. How extensive such impressions are, I know not; but from what I can learn, they must be considerable, and operate to deter capitalists from investing their money in some of the best lands to be found in the United States.

Now sir, it is the duty of some one, to put the public right in this matter; and as you have lately made us a visit, and had an opportunity to see and form an opinion for yourself, may we not expect to hear from you, through the columns of the Farmers' Cabinet—for who so proper, so disinterested or unprejudiced, and therefore, to be implicitly relied upon? And here suffer me to say what I know—I purchased the farm where I now live, four years ago, and the spring following, moved my family from Connecticut on to it. Having always resided in that state, breathing its pure air, and drinking the delicious waters that flow from its granite hills, I could but expect we should suffer from sickness before becoming acclimated; but I have been most agreeably disappointed. The health of my family has been uninterrupted, except in one instance, and that I attribute to extreme imprudence. I could not expect to enjoy better health in any part of the globe. Since removing to Delaware, the average number of my family has exceeded twelve, and not an individual residing upon the farm has had a chill. You must not infer, that I consider all other parts of the state equally healthy. Like other states, while some parts are healthy others are not so much so, or, in other words, where the lands are high and the water pure, it is healthy, and *vice versa*. I have been in the east and west, north and south, and know of no place where money can be invested more pleasantly and profitably than in Delaware.

Yours and the public's humble serv't.,

ELIJAH A. BINGHAM.

St. George's, Jan. 8th, 1842.

WE very cheerfully respond to the call of our correspondent, and feel pleasure in saying, our late visit to that part of the state from which he hails, was in every respect agreeable and very instructive. From all that we saw and heard, we do not hesitate to pronounce that part of the country healthy, and peculiarly adapted for the permanent residence of the agriculturist, be-

his system of management what it might. With a surface sufficiently undulating to carry off the superabundant moisture, and level enough to form a real *sporting country* for the plough, we can safely recommend it as being, in our estimation, one of the most desirable locations for the man of science and capital, anywhere to be found. Our correspondent's statement concerning the health of himself and family, stands in singular juxtaposition with another account of the health of the same individuals, as related to us in conversation with a friend residing at Salem, New Jersey—which place is situated just on the opposite side of the Delaware, and almost within sight of their residence! The remarks passed in the way of dialogue—

W. How is the health of that part of Delaware which you have been visiting; is it better now than it has been?

P. I did not hear of a single case of sickness of any kind, during the ten days I have spent there.

W. I understand the bilious fever has been very bad there, and that an eastern family by the name of Bingham, after a residence of about four years, during which time they have all been suffering with the fever and ague to such a degree that their neighbours have been constrained, out of pity, to plough and sow their lands, are preparing to return to Connecticut, never having enjoyed their health in all that time.

P. I spent the last evening with them, and never did I see a more healthy family—they are the pictures of health; and I heard them declare that no persons ever enjoyed a greater share of that blessing than they had done, during the whole of their residence in Delaware. On the subject of the general health in that part of the country, I can only say, a physician called one morning at the house of the person with whom I was staying, to ask if any of the family wanted the doctor! and on my remarking, I considered such a circumstance as speaking volumes in favour of the health of the country, he declared that he had not had five cases of bilious fever for the last year, and as for losing a patient, he could scarcely remember such a circumstance! adding, "The country has been distressingly healthy for a great length of time."—Ed.

Murrain among Cattle.

WITHIN the last 12 months, cows and oxen have suffered very severely in various parts of England, insomuch that many small graziers and dairymen have lost their whole stock. This disease was at first considered to be only epidemic, but the veterinary surgeons throughout the country have pronounced it to be highly infectious, and the consequence has been that cattle affected with the above malignant disorder have been very properly kept apart from those which were healthy and sound. A gentleman residing near Plumsted, by way of experiment, caused the cows on his estate to be inoculated with the *vaccine virus* (pus), which appeared to operate as a preventive to the malady, for although his neighbour's cattle were dying around him in all directions, not one of his cows (seven in number) evinced the slightest symptoms of murrain.

For the Farmers' Cabinet.

Proper Application of Putrescent Manures.

THE formation, preservation, and proper application of putrescent manures are justly considered subjects of paramount importance to the agricultural interest of our country. Much has already been written on the subject, but it is to be regretted that there are so many different opinions among farmers both theoretical and practical, particularly with regard to the latter branch of the subject—proper application of manures. I propose, Mr. Editor, to submit a few observations upon the subject of whether it is better to apply manures to the surface or to bury them in the soil.

Within a few years past the farmers in this neighbourhood, with but few exceptions, as far as my knowledge extends, have come to the conclusion that the proper application is to the surface, and some of them think they have thrown away many dollars by burying it in the soil. It has generally been supposed that the application to the surface was in opposition to chemical science: but with all due deference to the great names which have appeared on the opposite side (such as the lamented Buel of Albany), I think that theory and enlightened experience may be made to agree upon this subject, and that it can be shown that the present state of the science of chemistry does not militate against the practice for which I contend.

It is well known that vegetables in the act of decomposing, or, in other words, *manures in the act of rotting*, form new compounds, which are carbonic acid, water, carbonic oxide and carburetted hydrogen. The two former are the chief results of the decomposition. The two latter are formed more sparingly, and chiefly when there is not a sufficient supply of oxygen to the substance undergoing decomposition. If the manure is buried beneath the soil, it is prevented from having access to the oxygen of the atmosphere, and consequently more carbonic oxide and carburetted hydrogen are formed, and less carbonic acid and water. If the manure is placed on the surface, being always in close contact with the atmosphere, the supply of oxygen is plentiful, much carbonic acid and water are formed, and little carbonic oxide and carburetted hydrogen. Now it is well known that carbonic acid gas is the most fertilizing of all the substances formed, and its base enters largely into the composition of all plants, consequently the more there is formed the greater good effects will be produced by the decomposition of the manure.

But perhaps an objector will say, all the gases which are generated beneath the sur-

face are prevented from becoming dissipated and are retained for the use of the plant, while what is generated on the surface flies off and is lost. If these were facts, they would be unanswerable; but chemistry teaches us a different lesson. Carbonic acid gas is nearly half as heavy again as atmospheric air, and consequently all that is produced penetrates the surface of the soil, or remains in close contact with the surface, and is taken up when wanted both by the roots and leaves of the plants; while the carbonic acid gas, which is generated beneath the surface, will not rise (for the reason just given), but is soon carried below the place in which it is deposited, by the rains, out of the reach of the roots of plants, and is thus in a great measure lost.

The carburetted hydrogen, it is true, is retained beneath the surface, otherwise it would fly off, being lighter than atmospheric air, but as it is believed to be less beneficial than carbonic acid, an actual loss of fertility is sustained by its formation when the latter could have been formed in its stead by the surface application.

The above reasons would also seem to prove that all putrescent manures should be applied in their unfermented state, as the carbonic acid gas is produced during fermentation, which I believe accords with the experience of our best farmers on this subject.

We are all aware of the great advantages which a crop sustains, in time of drought, by having the surface of the ground kept open by repeated workings. I believe this has generally been accounted for by supposing that the earth thus took up more moisture in the form of dew during the night. In addition to this, might not the carbonic acid which is always found ready to penetrate the surface (owing to its specific gravity), be thus enabled more readily to enter the soil and become one of the principal, if not the most important substance for the nourishment of the plant? B.

Jan. 8, 1842.

CLOSE PLANTING.—A Scotch farmer residing in the town of Sodus, Wayne county, N. Y., informs us that he raised, the past season, 400 bushels of Indian-corn on four acres of land, notwithstanding the dryness of the season. He attributes his success mainly to his manner of planting, and thinks farmers generally plant too thinly. His mode is to plant in rows three feet apart, and drop two grains in a place only 15 inches apart in the rows. The variety used is the Red Blazed Flint. The soil is sandy loam, and 100 loads of manure were put on the four acres. The corn was ripened and cut sufficiently early to sow the ground with wheat.

The Choice.

'T is not to mortals given,
While passing through the thorny way of life,
To be exempt from ills. Only in Heaven
Is perfect pleasure, unalloyed with strife.

And had we power to choose
Our portion while sojourning here below,
No doubt the good we often should refuse,
And load our aching hearts with double wo.

This then is wisdom's part,—
To hear with patience woes we cannot shun,
Receive its blessings with a grateful heart,
And daily learn to say "Thy will be done."

Yet since you ask, my friend,
My views of life, and where we most may find
Of happiness below, I freely send
This rough-wrought transcript of a rural mind.

It matters less the place
Where life's brief visionary days are spent,
For who the way has ever learn'd to trace
That Bliss, the fugitive, her footsteps bent?

Still would I wish a home—
For rich the joys that cluster round that spot;
Let others through the world's wild desert roam—
Be home's calm pleasures *my* more tranquil lot.

For there are friends most true,
Hearts bound by tender and endearing ties;
Yet should the friends of home, tho' dear, be few,
And those selected from the good and wise.

The vain licentious throng,
Who love the revels of unhallow'd mirth,
Or idly drag life's tiresome load along,
Or raise no thought above the sordid earth,

These my retreat would shun
For more congenial haunts.—Yet when the care
Of busy day is past—its duties done,
I'd joy to see some friendly neighbour there—

In converse sweet to spend
The social evening hour;—with vocal chime
Enliven the dull heart, or, reading, blend
Instruction, glean'd from every age and clime.

The gifted sons of song—
Montgomery, Milton, Cowper, Campbell, Gray—
These, and like gifted spirits, should prolong
Our social feast, and speed the hour away.

Above all books, be mine
The volume of that law from Sinai given—
The prophet's vision, and the songs divine,
The chart of the best way that leads to Heaven.

Thro' life's short shadowy way,
Thus would I live to bless and to be blest,—
Ready at last the summons to obey,
That calls the faithful to the realms of rest.

West Troy Adv.

For the Farmers' Cabinet.

Gravel in Swine.

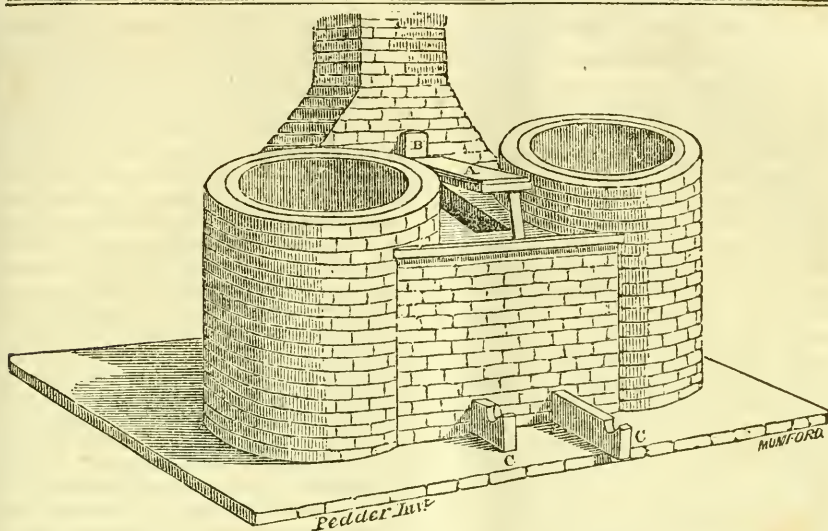
A FARMER of Delaware county, Penn., who keeps a stock of hogs, lost one, after protracted disease in 1839, the following year three died, and in 1841 five died. So many becoming diseased, led to an examination after death, to discover if possible the cause. The symptoms in all were the same, and all those which were attacked with the disease or died were barrows or *males*. On a careful examination of those that died the last year, it was found that they were afflicted with gravel; pebbles or gravel being discovered in the bladders and in the urethra, which obstructed or prevented the passage of the urine. The

result was irritation, inflammation, mortification and death. In one case the bladder was found burst, and its contents discharged into the cavity of the abdomen. The vessels of the kidneys, and those leading to the bladder were distended with a partially indurated secretion or matter, which, when macerated between the fingers, discovered particles of a sandy character. A quantity of the pebbles or gravel which was obtained from them has been preserved. It is presumed that they are of the same character as those obtained from the human subject. It is worthy of remark, that though there was the usual proportion of females among the stock, none of them were visibly affected with the disease; in that respect following the same general law that has been noticed in the human family. No remedy has been thought of or suggested, but that of killing off the whole stock or family that has displayed such a remarkable predisposition to this form of disease, and to replace them with new recruits from different families where this newly-discovered malady has not been known to exist. In several of the western agricultural papers, a disease in swine has been the subject of numerous essays, called the "worm in the kidneys." Quere, is not the above identical with it? and is not the supposed worm the indurated secretion above mentioned? which, assuming the form of the vessel containing it, has been erroneously taken to be a worm. This suggestion is merely thrown out to promote future careful investigation and inquiry that truth may be arrived at, and should any examinations be made, it is hoped the results of them may be published in some of those very useful and valuable agricultural journals that are now so generally read by farmers. It may be remarked that the above family of hogs have long been on the farm, and have bred "in and in," consequently any defect of constitution, or peculiarity of character, has had abundant time to perfect and display itself most conspicuously without adulteration or dilution.

AGRICOLA.

Jan. 17, 1842.

WINTER HENS.—Fowls should never be kept till they are old. Young ones lay more eggs, and young ones are more apt to lay when they are removed to a distant barn than when kept where they were bred. Any farmer may pay for his newspaper for years with the proceeds of a single hen well bred to lay eggs; and one bushel of buckwheat, with a very few potatoes, will keep a hen's crop full during the winter—and two hours' labour on a suitable soil will often be sufficient, without any manure, to raise a bushel of buckwheat. Who that hath lands cannot afford to take a newspaper?—*Mass. Ploughman.*



BOILERS FOR COOKING FOOD FOR STOCK, &c.

THE above arrangement, together with the peculiar construction of the fire-place, are believed to be original in invention and novel in practice. An experiment with a fire-place without draught-hole or grate was first made at the sugar-refinery of Joseph Lovering, Esq., in Philadelphia, in 1837, where it was found to succeed in the most perfect manner. The fire is lighted on the top of the fuel, and is operated upon by the air from above, on the principle of the blow-pipe; by it the smoke is forced downwards through the body of the fuel, becoming ignited in its passage through the flame, and adding much to the volume of heat while passing under and around the boiler on its way to the chimney. Thus the smoke is consumed, none issuing from the top of the chimney after the fuel has become perfectly ignited—a consideration of great importance to those in the vicinity of extensive manufactories. The fuel is wood, cut into lengths to suit the size of the fire-pit, which pit may be constructed at the sides and bottom with common bricks, the arch-ways, by which the fire passes to the bottom of the boilers, being turned with fire-bricks. This arrangement is adapted for boiling or evaporating generally, and particularly for the cooking of food for stock either on a large or small scale, none being more economical or convenient for heating water for dairy use, the scalding of hogs, &c. It was at first intended to confine the use of these boilers to the desiccation of beet-juice in the manufacture of sugar, but it was perceived that the principle of operation is applicable to many other purposes, especially to the evaporation of the juice of the maple and corn-stalk in the fabrication of sugar, the power of suddenly checking the fire—as instantaneous as the turning off steam—being peculiarly adapted to such nice operations; at the same time giving the means of applying a greater or less degree of heat, withdrawing it altogether, or transferring it to other purposes, by a movement the most simple. The boilers may be made of thin boiler-iron, the bottoms nearly flat, and the sides perpendicular, with a flange turned on the top, the depth being in proportion to the circumference. In setting, they may be placed with the bottom within three inches of the bed of brick-work, the fire from the pit passing under the arch and spreading over the bottom, escaping by a passage at the opposite side, and making the circumference of the boiler before passing off by the chimney; the boiler itself being surrounded by a jacket of sheet-iron, of size sufficient to leave a space of one and a half or two inches, for a flue between it and the boiler; and against this the brick-work is to be built. Put the ingredients to be boiled into one of the boilers, withdraw the iron stopper C, formed of a flat bar of wrought-iron three inches wide, and light the fire, regulating the draught by raising or lowering the iron cover A, which must be made to close tight when put quite down. While this is progressing, make ready the other boiler, and when the food in the first boiler is done enough, replace the stopper, and withdraw that belonging to the second boiler, by which the fire will be transferred from one to the other in full force without receiving the least check or loss of time. If at any time it should be found necessary to withdraw the fire at once from both boilers, it may be done by drawing up the slide B, and putting in both stoppers, when the fire will pass off by the chimney; or the fire might be extinguished instantly by putting down the cover, a means of saving much fuel, by putting an end to all further combustion.

For the Farmers' Cabinet.

Corn-Stalk Sugar.

It is satisfactory to find that Mr. Webb has not, nor does he intend to apply for, a patent for the making of sugar from the corn-stalk. The method of collecting the sap of the palm-tree, as also the distinction which he points out between the raw juice when drawn from the tree, called toddy, and the ardent spirit called arrack, which is procured from it by fermentation and distillation, is all correct; but this is not incompatible with the customary mode adopted for procuring it, namely, the extraction of the fruit-buds, to render the sap more abundant and of richer quality; nay, it is reasonable to expect that the process, and the consequent increased yield of product, would be greatly improved and augmented by it, and which is said to be the fact. The *sin* of supposing Mr. Webb conversant with a mode of procedure which I had understood to have always been practised, he must forgive, for I meant no more than to presume he knew as much of the matter as myself. The extract which I gave was taken verbatim from an account of the process contained in a periodical then lying before me, the name of which I have missed, but I will endeavour to procure the work, and if I succeed, I will send it up for Mr. Webb's perusal: it is there plainly stated that this toddy is denominated *paviah arrack*. I am happy to assure Mr. Webb that nothing was farther from my intention than to accuse him of wilful deception; my only idea was, that he had appropriated to himself, by means of his patent—which it is very generally said and believed that he has secured—a mode of manufacture which had before been known and practised in detail—a charge that could be brought against many *improvements* for which patents are sought and obtained, without a wish to fix upon such the charge of wilful deception.

The specimen of syrup which I saw at the horticultural exhibition in Philadelphia, was labelled molasses, and was so denominated by Dr. Thompson, see p. 90 in Cab. for October. Mr. Webb says it was *syrup*, meaning that at least one process of crystallization had been gone through, and this might therefore be properly termed, in chemical language, the mother-liquor. Now when I saw it, the granulated sugar had, by the mere act of subsidence, become one-half the contents of the bottle, and I will therefore leave any one, at all acquainted with the manufacture of sugar, to say whether the operations had been effective, and the point of concentration understood or practised. Mr. Webb is in error when he makes me say, "the whole operations were evidently performed in the most

ignorant and ineffectual manner." When it is said the old people were content to make molasses only, it is admitted the term is not correct, according to the nomenclature of the manufactory; it is as improper as it would be to denominate this sweet substance *syrup*—the proper term is *liquor*, be it of what strength of saccharine it might; after the first and second granulations have been conducted, the mother-liquor is called *syrup*, and after the third granulating process, it is denominated *molasses*; but if, after either of these processes, the mother-liquor or syrup should be found to contain a quarter-part of the crystallized sugar exhibited in Mr. Webb's sample, it would be fair to conclude that the proper point of concentration had not been either understood or practised; still it is a fact, that the old people did make *sugar* from the corn-stalk long before either Mr. Webb or myself were born, and we cannot help it. But if I know myself, nothing is farther from my wish than to deprive Mr. Webb of a particle of the merit that is his due: far from it; for it will give me real pleasure to hear that he has succeeded in causing the manufacture of sugar from the corn-stalk to become of more importance than that from the cane, and I trust he will favour us with an account of his progress from time to time in the pages of the Cabinet. The extreme richness of the juice of the corn-stalk arises, no doubt, from the circumstance that our climate is suited to its full development, while the cane seldom obtains its perfect maturity in Louisiana; much of the sugar from thence is therefore *unripe*—in an incipient state—which at once accounts for the great difficulty experienced in fining their liquor. But Mr. Webb must consent to accept a medal, which is so justly his due.

J. M. C.

Eastern Shore, Maryland, Jan. 25, 1842.

For the Farmers' Cabinet.

Comparative Price of Labour.

MR. EDITOR,—I find in the Ledger for the present day the following comparative statement of the prices paid for labour in different countries, which does not appear to me to be a fair criterion on which to form a judgment. It is there said, in a quotation from the Pennsylvania Inquirer, "The highest price to be obtained by a weaver, his wife and two children, in Manchester, England, per week, is 10s. 6d. sterling, equal to \$2 33, while thousands of females are employed at Lowell in factories, who receive \$3 25 per week."—"This, there is no doubt, is all true as stated, and it is equally true that in Texas the same labour that in Lowell commands \$3 25 will command four times the

nominal amount—not that there is that difference in the value of the produce of labour, but the currencies differ to that extent. Our currency is much more valuable than that of Texas, and that of England is of considerable more value than that in circulation with us.” Now, as some one says, this is all *Latin* to a plain farmer like myself, and I think it much the most satisfactory way to *lay out the money at market*, and see what it will bring in the shape of the necessaries of life; and as that has been done by a correspondent in the Cabinet, p. 362, vol. 2, in a way too plain to be misunderstood, I should like, if you have no objection, to transfer the account from thence into your present number, as many of your readers might not have seen it, while to those who have, I wish to apply for information as to the *rationale* of the thing; to me it appears clear, correct, and easy to be understood, and if it be so, is not the mode adopted a very simple way of *settling the currency*? It is there stated, in an argument on the comparative value of labour between England and America, “And now, let us put this and that together, and see if there be not some difference in favour of the wages in this country. I have hit upon a very simple plan of deciding this question: it is, to expend a man’s wages for one week, and see what can be obtained for the same. I get a dollar and a quarter a day, and you do the same; to be sure we work hard for our money, but that is no hardship, as we are able; and it is a great mistake to suppose it hard to have to obtain one’s bread by the sweat of one’s brow, and so the magistrates think, for when they determine to punish a man severely, they send him to the penitentiary and *keep him*, without permitting him to work! Well, then, for the sum of \$7 50 (a week’s wages) may be bought,

A new hat.....	\$0 75
Pair of shoes.....	1 00
Pair of trousers.....	1 00
New umbrella.....	75
41 lbs. of mutton.....	1 25
1 “ tobacco.....	10
1 “ tea.....	25
1 “ coffee.....	13
3 “ sugar.....	21
New gown, for wife.....	56
An acre of free land.....	1 50
	\$7 50

Now tell me, is there any other country in the world where this can be done? Why don’t you speak? I will leave you to lay out the wages for a week, such as we used to receive in England, for they are so small that I fear if I were to attempt to handle them, they would *slip through my fingers*.”

The wages here alluded to were, for a single man, per week, \$1 20, a married man with wife \$1 56, do. with three children \$2 04! not more than the price of a pound

of tobacco, or a pound of snuff, or a quart of *French brandy*. I have added to the account sixteen pounds to the quantity of meat to be purchased for \$1 25; for I sold, the last week, a fore-quarter of as good fat wether mutton as was ever butchered, for three cents per pound, and a fine calf’s head for 12½ cents. Now, although I do not pretend to know much about *currency*, I do not think it necessary for a man to understand *Latin* before he is enabled, by putting “this and that together,” to see that of no country under heaven can this be said but of America. J. DALTON.

Jan. 1, 1842.

P. S. Must not a man be *blind* not to see that the difference between the state of things in England and America is simply this:—in England wages are low, and the necessaries of life and the value of land high; in America wages are high and land and its products low?

From the Southern Planter.

Leaf Manure.

I AM pleased to see several recommendations in your paper of the use of leaves and wood offal for compost, and particularly do I admire Mr. Lownes’s idea of a horse-rake for collecting wood trash. My experience has fully satisfied me of the profit of hauling into my farm-yard vegetable matter from my woodland, but experience has also taught me that it will never do to rob the wood-land of this, the sustenance of its growth—in other words, this nutritious substance is as much needed for the growth of trees as for the growth of corn, and you can only afford it to the one at the expense of the other. I know that I completely impoverished a very valuable piece of wood-land by the annual removal for several years of the fall coating of leaves, whereby nothing was left to restore the depletion caused by the growth of the succeeding summer. My plan now is, to haul in only the undecomposed vegetable matter of the land I am clearing, for when the growth is stopped, the food may be taken away for other crops. But even here, if I am about to cultivate the cleared land, I am careful to remove no mould, since it is certainly better to plough it under than to carry it to the farm-yard for the purpose of bringing it back again. Whilst undecomposed matter may be profitably removed from the surface of land on which there is no growth, I think a very erroneous and common opinion exists and is increasing, that an indiscriminate removal of wood-compost may be advantageously made; and it is to do away this impression, and afford to others the benefit of my experience, that I offer this communication.

E. W.

To the Editor of the Farmers' Cabinet.

Draining.

SIR,—Desirous of understanding the correlative branches of farming, without which mere ploughing and sowing, and the application of manure, whether calcareous or fermented, or whether ploughed in or employed as a top-dressing, would be fruitless; one of these branches closely connected with, and, in my view, the most important, being the art of draining. Having recently, by fortuitous circumstances, been thrown upon a farm that was proverbial in the neighbourhood as having been worn out—but I am inclined, however, to think it more from the effects of water than from exhaustion by cropping, although the withering consequences of both are to be seen—I examined the land and moved on to it at midsummer, and in the autumn and spring following found the land, that is the principal part, completely flooded with water, and where, in the summer, every thing was thoroughly scorched and dry as tinder, being covered for the most part with *sedge and fog*.

The bearing of the valley in which the land lies is nearly east and west, and the hills on the north and south are pretty high, to the north quite so. Being anxious to take the most speedy and direct means for the renovation of the soil, and for its restoration to its primitive state of fertility, although naturally not very deep and fertile, yet capable of sustaining good crops: and from the many well-written essays on the subject of "draining," which I have, from time to time, read with close attention in "The Farmers' Cabinet," and from what I had conceived to be the philosophy of vegetation, I at once determined, in my own mind, that draining was the remedy to be applied, and thought it would be as easy in practice as in theory, but in that I was mistaken, for having no practical knowledge of the art, as I think it more an art than a science, I had not proceeded far before I was brought to a stand, as my practice did not seem to meet with or correspond to the theories I had seen laid down. I began to hesitate, and stopped that part of the work, thinking it possible that as most of the success in draining we have accounts of are in England, that the same process might not tend to the same result in this country, or rather in this particular instance; not that the climate or soil could make a difference, but the position in which the strata are found lying; for I find in almost all cases where we have accounts of draining, the strata are stated as lying nearly in a horizontal position, and by penetrating to the stratum of clay with a drain, would of necessity meet the water in its downward course, and cause it

to flow into the drain; whereas, if the strata of gravel and clay were found lying in a vertical position, what would then be the consequence? and that is the case in this instance of mine.

After digging the main drain down the declivity, for the purpose of leading the cross drains into it, I commenced a cross-cut above the point where the water issued, with a view of drawing the water from that point into the drain, and thus passing it off; but the effect was, that although when I cut the stratum of gravel, which I found to lie perpendicular, some water flowed into the drain, sufficient still sunk into the gravel to keep up a constant flow at the point below, yet not in so great a quantity. These are only what are called winter springs, and are perfectly dry in the summer. After that I turned my attention to a piece of low land, completely flooded the greater part of the year, and quite quaggy, so that in walking over it one would sink half-leg deep in mud and water, the surface being overgrown with rushes and coarse water-grass, the name of which I cannot give you for want of the knowledge which that invaluable paper of Dr. Darlington of West Chester teaches, "p. 75, vol. 6, Cabinet," together with the *aquatic* alder which covered the whole surface. There I have succeeded better, for having made the main drain up to a certain point, I then cut a cross-drain from it at a right angle, having sufficient fall to give the water an easy and gradual descent to the main drain, and by that operation, cut all the springs which had before found vent through the porous soil, being an alluvial deposit lying horizontally. In digging the drains, but more particularly the cross-drain, after going about two feet deep, we met with a stratum of coarse gravel intermixed with round stones, having the appearance of creek sand, which, I doubt not, was originally the surface, and where the water flowed for many years, through which we found an innumerable number of small pipes spouting up the water as through a sieve, and flowing beautifully into the drain. The alluvial soil, as before stated, about two feet deep, has, without question, been many centuries forming, for I found some large trees on the flat, which cannot, I think, be less than 500 years old.

I did not penetrate the gravel to any considerable depth, conceiving that the water, having vent at that place, would cut off the supply from the springs or reservoir, no injury could be done below, and still designing to extend the main drain further up, and again heading off the springs at a future day.

Now, Mr. Editor, I may excite the *risibles* of some of your readers by the remark, that the same process might not produce the same results in this country as in England: be it so:

I have no objection to a laugh at my expense if it has the effect to put me on the right track, and besides, I should consider the information *cheap*, for I would now be willing to hire a competent person at high wages for a few days, or even weeks, to examine the situation of the land, and direct the work with success. Whether an artificer, well skilled in the business of "draining," could find employment in this country I do not know, but if this statement should meet the eye of any one who will give directions, so that the work could be prosecuted with effect, from my attempt to describe the situation, and without seeing the land, it would oblige one, if not

MANY SUBSCRIBERS.

Manheim Township,
Schuylkill County, Penn., Jan. 13, 1842.

For the Farmers' Cabinet.

The Arabian Horse.

MR. EDITOR,—In a late work by Lieut. Col. Hamilton, "on the Natural History of horses," I find some remarks on the Arabian horse, which, I think it probable, you would wish to transfer to the pages of the Cabinet, now that they contain specimens of the most perfect individuals of the distinct breeds of these wonderful animals, and, I must add, done in the most masterly manner, having more the appearance of steel-plate engravings than of wood-cuts. The readers of the Cabinet are much indebted to all concerned in the publication of that useful work—will they accept the individual thanks of their subscriber,

T. W.

Lancaster Co., Pa.

"Although the Arabian steed might not be acknowledged by amateurs as perfect in form for exceeding fast going, no race is possessed of a more beautiful head, for above the eyes it is square, and below, the nose is smaller and more tapering than any other, the muzzle being fine, short, and adorned with wide and delicate nostrils. The eyes are very prominent, large and brilliant; the ears small, pointed, and movable, and the jaws and cheeks adorned with minute and swelling veins. The head is well set on the neck, which arches gracefully, and is bedecked by a fine, but sometimes rather deficient mane. The withers are high, the shoulders inclining and beautifully adjusted, the chest and body spreading out behind the arms, to give room for action to the lungs and heart, which are, in proportion, larger than in any other kind of horse. The limbs are remarkably fine, sinewy, and firmly jointed, the legs flat and clean, with pasterns rather long and flexible, so that, with an oblique position, they appear, when compared to the heavier European, not

quite so strong as is desirable; but considering that in stature these horses do not often exceed fourteen hands and three quarters, it is evident from the length of time they will carry a rider at great speed and under great restriction of food, and the number of years they endure, that, for their climate at least, they are fully competent to accomplish all that is desirable, and even execute tasks that are not always believed of them. The quarters of an Arab are deep; the muscles of the fore-arm and thigh prominent; the tail set on high, with a middling proportion of sweeping hair; the skin, on all parts of the body, thin, presenting veins above the surface, and the hoofs, rather high, are hard and tough. From the broad forehead and space between the ears, judges assert their greater courage and intelligence, which, aided by education and kind treatment, they certainly possess beyond all other horses; while in temper and docility none can be compared with them. And for sobriety these horses are equally remarkable; an Arab of the desert allowing his mare only two meals in the twenty-four hours. She is kept fastened near the entrance of the tent, ready saddled for mounting in a moment, or turned out to ramble about it, confident in her training, that she will, on the first call, gallop up to be bridled. She receives only a scanty supply of water at night, and five or six pounds of barley or beans with a little chopped straw, and then she lies down contented in the midst of her master's family—often with children sleeping on her neck or between her feet, no danger to any being apprehended or experienced. In the morning, if not wanted, another feed, and on some occasions a few dates and a little camel's milk are given, particularly when water is scarce, and there is no green herbage; or during an expedition, which admits of little or no respite; camel's milk being almost the only nutriment of the foals. Under this mode of training, these mares will travel fifty miles without stopping, and they have been known to go 120 miles on emergencies, with hardly a respite, and no food. A bet against time was won by an Arabian horse at Bangalore, in the Presidency of Madras, running 400 miles in the space of four consecutive days. This occurred on the 27th July, 1841."

Frozen Potatoes.

POTATOES that are frozen, if taken in that state and immersed immediately in *boiling* water, will be found as good and palatable as if untouched by frost. It is not the operation of freezing that deteriorates the potatoe, but the gradual thawing to which they are subsequently exposed.

For the Farmers' Cabinet.

Motto.

AND can it be that "the productions of the earth will always be in proportion to the culture bestowed upon it?" This doctrine I purpose to bring to the test of experience, for it is my intention to take sixteen acres of land only, near the city, which I shall divide in the following manner and cultivate in the way here stated, my object being to keep a breeding stock of hogs of superlative quality, and poultry of the very finest kinds. And, first, I shall make four divisions of the land, four acres in each, all surrounded by a single boundary fence; and on the first of these I shall plant oats early in the spring after an autumnal ploughing. The second portion will be devoted to roots—potatoes, beets, turnips of various sorts, ruta-bagas, cabbages, &c. The third, corn; and the fourth, clover. So my *rotation* of crops—of which we begin to hear so much—will be, 1, oats—2, roots—3, corn—and 4, clover. On the oat-stubble I contemplate sowing buckwheat so soon as the crop is removed; as also on that land devoted to the growth of turnips and beets, *before* they are sown, as there will be sufficient time for that crop to ripen and be removed, before the sowing of these commences. In this rotation, it is to be observed, there will be very little ploughing and working land, except for the crops of corn and roots; the clover-lay will be ploughed in the autumn for oats the next spring, to be sown and harrowed in without a second ploughing; while for the clover no ploughing will be requisite, as the seed will be sown and harrowed in on the corn at the last time of cleaning, with one ploughing only for the buckwheat. So that the ploughing for the year would be 18 acres only, viz. four acres oats, four acres buckwheat on the removal of that crop, two acres (a portion of the land designed for turnips) for buckwheat, four acres roots, and four acres corn. But by this course of management, a crop of oats, two crops of buckwheat, a crop of roots and cabbages, a crop of corn, and two movings of clover for hay or soiling, might be harvested every year from sixteen acres of land. The only two exhausting crops being oats and corn, the land might by this rotation be kept in perfect heart until the end of time, the manure being given to the corn, root and clover crops, and never to the oats or buckwheat.

And now for the expenditure of the crops on sixteen acres of land.

1st. The oats to be cut into chaff without threshing, for the autumn and winter food of two horses and a cow; but if too much for this purpose, a portion might be threshed and the oats ground and mixed with corn and cob meal, and cooked for hogs.

2d. The roots and cabbages will be cooked for the hogs.

3d. The corn will be ground with the cob for hog-feed, boiled with the roots; the stalks cut and boiled for horses and cow.

4th. The clover cut green for soiling horses, cow and hogs, or dried for hay.

5th. The buckwheat for sale. I should then have to purchase straw for the bedding of my stock, which I shall have no objection to do, charging it as so much money spent in the purchase of manure for the dressing of the land.

And now, as I mean to do justice to my land, ought it not to give me in return, say 200 bushels oats, 2000 bushels roots and cabbages, 600 bushels corn and cobs, 200 bushels buckwheat, and soiling for cattle, to the amount of 12 tons of hay the two crops? I have said that my intention is to keep a "crack" stock of breeding hogs and poultry, and to cook their food; but as there are two ways of doing things—a right way and a wrong—would some of your readers, who have had experience in these matters, inform me how I might accomplish my object to profit?

I was never more interested than with a passage extracted from the Quarterly Journal of Agriculture, inserted at p. 391 of the Cabinet for July 1841, "on the management of small farms;" but there is one observation worth all the rest; it is said, "The new system, keeping himself and family always busy and paying them well for their labour, enables him to sell fifteen dollars' worth of potatoes a year in place of spending more than double that sum in that article for the support of his family, as he had been wont to do;" and this springs from the new system of rotation, the green-food and soiling system.

It is my intention to keep a pair of horses, as I contemplate carrying much manure on to the land, and I mean that they shall be strong and active. I have ever considered it the height of folly for a man to keep a weak team; a small addition to the cost at first purchase would be the only consideration, the after expense being the same, with the means of doing double labour and keeping up with the seasons. But as my family is small, and as they have been accustomed of late years to sojourn in the city, I shall keep but one cow for the supply of milk and butter for the family, calculating that the less of dairy-work there is to do, the better it will be attended to; but I am quite convinced that one good cow, with such keep as I shall be able to afford her, will give three times the produce of those half-starved creatures which are so often found a disgrace to their owners.

Now, would our friends put these things together, and say if it be not quite possible

for a sober, industrious family of simple habits, consisting of a man, his wife, and two children, to raise the means of a comfortable maintenance on a farm of sixteen acres of good land near a market? J. MARSHALL.

Philadelphia, Jan. 21, 1842.

P. S. Should any one consider the above account of crops too highly estimated, I would refer them to Mr. Gowen's statement, at p. 88, vol. 5 of the Cabinet, where it will appear that they are by no means so. His field of roots on $3\frac{1}{6}$ acres being 2703 bushels, valued at \$778 60, the price at which he could readily have disposed of the whole.

Fattening Animals.

THERE are some rules which may be advantageously adopted in feeding animals, which, however obvious they may be, are too often passed over or neglected. Some of these will be specified.

1st. *The preparation of food.* This should be so prepared that its nutritive properties may be all made available to the use of the animal, and not only so, but appropriated with the least possible expenditure of muscular energy. The ox that is obliged to wander over an acre to get the food he should find on two or three square rods—the horse that is two or three hours eating the coarse food he would swallow in fifteen minutes if the grain was ground or the hay cut as it should be—the sheep that spends hours in making its way into a turnip, when, if it was sliced, it would eat it in as many minutes—the pig that eats raw potatoes, or whole corn, which, when cooked, could be eaten in one-quarter of the time now used, may indeed fatten, but much less rapidly than if their food was given them in a proper manner. All food should be given to a fattening animal in such a state that as little time and labour as possible, on the part of the animal, shall be required in eating.

2d. *The food should be in abundance.* From the time the fattening process commences, until the animal is slaughtered, he should never be without food. Health and appetite are best promoted by change of food rather than by limiting the quantity. The animal that is stuffed and starved by turns, may have streaked meat, but it will be made up slowly for the pleasure or profit of the food farmer.

3d. *The food should be given regularly.* This is one of the most essential points in feeding animals. If given irregularly, the animal indeed consumes his food, but he soon acquires a restless disposition, is disturbed at every appearance of his feeder, and is never in that quiet state so necessary to the taking of a fat. It is surprising how readily any

animal acquires habits of regularity in feeding, and how soon the influence of this is felt in the improvement of condition. When, at the regular hour, the pig has had his pudding, or the sheep its turnips, they compose themselves to rest, with the consciousness that their digestion is not to be unseasonably disturbed, or their quiet broken by unwonted invitation to eat.

4th. *The animal should not be needlessly intruded upon between the hours of feeding.* All creatures fatten much faster in the dark than in the light, a fact only to be accounted for by their greater quiet. Some of those creatures that are the most irritable and impatient of restraint while feeding, such as turkeys and geese, are found to take on fat rapidly when confined in dark rooms, and only fed at stated hours by hand. There is no surer proof that a pig is doing well, than to see him eat his meal quickly and then retire to his bed, to sleep or cogitate until the hour of feeding returns. Animals while fattening should never be alarmed, never rapidly driven, never be fed at unseasonable hours, and, above all things, never be allowed to want for food.—*Cult.*

Royal Victoria Vine.

THE following is a description of this splendid new variety of the black Hamburg, raised at Burscot Park, the seat of Pryse Pryse, Esq. M. P.

This grape is considered by eminent judges to be decidedly the finest black grape yet introduced, combining every admirable characteristic requisite in grapes. The berries, which are of a fine oval shape, measuring from three to four inches in circumference, are of an excellent flavour; colour jet black, with a rich bloom; the weight of the bunches from two to three pounds. It is a prolific bearer, and well suited for early vineries or green-houses, and is admirable for continuing in good preservation on the vine a long time when ripe. Specimens were exhibited at Stafford Hall, Chiswick, the last year, for which a silver medal was awarded; they have also obtained prizes at the other horticultural exhibitions. This grape is now introduced into this country, and will fruit the next year in the gratery of the Hon. T. H. Perkins, of Brooklyn.—*Hort. Mag.*

THE philosopher's stone is no longer a fiction—it consists in a large pile of manure, and lies concealed somewhere close by my farm-pen, my stables and my hog-pen; and the right way to work it is, to distribute it carefully at the proper season over your fields—its magic touch will turn everything to gold!—*Rev. H. Turner.*

For the Farmers' Cabinet.

Fruit Trees.

THE season for transplanting fruit trees being now near, it behooves those who are not amply supplied, both as to quantity and quality, to bestir themselves in this important matter, for a few weeks' delay at the proper season of planting is the loss of a whole year. Procure an assortment of the *best* apple, pear, plum, cherry, quince and peach trees, for it is attended with the same trouble and expense to cultivate inferior fruits, as it is to be furnished with the best kinds.

Be careful in planting to give the trees a fair chance for life and health by digging the holes in which they are to be set wide and large, so that they may be surrounded by loose earth, that can be easily penetrated by the tender fibres of the roots which are to convey nourishment for their sustenance and growth. A tree properly planted will grow as much in five years as one carelessly and badly set in will in ten; and often the chance of survivorship is dependent on slight circumstances.

An excellent plan for preventing young fruit trees from becoming hide-bound and mossy, and for promoting their health and growth, is to take a bucket of soft soap and to apply it with a brush to the stem or trunk from top to bottom; this cleanses the bark, destroys worms or the eggs of insects; and the soap becoming dissolved by rains, descends to the roots and causes the tree to grow vigorously. A boy can make this wholesome application to several hundred trees in a few hours. If soft soap was applied to peach-trees in the early part of April to remove or destroy any eggs or worms that might have been deposited in the autumn, and again in the early part of June, when the insect is supposed to begin its summer deposits of eggs, it is believed we should hear less of the destruction of peach-trees by worms. But the application should *not be suspended* for a single season, on the supposition that the enemy had relaxed in his hostility. Try it this spring, and communicate the result with all the circumstances.

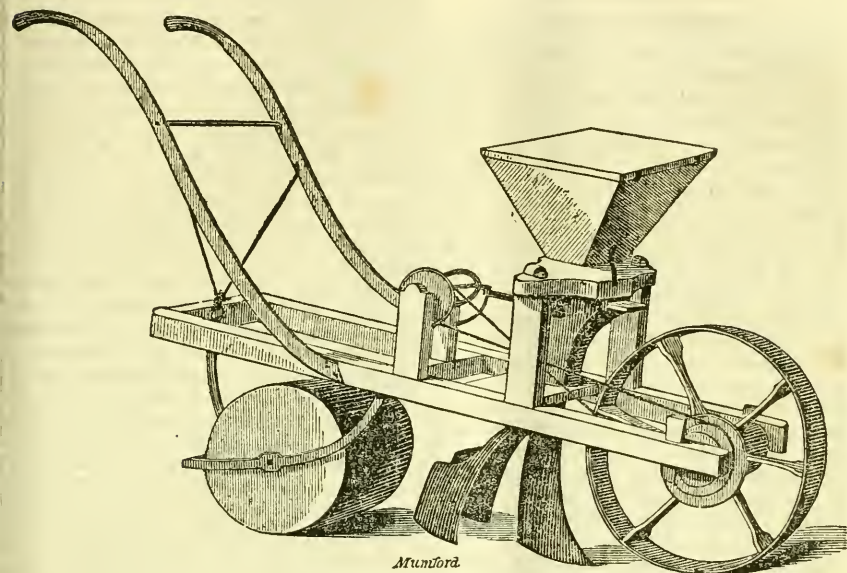
POMA.

Profits of Farming.

WE believe there are many farmers who take an incorrect view of the business of farming as far as its profits are concerned. They seem to suppose that what is sold from the farm is alone to be accounted profit, while no note is taken of what goes to the support of the family, or is invested in improvements on the farm. To give an instance, we will refer to a conversation we had with a farmer a few days since, a man worth some six or eight

thousand dollars, industrious and thriving but who complained that he is only able to raise in cash only some 3 or \$400 annually. As a contrast, he mentioned a friend of his who had about the same amount in funds that he had himself in real estate, and seemed to consider the interest his friend received as a clear profit on his capital, and the money so invested gave more income than the farm would. We knew that our farmer had a large family to provide for, and suspecting he had overlooked the cost of providing for them in his estimate of what he received from his farm, inquired how much he thought he should have left in cash, after maintaining such a family as his, from the sum his friend received as interest? He hesitated a moment and answered, Not a thing; his receipts would barely foot my bill of family expenses for one year; in truth he has little or nothing left after supporting his own.

So, we doubt not, it often is with the farmer. That which he and his family eat, drink and wear, that which goes to make the comfortable and respectable, because it is the product of the farm, the gift of a kind Providence, and the result of their own toil, is frequently overlooked by him in the estimate of the profits and loss of farming, and nothing counted but the cash which remains after expenses and outgoes are provided for. This is not treating the farm fairly. In one case the farm is capital, in the other the capital is the funds. That which goes to the support of the family is as much the product of capital in one case as the other, and in both cases should be considered as the profit; and if the farmer, after the maintenance of his family and defraying the expenses of labour, improving his farm, &c., has some three or four hundred dollars left to purchase more land and dispose of as he pleases, while his friend the fund-holder, has little or nothing left, surely cannot be reasonably inferred that the farmer's profits are least. Ay, but the farmer has to work for his profits, while the other lives at his ease. True; and here we suspect lies the great difficulty, and it is an error that should be corrected at once. The objection implies that it is disgraceful, unwholesome, or unprofitable to labour, supposition entirely erroneous. It cannot be disgraceful to labour in a country where every man is the architect of his own fortune, and makes or mends his condition for life; it is not unhealthy, the experience of the whole world proves; and as to profit, where can be found a class of men more prosperous, accumulating wealth faster than American farmers? Before the farmer concludes there is no profit in farming, let him look at the whole ground, and we think a different conclusion will be reached!—*Alb. Cult.*



JONES' PATENT IMPROVED SEED-PLANTER OR DRILLING MACHINE.

MR. JONES has deposited a drill at the office of the Cabinet, and reports that he is now prepared to manufacture and sell, upon reasonable terms, his newly invented and improved machine for planting corn, peas, beans, broom-corn, sugar-beet, ruta-baga, onion, or any other kind of seed which can be planted with a drill. With this machine one man will be enabled to perform the labour of five or six, dropping any desired number of seeds at a time at any depth or distance required, with great accuracy. It is very compact and durable in its construction, and if carefully used will last a lifetime.—ED.

Directions for using.—Before the seeds are put into the hopper, they should be carefully cleaned, or there will be danger of the dirt or pieces of pods filling the cells in the slide, thereby preventing the seed from dropping regularly. Sugar-beet seed should be well rubbed in a wire sieve, which will separate much dirt, and make them more smooth and regular. Then, for planting any particular kind of seed, insert the wooden slide labelled accordingly into the guides, and raise or lower the rest-plate by means of the thumb-screws, until it touches the bottom of the slide, but leave it sufficiently loose to allow it to vibrate freely. Next, determine the *distance* which you wish to drop the seed, by changing the band on to the different pulleys, and the *depth*, by raising or lowering the roller, by means of the screw at the rear of the machine. The roller also serves as a fulcrum for raising the propelling wheel from the ground when the motion of the slide is wished to be stopped; or as a pivot on which to turn the machine at the end of the rows. The cover behind the plough can be raised or lowered at pleasure, so as to throw more or less earth on the seed. The *keys* at the fore-part of the machine, are designed for moving the propelling-wheel ahead, and thus to tighten the band if it should be too slack on changing from one pulley to another. Care should be taken to keep all the parts which are subject to friction, well oiled.

State and county rights will be sold on reasonable terms, or orders for machines will meet with prompt attention, if addressed to the subscriber, at Camden, New Jersey.

JOSEPH JONES, *Patentee.*

Camden, N. J., Jan. 18, 1842.

For the Farmers' Cabinet.

Berkshire Hogs.

An article in the last Cabinet, under the caption of Berkshires, and containing so very unfair a judgment on the merits of that invaluable breed, over the signature of R. S. B., Northampton Co., together with the severe strictures of G. H. D., where the Berkshire mania, so called, is classed with the humbugs of the day, seem to make it proper for their friends, if they have any left, to protest against their being thus unceremoniously killed off without benefit of clergy. Indeed at this time, when, with the versatility peculiar to American character, the agricultural press is teeming with anti-Berkshire essays, condemning in louder tones than ever were uttered in its favour, the whole breed, as a merino sheep, multicaulis humbug, it might seem almost presumptuous, even in one who has tried them, to endeavour to stem the torrent. It seems unfortunate that, on the introduction of any thing new either in agriculture, science, or the arts, in the thermometer of public opinion, the mercury, starting at zero, must rush up immediately and rapidly throughout its whole range, and all the way back to the starting point, and even below it before it finally attains its proper state of quiescence. Particularly on the introduction of a new breed of animals, we seize on them with great avidity from the mere novelty, invest them with extravagant and supernatural qualities, proclaim the wonderful things they *are to do*, and when at last they fall short of these calculations, the whole affair is pronounced a "merino multicaulis humbug." From being placed in the first instance far above their merits, they are next placed far below them. This, in the United States, is always the *modus operandi* of introducing new breeds of stock to farmers, who, after passing through the high-fever stage of heavy profits, and down again to the cold or collapse, at last finally settle in a medium temperature, and give to the new breed whatever is its just value. To this process Berkshires must submit. R. S. B., in the communication referred to, does not make the true issue. He says one of his neighbours put up two Berkshires and two common hogs in a *stable* to feed, and that the common ones outweighed the others. This is very probable, but does not prove the main point, *that the Berkshires did not return the greatest weight for the quantity of food consumed.* Berkshire breeders do not contend that *generally* they attain such great weights as other hogs, but that a given amount of food will make a greater quantity of pork; that if it does not feed such large hogs, it will feed a greater number. I have so fully satisfied myself of

this point, that, although owning some very fine ones of the Chester Co. breed, I have killed them off, and intend keeping none but the thorough-bred Berkshire. At a 12 months old they will weigh from 200 to 260 lbs., being ready for slaughter at any period of their growth, and requiring at last a few days' feeding upon corn to harden the meat. The shape of the true Berkshire is perfect, forming the beau ideal of a perfect animal; the bone fine, the head and all the offal parts very small, the most valuable parts the hams and shoulders, full, round and large. Occasionally it is admitted that they have not sufficient depth, but this is only an exception. Where it occurs, the owner may remedy it by careful selection. This cannot be made a valid objection, for there is no breed however pure or perfect of any animal but that something must depend on the judgment and talent of the breeder to keep the breed and to remedy any occasional or inherent defect. Something approaching the barrel form must of necessity accompany the quality of easy feeding. In regard to size, the farmer here who feeds a few every fall for Philadelphia market, besides what is wanted for home consumption, find that a hog weighing from 150 to 250 lbs. is the most saleable and brings the best price. The Berkshires make the weight wanted for family use. Whether in Northampton county, where grain is lower than here, they cannot *afford* to waste it on large consumers, who will carry to market a greater weight and size, is for him to say. Another characteristic of the Berkshire is the superior quality of the meat. In this at least there is no mistake. Berkshire hams are well known in Philadelphia for their superior flavour and richness. They are remarkable for being free from fat, and are no less known by their handsome rotund shape, than by their tender and juicy qualities. A slice of Berkshire ham, properly cured, is a dainty morsel appreciated by a connoisseur. Another recommendation is the great fecundity of the breed, producing from 8 to 15 at a litter, and the fact of their being most excellent nurses. A most unaccountable mistake, R. S. B. objects to them on this very head, and says they are not prolific, that four of his neighbour's sows had but one each, and that generally they have but four or five. I have raised Berkshires for several years, have sold numbers of them not only in this neighbourhood but to gentlemen at a distance, and as far as my experience and observation go, would say they are not more noted for their *black* color than for their success in safely rearing a fair average number.

The true question then at issue, at least in this section of country, is, *what breed of hogs will return the greatest weight for the*

quantity of food consumed. Here lies the profit more than in the individual weight. Small, well-made animal may bring more money to the farmer, than one of twice his size, from the difference in the fattening property. It is generally admitted that very large animals are not profitable. They may grace the columns of a paper, and gratify those who have a penchant that way, without regard to the expensive process, but they will not suit the common farmer. I once was reproached with this desire to feed a large hog; I purchased of a breed well known for attaining immense weights, but was completely cured. I weighed between five and six hundred, and consumed as much food as I am since satisfied would have fattened double the weight of Berkshires. It is a satisfaction to see the early friends of the Berkshires, to observe that public opinion in respect to them has passed through the collapse state; that whether the pure breed exists, prejudices even against colour are rapidly dying away; and that they are slowly but surely creeping into favour, and earning the emphatic appellation of the farmer's hog. One thing undoubtedly which has retarded and still retards their reputation is the vast number which, since they were first introduced, have been palmed off as genuine Berkshires, having very little if any of that blood. The cause of this is to be found in the high prices at which they were sold, \$30 and \$40 per pair, and the absurd mode for testing purity, that they must be precisely of a certain shade of colour, having so many white feet, and so many white hairs in the tail; thus inviting imposture, and inducing persons, wherever they could obtain these animals, which often appertain to a half or three-quarter blood, as well as to the full blood, to pass them for genuine Berkshires. A cross for the purposes of speculation has, no doubt, often been founded on very inferior stock. The true Berkshires have thus been made to bear not only their own burdens, but have been charged with the sins of a whole herd of worthless mongrels. However breeds may be denoted by certain external marks, whether of colour or shape, no rule for all cases can be invariably established: there will occasionally be exceptions. Durham cows generally run into light colours, and it is more absurd to say that Berkshire pigs are not pure on account of their feet or colour, than to condemn a Durham cow which happened to be of a red colour, or had a dark eye.

P. M.

East Bradford, Chester Co., Pa.

The man who is attached to the soil will endeavour to make it better, instead of wearing it out, with the view of leaving it "year after next."

Wintering Sheep.

It is commonly considered more difficult to winter sheep, than most other domestic animals, and this is doubtless true to a certain extent. But in nine cases out of ten, the want of success is owing to bad management, which is generally misnamed *ill luck*. Sheep, in order to bear the winter well, should first of all be prepared for it, by being kept in good condition at the commencement. About the first of December, instead of being left to roam over the fields, to obtain food from the scanty herbage, they should be entirely fed on the preserved growth of summer. Little nutriment can be found in grass at this season—besides, what now remains should be left to prepare it for an early and vigorous growth in the spring.

There is one subject which has as yet received little attention from our farmers—it is that of providing suitable sheds for the protection of sheep from the winter's cold. Now we are aware that many farmers consider this as wholly unnecessary, and believe that sheep, with their thick coats of wool, would be no more benefited by shelter than the down-clad animals of the arctic regions. But this is a great error. Who has not observed them, on approach of severe weather, carefully seeking what feeble protection they could obtain from the storm by the side of stacks, or under open fences? Would they do this if it did not contribute to their comfort? Certainly not. Whatever, therefore, contributes to their comfort, demands attention, and whatever causes suffering to them, should be carefully avoided.

But by constant exposure in open fields to storms and snow, they are almost constantly suffering in a greater or less degree, throughout the long months of winter. In those countries of Europe which grow large quantities of the finest wool, strict attention is given to this subject, and sheep are not only sheltered every night, but whenever the weather demands it during the day; and this is said to be essentially necessary in preserving the quality and fineness of the wool.

It is a mistaken notion that water is not necessary for sheep; the fact that they always drink when it is supplied to them, proves that it is needed for the performance of the animal functions to which it is as requisite as in other animals. Experience has also proved the correctness of this.—*West. Far.*

EVERY substance which swims on water displaces so much of the water as is exactly equal to its own weight; but when a substance sinks in water, it displaces water equal to its bulk.

For the Farmers' Cabinet.

Murrain in Cattle.

WE have sad accounts from England respecting the fatal disease which is carrying off their cattle by hundreds, and think that Mr. A. B. Allen did wisely in abstaining for the present from bringing over any horned cattle. It is said the veterinary surgeons term the disease the bloody murrain, and consider it infectious: now I know not how this can be, for amongst the very many cases that I have witnessed, I have never been able to convince myself of that fact. It is true that to a casual observer it may have the appearance of being so, for the cattle in a large pasture, or even in a whole parish or hundred, will oftentimes be attacked by it, and the disorder will spread abroad like a contagious fever, but I have no doubt the evil arises from a disordered state of the digestive organs, brought on by an unwholesome state of the atmosphere, or by feeding on unhealthy pastures, those low, cold and damp meadows, infested by aquatic plants, which, being taken into the stomach, become putrid and indigestible; and thus that noisome and putrid disease is engendered. For I have known one half the cattle upon a certain farm to be carried off by it, while not a single case has occurred on the immediately adjoining estate, but on the next farm again to that, the whole herd has been swept away; and just so have I observed the produce of their pasture lands to vary from dry, sweet and healthy herbage, to that which is long, moist, sour and unwholesome. And I am inclined to believe that the murrain in cattle, like the botts in horses, may be considered an *effect*, rather than a *cause*, both disorders arising, perhaps, from an unhealthy state of digestion, by which is engendered a disease, which, although it must be termed epidemic, might not be by any means infectious; indeed I well remember a dairy of fine cows which was thinned to less than one-half its original number, where the individuals were attacked by the disease on being confined to their winter quarters, the occupants of stalls 1, 3, 4, 6, 8, 10, &c., being carried off, while the intermediate numbers escaped uninjured, and remained in perfect health.

But to many persons it will no doubt seem strange to consider the origin of two disorders, so very different in their appearance, symptoms and effects, as the botts and murrain, as arising from the same cause, namely, indigestion, but as I conceive that they are engendered by a disordered state of the stomach caused by sour and unwholesome food, and that they might both be cured, or which is better, be *prevented* by timely administration of a medicine, alkaline in its nature, I

believe that reason will bear me out in conclusion to which I am partly led by perusing an article on this subject in the *Cabinet* vol. 4, p. 177, where it is said—quoting the *American Farmer*—“Some years since I purchased a horse, but he had the appearance of labouring under disease; I commenced a course of treatment which I had before used in cases similar to appearance, but without effect; I was therefore induced to try the use of *lime*, as I was confident he was infested with botts, for he had discharged several botts, therefore commenced by giving him a teaspoonful of slaked lime three times a week in bran mashes. After pursuing this course for near two weeks, the botts began to pass away in quantities, varying from ten to twenty, which he would expel from his intestines during the night; in the mean time his appetite began to improve, and in six weeks he was one of the finest geldings I ever saw. From that day to this I have kept up the use of lime amongst my horses with decided benefit; and as an evidence of its good effects I have not lost a horse since I began to use it. And lime is a certain preventive in keeping cattle from taking the murrain. As an evidence of this fact, I have used it amongst my cattle three times a week, mixed with salt, for three or four years, and in that time I have not lost a single animal by this disease; but in the mean time some of my neighbours have lost nearly all the cattle they owned. But I will give a stronger case than even the one above mentioned. One of my neighbours who lost all his cattle, had a friend living within two hundred yards of him, who had several cattle which ran down with those that died, and his cattle all escaped—he informed me that he made it an invariable rule to give his cattle salt and lime *every morning*. I have, therefore, no doubt but salt and lime are a sure and infallible remedy for botts in horses and murrain in cattle.”

And I am reminded of a circumstance mentioned by a friend, who has often before mentioned to me, that he had two fields of pasture near his house, on one of these he spread lime upon the surface to the amount of more than 200 bushels per acre, but as the other field lay immediately below his cattle-yard, from whence he formed drains to carry the water over its surface in the most complete manner, he determined to let that suffice for a dressing; the effect of the highly impregnated water from the yard was a growth of grass truly astonishing. Both fields were kept in pasture, and when the stock had eaten one of the fields down, they were removed to the other, so changed regularly about; but the effect of the different crops on the appearance of the stock, horses and cattle, is not to be

pressed, for while feeding on the limed land their coats were close, shining and healthy, and their spirits light and cheerful, even when they were compelled to labour hard to obtain a belly-full; but when turned into the watered grass, six inches or more in height, a difference for the worse could be perceived in 24 hours, and every day after they lost condition amidst the greatest abundance, with coats rough and staring, lax in the bowels and flaccid, with distended paunches, dejected countenances, and sluggish in their movements: they soon exhibited a depreciation in value to the amount of about half their former worth. But the transition to health and vigour and good looks was quite as sudden and apparent on a return to the limed land, for again in 24 hours, or by the time the food had passed through the system, a change, particularly in their air and carriage, was very perceptible. My friend adds, he never had an instance of the murrain or botts while his stock fed on these pastures, but is satisfied he should have had both, but for the change to the limed land; for while feeding on the watered pasture, the stock had always the appearance of a predisposition to that state of derangement of the digestive system, by which he has no doubt these diseases are engendered.

In conclusion, I would ask, is it not quite fair to draw the following deduction from what has been said, namely, that all dairy pastures ought to be heavily limed, it being the most natural thing in the world to suppose that a proper secretion of milk, the best and most wholesome, depends very much on the nature of the food with which the animals are fed? and must not the butter from a cow that is in health and spirits be of better flavour, colour and consistence, than that from one that is lax, washy and weak, from feeding on watery, acid and soft herbage? and will not this account for much of the disgustingly rancid, ill-flavoured and ill-looking butter which we so often find in the market? My friend above quoted, and who is now at my elbow, answers "Yes; for while my cows fed on the watered meadow, the butter was scarcely eatable—white, soft and ill-flavoured, but it was sweet, firm and fine-flavoured when they were confined to the limed land." Ergo, lime your pastures, and allow your stock as much salt as they will consume daily, for I am convinced that lime and salt are a remedy for "botts in horses," as well as the "murrain in cattle."

VIR.

No high improvement in the agriculture of any country can take place, whilst the spirit of emigration is abroad, and the population a floating one: the farmer should have a fixed and abiding attachment to the soil.

For the Farmers' Cabinet.

The Span or Rafter Level again.

THE span, or rafter level, as its name denotes, resembles in appearance a pair of rafters with a collar-beam framed across them. It may be made much in the same way, with some extra bracing, of white-pine or any other light and stiff wood, not much subject to spring or warp by exposure to the weather. The span of the feet may be of any desirable length, but from 12 to 16 feet is generally considered the most convenient, particularly if it is to be much used in making drains. The joints should all be well fastened together with wood-screws, and a small screw may be inserted on each side near the apex or peak of the instrument. As any carpenter, who can frame a pair of rafters, can readily make one, it is thought unnecessary to give very minute directions concerning this part of it. To fit it for use, place the instrument on any smooth surface, a piece of sawed timber for instance, laid as near level as can be judged by the eye, and mark the place occupied by each foot, then hang a plummet from the screw near the apex, and holding the instrument in such a position that the plummet line may just swing clear of the face of the cross-piece. When the plummet has come to rest, mark the place where the line crosses the cross-piece with a lead-pencil, then reverse the feet of the instrument, placing them exactly in the marks on the timber, and mark the point where the plummet-line now crosses the cross-piece. Then with a pair of sharp-pointed compasses divide the space between the lines into two equal parts, on this division make a mark with a fine saw or other suitable instrument, and efface the pencil marks; then raise one foot of the instrument until the plummet-line falls exactly on the line last made on the cross-piece. Both feet of the instrument will now be in the same level or horizontal line, and by hanging the plummet-line on the other screw, a mark may be made on the other side or face of the cross-piece, and the instrument can be used with the plummet on either side as most convenient. It may be here remarked that if, on reversing the instrument as above directed, the line coincides with the mark first made, it shows that the surface it stands on is level and that the work is done except marking it permanently.

The instrument is now a span or rafter level, and in using it, whenever it is so placed that the plummet-line coincides with the mark on the cross-piece, the feet will be in the same level line, and whatever it requires one foot to be raised to make it so coincide, so much is the surface or points on which they rested out of level. The instru-

ment will be found very useful in digging cellars, laying out the foundations of buildings, and a variety of other purposes that will readily suggest themselves to every farmer. It differs in form, but not in principle, from the common level board of the carpenter. Its only advantage is in combining greater strength and stiffness with less weight of materials. To fit it for the purpose of giving a slope to a drain, or for any similar purpose, place it so that the plummet-line shall coincide with the mark on the cross-piece, then place a block, say an inch thick, under one of the feet, and mark the place the line crosses the cross-piece; then add another inch under the same foot, and mark again, repeating the operation as often as may be thought necessary. Now take out the blocks and go over the process again, by placing them one at a time under the contrary foot, and making the necessary marks on the cross-piece. The lines should then be numbered, 1, 2, 3, &c., from the middle one. It must be evident from the construction of the instrument, that when it is so placed that the plummet-line falls on mark No. 1, or that nearest the middle one, that the end of the instrument which is then nearest the plummet-line will be one inch lower than the other—when on No. 2, two inches, &c. And also, in using it, as drains are usually cut in the ascending direction, the plummet-line must be made to fall behind the middle mark, to give them the required rise or slope. The instrument, if marked on both sides of the middle line, can be used either end foremost. If the span of the feet be made 16 feet 6 inches, or one perch, and the lines marked as above, the plummet-line resting on No. 1 will give a fall, or rise, of one inch to the perch, or 26 feet 8 inches to the mile—when resting on No. 2, two inches to the perch, &c. And if the span be made 12 feet 4½ inches, or three-quarters of a perch, and the blocks used for raising the feet in marking be made three-quarters of an inch thick, each of the lines will show the same fall as above. Fractional parts of an inch may be found by dividing and subdividing the spaces between the lines, or by using blocks of the proper thickness.

The instrument as above divided will serve to show the fall in certain proportions to a given length, but there are many cases in draining where these relative proportions do not exist on the ground. Thus, the above lines and their subdivisions would show a rise or fall of 6 feet 8 inches, 13 feet 4 inches, or 26 feet 8 inches to the mile, and sundry others, by various additions of them together. Now, if the fall of the ground were found to be any number of feet and inches between these, it could not be properly proportioned in the drains by the use of the above lines.

A ready method to obviate this difficulty, and fit the instrument to meet every case, would be to make the span of it 12 feet 6 inches, or the one-eighth part of 100 feet; then ascertain the number of inches of fall there is in 100 feet (in the directions of the drain) of the ground to be drained, and for every inch thus found, let one-eighth of an inch be allowed to the block used in raising the feet of the instrument when making the slope marks; or let the block be as many eighths of an inch thick as there are inches of fall in 100 feet. Thus, if the fall in 100 feet be 6 inches, the block must be six-eighths or three-quarters of an inch thick; 7 inches, seven-eighths; 8 inches, 1 inch, &c. In such cases, the lines on the instrument (except the middle ones) should be made with a lead-pencil, or red chalk, so as to be readily effaced when they are done with, and it becomes necessary to make others. By making the instrument of this length, which we believe will be found more convenient in using than any other, it can by the above method be at any time, in a few minutes, adapted to any case that can occur.—The principle upon which the whole rests being simply to find the fall of a portion of the ground to be drained, or drain to be made, equal in length to the span of the instrument, and to apply a block in making the marks equal in thickness to that fall. But to ascertain this fall, free from the errors occasioned by small undulations in the ground, considerable lengths must be taken, say not less than 100 feet, which must afterwards be divided into such lengths as will make a portable instrument. For finding the difference in level between distant points, the span level is not the most appropriate instrument. Some remarks I have to make on this branch of the subject I must defer to another occasion.

In giving the foregoing description of the Span Level, and the method of adapting it to be used as a slope instrument, it is not supposed that the subject is exhausted, or that other forms and methods might not be pointed out; the object being to explain and illustrate in as plain and familiar a manner as possible, the principles on which the instrument is constructed, and the method of applying those principles to practice. For this purpose, methods and measures plain and easily comprehended by all have been used at the risk of being thought tedious and common-place. The subject is a very plain and simple one in itself, yet there are a vast number who are not familiar with it; and that there are many others who but imperfectly understand it, we need not go further than the pages of the Cabinet to determine. It is for the benefit of these, and not for the wise or learned, that I am now writing.

For the Farmers' Cabinet.

The Cut-Worm.

My corn has been almost totally destroyed several times by the depredations of the cut-worm; in fact, their ravages have become truly alarming. I have resorted to various expedients to avoid this great evil, but have observed that the lands ploughed in the fall, the winter, and the spring, both in the same field and in different fields, to suffer equally by the mischief occasioned by the cut-worm. I flatter myself, however, with the belief that I have at length discovered a remedy for this scourge, which consists in mowing the crop—not feeding it. I commonly mow for hay in the sixth month, and again in the fall for seed; then, early the next spring, I plough up the same field for corn, and have never known a piece of land thus prepared to be attacked by the cut-worm. One close mowing in the eighth month may probably answer the same purpose; but of this I am not so positive. In the few cases which have come under my notice, however, the plan seemed to answer. Now, I am not prepared to offer any reason for the success of this plan: it may be that the egg of the fly being deposited on the high grass, is carried with the hay into the barn; or it may be destroyed by the scorching rays of the sun on the removal of the crop; or the fly may seek other fields better adapted to their purpose than that which is fresh mown. I expect to make farther observation respecting this very interesting matter, but wish the reader of the Cabinet to know all that I know about it at present, and to profit by the information if they will.

I would be very glad if authors would affix their names to every article published in the pages of the Cabinet. Come, friends, don't be ashamed of your productions; it is very desirable that we should know where the writer of an article resides, and also his name; this is, in many cases, indispensable, in order to be able to appreciate the value of his communication.

MICAJAH T. JOHNSON.

Short Creek, Harrison Co., Ohio, 23d of 1st mo. 1842.

Green Corn.

MR. EDITOR,—The lovers of green corn (roasting ears) in my neighbourhood, are sadly annoyed by an evil for which I would ask of your intelligent readers a remedy. When the green corn is pulled and the husk stripped off, behold! an ugly *green or grey worm*, from half an inch to two inches long, which has been devouring the corn all around the top of the ear, sometimes up and down the whole length, greatly injuring its value, and presenting a very offensive and unpleasant

spectacle. I have seen our market full of early corn in July, and almost every ear disfigured in this way; upon examining the ear, there will generally be found a little hole perforating the husk, through which the worm made his ingress, or where the husk was punctured by a bee or insect, for laying an egg, and thus producing the worm. Will some of your readers inform us, in your next, how this *loafer* may be expelled, or his ravages prevented? LATITUDE 39.

Pennsylvania Statistics.

By the returns made to the national government we learn that there are 30 powder-mills in this state, manufacturing about 1,200,000 pounds annually. Drugs and medicines, to an amount exceeding two millions of dollars, are manufactured. There are 25 glass-works, 182 potteries, 20 sugar refineries, 87 paper manufactories, employing about 800 men; 39 rope-walks, 736 flooring-mills, 2554 grist-mills, 4359 saw-mills, 118 oil-mills, 346 fulling-mills, 235 woollen factories, 109 cotton factories, 950 people employed in raising tobacco, 1170 tanneries, 1010 distilleries, 87 breweries, 16,328 gallons of wine made, 213 furnaces, 365,127 horses, 1,767,620 sheep, 1,503,964 swine, 11,522 men engaged in mining operations, 13,213,077 bushels of wheat, 100,000 bushels more than raised in New York.—*Philadelphia Gazette.*

To a Land Tortoise.

Guid mornin' frien', ye're early creepin',
Wi' head erect about ye peepin',
And steady gait ye always keep in,
Aye sure and slaw,
I doubt the time ye tak' to sleep in
Is unco sma'.

Your crawlin' pits me aye in mind
O' turtles o' the human kind;
How many crawlers do we find
Mang sons o' men,
Wi' thoughts unto the earth inclined
Until the end!

Ye'd live a hunder years they say,
An' mony a weary mile ye gae,
An' mony a hunder eggs ye lay,
Ye queer auld beast,
Whilk gies the snake, your mortal foe,
Fu' mony a feast.

Ah! now ye've shut yoursel up tight—
Ise think ye're in an awsome plight,
At seeing such an unco sight
As my queer face;
Gang on your gait—I'm na the wight
Wad harm your race!

Aiblins, I might, for fun or fame,
Just carve upo' your hard auld wame,
The twa initials o' my name,
An' whan I met ye,
Whilk done, nae ither right I'd claim,
Than down to set ye.

But fare ye weel! I now manna leave ye,
I ken my absence will na grieve ye;
Wi' jingling Scotch I'll na mair deave ye,
An' ither too.
So, ance for a' I freely gie ye
A lang Adieu!

Preserving Grapes.

At the meeting of the Philadelphia Agricultural Society, on the 2d inst., Mr. James Gowen made his annual present of a basket of grapes, of the Isabella, Catawba, and Blond species; they were in the highest perfection, and full of fine juice. The mode of preserving them is extremely simple, notwithstanding the mystery on this subject to which some pretend. It is thus:—a floor is made between two joists in the cellar, and the space filled with grapes and fine wood shavings; the ends are closed with moveable boards.

Agricultural Society of Newcastle Co., Delaware.

At a meeting held at the City-Hall, on the 22d of January, the following resolutions were submitted by the President, Dr. J. W. Thompson, which were read, and unanimously adopted:

Resolved, As members of the Agricultural Society of New Castle county, and citizens of an extensive manufacturing community, that we view with interest and high satisfaction, the strenuous efforts now making by many American citizens in different parts of the United States, to give a preference, hereafter, in their purchases, to the products of their own soil, the wares of their own mechanics, and the fabrics of their own manufactures over those of foreign importation.

Resolved, That as farmers producing bread stuffs for consumption, and numerous raw materials for the manufacturer, that it is our policy, as well as but sheer justice to our mechanics and manufacturers, who purchase a large proportion of our surplus agricultural products, to buy in return their manufactured goods now made in this country, of equal finish, and surpassing in durability most of those pouring in upon us from abroad—draining us of the precious metals, deranging our currency, and involving the nation in debt.

Resolved, That this Society respectfully recommends to its members, the more effectually to encourage *home Industry, home Products, and home Manufactures*, that they unite, from this time forth, and determine to use for their families, as far as practicable, such fabrics only as are of American growth and manufacture. Deeming it a high duty, and an ambition well becoming a free and independent people to be clad in the home-made cloths of their own country, and consume the food which their own fertile fields and varied climes produce in rich abundance everywhere, thus establishing a valuable home-trade among ourselves—diffusing and equalizing wealth among all classes, and laying deep the foundations of national prosperity and independence.

Resolved, That we cordially unite in the views of

those of our countrymen who are forming "Home Leagues" or associations to carry out this national project, and not desiring to confine the benefits and operation of such an association to the limited sphere of this Society, but anxious to bring within its influence every citizen of New-Castle county—therefore

Resolved, That a committee of twenty be appointed at this time, to invite the co-operation of all our fellow-citizens favourable to the formation of a "Home-League" in this county, for the protection of American labour and home-products; and that this committee be requested to call a county meeting at the City-Hall, on the 22d day of February, the birth-day of the Father of his Country, as a time peculiarly appropriate for the commemoration of so good a work, and the adoption of so important a measure—whereupon a committee was appointed.

SAMUEL WOLLASTON, *Secretary*.

Philadelphia Society for Promoting Agriculture.

At an adjourned annual meeting, held Feb. 2d, 1842, Nicholas Biddle, president, in the chair, thirty-three members present,

The following gentlemen were elected officers for the ensuing year:

President,

N. BIDDLE;

Vice-Presidents,

DR. JAMES MEASE, and

AARON CLEMENTS;

Secretary, in place of K. Smith, resigned,

PHILIP PHYSICK;

Assistant Secretary,

P. R. FREAS;

Treasurer,

A. S. ROBERTS;

Librarian,

JAMES PEDDER;

Curators,

JAMES GOWEN, and

J. W. ROBERTS;

Committee of Correspondence,

CHARLES ROBERTS, and

JOHN C. MONTGOMERY.

Extract from the minutes,

K. SMITH, *Secretary*.

The quantity of rain which fell during the 1st month (January), 1842, was 1.346 inches. Pennsylvania Hospital, 2d mo. 1, 1842.

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DEVOTED TO

AGRICULTURE, HORTICULTURE, AND RURAL AND DOMESTIC AFFAIRS.

"The Productions of the Earth will always be in proportion to the culture bestowed upon it."

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For the Farmers' Cabinet.

Magnesian Lime, No. 2.

At page 276 of vol. 5 of the Farmers' Cabinet, in a short extract from the "General Report of Scotland," it is stated that "it had been long known to farmers in the neighbourhood of Doncaster, England, that lime made from a certain stone, and applied to land, often injured the crops considerably. Mr. Tenant, in making a set of experiments upon this peculiar calcareous substance, found that it contained magnesia, and on mixing some calcined magnesia with soil, in which he sowed different seeds, he found that they either died or vegetated in a very imperfect manner, and the plants were never healthy; and with great justice and ingenuity he referred the bad effects of this peculiar limestone to the magnesian earth it contained. Yet it is advantageously employed in small quantities, seldom more than 25 or 30 bushels per acre."

Mr. Tenant's account of his experiments first appeared, we believe, in the Philosophical Transactions of England, and we know not that it ever appeared in any other form. It is certainly not in very general circulation. We cannot say, therefore, how extensive, varied and accurate the experiments may have been. But it is from such vague, loose and indefinite accounts as the above, that we are called upon to swallow the whole doctrine and all its consequences—head, horns and all, without making a wry face, and that too in opposition to a host of proofs of its utter fallacy, derived from one of the most extensive and decisive experiments ever made in agriculture.

But leaving Mr. Tenant's account of the matter out of view for the present, let us examine that which the advocates of the doctrine it was intended to support have vouchsafed to give us. They tell us that he mixed *ome* calcined magnesia with the soil (but hey do not tell us how much), and found that seeds sown in it either did not come up

at all, or if they did, did not grow vigorously. Well, we grant that they did not. What then? Does it necessarily follow that magnesia is destructive to vegetation? Suppose he had mixed pure lime, or even pounded chalk, with his earth, everybody knows, or may easily ascertain, that if an undue proportion of either were used, his plants would have withered and died, the same as they did in the magnesian mixture. Would it not then be just as philosophical to assert that lime was in the latter case injurious to vegetation, as that magnesia was in the former?

Here then appears but a single unvaried experiment, with an attempt to build a very important theory on the narrowest possible foundation of fact. And never has a hastily-formed or unsound theory been more signally overthrown by subsequent experience. Instead, therefore, of saying that it was just and ingenuous to refer the injurious effects of the lime in question to magnesia, we should rather say that it was a hasty and unjust conclusion, and would never have been put forth by one acting under correct views of the requirements of the inductive philosophy.

But it is not against the possibility of the injurious nature of the Doncaster limestone, or of the correctness of Mr. Tenant's experiments, for we care not a straw whether they are correct or otherwise; but it is against the broad doctrine of the deleterious nature of magnesian lime in all its forms, attempted to be deduced from them, that we contend. It is against the senseless repetition of this doctrine, unsupported as it is by any subsequent experiments, by every unfledged agricultural essayist, or every enthusiastic builder of plausible theories, that we enter our protest. Agricultural publications are extending in circulation every day, and are beginning to be looked up to as sources of correct information. It is of importance, therefore, that theories diametrically opposed to every day's experience should not be reiterated in them again and again, without attempts being made to show their utter fallacy. Lime, in some parts of our country, is a very costly article for manure, owing to the expense of carriage. A young farmer in one of these has a poor exhausted farm. He sees in the Cabinet and other publications lime highly recommended as a manure, but he also sees essays profess-

edly written by practical men, wherein it is repeatedly set forth that all magnesian lime is deleterious to vegetation, and that each one whose liming has not answered his expectation, refers his disappointment to this cause. He takes up the reports of the different geological surveys lately made in this country, and learns from them, as well as the pages of the Cabinet, that a very large proportion of the limestones of our country are magnesian, and many of them highly so. Would not such a person probably reason thus:—I am very poor as well as my land. This lime is a very expensive thing. I shall probably get of this bad kind, as I am no judge of the article. I shall lay out my last dollar, and probably make my land even worse than it now is. Would he be likely to lime under such views? Would he not more probably toil on from year to year as poor as he began—still afraid to apply the great renovator to his soil? To such, however, we would repeat, what we have already said, that all the benefit which has been derived from lime as a manure to Pennsylvania, and to a great part of New Jersey and Delaware, has been derived from magnesian lime. This is fact and experience; the other is but theory based on a narrow foundation. Then let not this bugbear of magnesian lime, set up by those who seem to be profoundly ignorant of what is passing around them, deter you from following the bright example set you by the enlightened farmers of south-eastern Pennsylvania. Put on your magnesian lime in such quantities as their experience may have pointed out. Shut your ears against this senseless clamour, and after you have faithfully done your part, trust the rest to the silent, unseen, mysterious operation of those laws which govern the material world, with the full assurance that you will reap a rich reward.

S. LEWIS.

Dec. 28, 1841.

Farming.

THE operations on a farm require incessant toil; the corporeal machine must be in constant motion. It therefore behooves farmers to *work head-work*. How many of us can see, after performing an important agricultural operation, that with a little study, we might have accomplished it with much less labour. We are too apt to misapply our strength, and waste our energies in some favourite scheme of redeeming our soil, which a little mental exertion would have rendered a light and healthful exercise.

There are several ways in which almost every farming operation can be performed. The old road, the turnpike, and the rail-road;

some will not travel the turnpike on account of the *toll*, and many prefer the old road because they are better acquainted with the track. And yet a man of moderate ingenuity may soon become a skilful engineer, and be able to traverse the rail-road with velocity and safety.

The Yankees are proverbial for their ingenuity and enterprise, and every farmer, like the great and good Washington, should mark out his farming operations for years in advance. If a field is to be laid out and broken up a year or two hence, he should, at his leisure, or when no other avocation presses, dig and draw his rocks to a line—dig the trench and fill up with small stones—destroy the bushes, &c. So likewise if he intends to reclaim a swamp which has laid dormant since the days of old Adam, he should ditch and plough, or cast on his sward, and prepare his compost at a season of the year when he can do nothing else to advantage. If he intends to till a sandy loam, and convert it into a fertile field, he should prepare the basis of his compost-heap the year beforehand, which should consist of mud, clay, with vegetable or animal manure, which a little experience will teach him how to apply to the best advantage. No farmer need be at a loss for materials to enrich his fields—ditch-mud, soil from the road-side, and hedge-rows around his fields, will supply him with the basis of a rich compost—these carried into his barn-yard and hog-sty, in proper seasons and in sufficient quantities, he will soon succeed in rendering his farm productive. Every farmer should be provided with a barn-cellar, a shelter for his manure, and a work-shop for his swine. Materials for their employment can be obtained from a thousand sources; all vegetable matter, weeds, straw, coarse grasses, brakes, mud and loam, will by them be converted into the most fertilizing manure, and these substances can be collected when there is nothing suffering to call your attention elsewhere. There is no more important or profitable labour on the farm; but how to do it right, requires *head-work* as well as bodily toil.—*Plymouth Rock*.

It must be admitted as a principle of agriculture, that those substances which have been removed from a soil must and ought to be completely restored to it, and whether this restoration be effected by means of excrements, ashes or bones, is, in a great measure, indifferent. The time will come, when fields will be manured with a solution of glass (silicate of potassa) with the ashes of burnt straw; and with salts of phosphoric acid prepared in chemical manufactories.—*Liebig*.

For the Farmers' Cabinet.

Charitable Institutions.

MR. EDITOR, — On my way to the city, whither I have gone for the last thirteen years, a distance of nine miles, twice a week in summer, and once a week in winter, with the produce of my farm for sale, my road leads past the Girard College — that monument of human *art* indeed! and from the day when the ground was broken for the reception of the corner-stone until the present, I have never ceased to deprecate the folly which seems to have pervaded the minds of all who have been concerned in the management of that enormous undertaking. But I am not going to say anything about the course pursued by the trustees of a will, the provisions of which have been, it is admitted, perverted in almost every particular; for great as is, in public estimation, the injury to posterity arising from such perversion, I consider the provisions of the will itself of far more importance, and to be more highly deprecated, and deem the delay in finishing the building a blessing to the present generation; and if it be never completed so as to receive a single orphan on the foundation, I shall rejoice. We all know what was the object of the founder, and this might have been effected—and I would add, with far less evil to posterity than the plan now proposed, even if carried out in all honesty—by the erection of a solid body of marble 500 feet high, a lasting monument to his memory. But let us examine the subject a little closer.

Now, I am but a plain, hard-working farmer, but my senses deceive me if I have not already done more for posterity than will ever be done by the erection of that costly fabric, for I have made many a blade of grass to grow where *none* grew before, and shall leave an example by which those who follow me will, by the same means, be able to accomplish more than I have. The Girard College is designed for the support and education of orphans—a class of persons supposed to be the most friendless in society; here they are to be fed and clothed, and receive the most polished course of education possible to be conferred by the most learned masters in the highest branches of their professions, and at the age of years, they are to be sent into the world to make their way in the “learned professions,” without funds or natural friends, and quite incapable of procuring the means of subsistence by any of the *common* pursuits of life, for they cannot dig—having been bred up in the *marble palace*—and to beg, they will be ashamed! Now, in the name of honesty, what are they to do? They will not work if they could, and they cannot if they would, after having received an education to

fit them for the bar or the pulpit. The learned professions will be effectually closed against them by those who have been enabled, by the assistance of wealthy friends and parents, to procure not only a suitable education, but the means of starting in life; and by whom these orphans will be considered in the light of interlopers in a course of life peculiarly their own; and all that is left them will be to obtain a living by their *wits*, each one consoling himself with the reflection, “Girard owes me a living and I’ll have it.” And all this source of evil arises from the very common idea that *knowledge is wisdom*—a greater mistake than which cannot be conceived of, for it is the wisdom properly to *apply what we know* that is wanting, and this is not to be acquired by scholastic education, that only supplying the A, B, C, of the science, to be applied on some future occasion by *ourselves*. But let it not be supposed that I am an enemy to education—by all means teach all to “read, write and cast accounts,” and then let well enough alone: if after this a boy is seen to possess a talent for any particular object, take him up and push him; but schools for all, and where all are urged forward alike, without regard to their future prospects in life, is what I deprecate. Such an education as is necessary for the generality of our youth, might be fully acquired at the age of 14, and then the sooner they are put to some trade or occupation the better.

Now, only just suppose what would have been the result, if Stephen Girard had been content to do good in a common way; he might have established a noble school sufficiently capacious to embrace almost all the orphans in the city, if, in some suitable place in the country, half a million acres of land had been purchased and devoted to the support of the charity, where a course of real, practical education might have been conducted by proper classes, beginning with infants, who are, so far as I know, as fit objects of charity as older children: here, by careful examination, the peculiar bent or genius of each individual might have been discovered and cultivated for a specific purpose in after life, and at the age of 14 years, they might have been apprenticed out for six years to that business or occupation for which they had exhibited a talent, and had received a suitable education; receiving from the institution certificates of their having been educated on the Girard trust, recommending each one to the careful keeping of the master to whom he may be consigned, urging upon him the kind treatment of the lad, and upon the lad the necessity of obedience and industry in his calling; assuring both, that in case of complaint on either side, they would be heard before a committee appointed for that purpose,

and to whom appeals might be made at all times; stating also, that at the expiration of the term of apprenticeship, the lad would be entitled, by exhibiting his certificate and proving the faithful discharge of his duties, to a sum of money, or a portion of land, to enable him to start in life as an industrious member of society, whether as mariner, farmer, tradesman, teacher, &c., with the right of applying to the institution for direction and assistance in all circumstances of doubt or difficulty that might at any time befall him in his future course through life. And here I must be permitted to indulge a strong preference for the profession of agriculture, and would propose, as far as consistent with perfect freedom in the choice of occupation, which ought religiously to be guaranteed to every individual, that its pursuits should be urged upon the notice of all and every one, inasmuch as "agriculture is the life and soul of every community; all other trades and occupations being dependent upon it, and to it all must look for support in the hour of trial." And who, besides Girard, ever had it in his power to settle half a country in this way? Imagine now a deserving young man, 20 years of age, having passed an apprenticeship of six years with an intelligent farmer, and receiving from the institution a gift of thirty acres of land, with a comfortable cottage, stock and implements sufficient for a commencement, and an industrious and intelligent companion in a wife of his own age and choice, from among the members of the institution—for there are female as well as male orphans, equally requiring the care and support of such an establishment—and thus beginning the world at the right end, in the morning of life! I declare I never before envied Girard his riches! With these young men, thus settled upon the lands of the institution, should be placed as apprentices, for six years, the youths of the establishment who have attained the age of 14 years, and have chosen that employment; and the older settlers should be expected to assist the new occupiers, by lending a helping hand in the cultivation of their land the first year, and in doing other kind offices. Here would be a settlement worthy the name of HARMONY truly, and erected of far different materials from that of the marble palace. And all this the donor might have accomplished during his lifetime, and been "twice blessed;" laying up, at the same time, "treasures where neither moth nor rust doth corrupt, nor thieves break through and steal."

On the subject of early marriages, I should wish to be permitted to say to the young men of this land of peace and plenty, liberty and happiness, *get something to do, put your trust in God, and marry—keeping account of profit and loss.*

VERITAS.

Choice Observations on Stock-breeding.

It is a great mistake to suppose that animals of the same breed, and reared in the same manner, are better in England than they are in this country—the reverse I verily believe to be the case, having all the choice varieties of England now in this country. A man may now buy at home the pure blood, selected by his own eyes, for less money than he will be required to pay for inferior animals of the same race, if he import them from England—no man therefore can import stock advantageously or profitably from abroad, unless he has been breeding the same race of animals at home for many years, and requires a new cross from a distant family; and then his selection should be made from the flocks of the best breeders, regardless of cost—such men only ought to import, and such *only* can do it advantageously and profitably to themselves.

Keep your breeds entirely distinct, and bring in your crosses from distant families of the same race, and do not give them even *one* cross of another breed, unless you have a definite object—some specific point of form or quality which you wish to correct or improve, and then you must be sure that you do not introduce, at the same time, another defective point; and pursue the object with undeviating steadiness. Should you not, upon trial, like the race you have adopted, change it altogether and get another, but do not jumble them up together, for it is wholly inconsistent with, and contrary to, the true principles of breeding; and will not fail to land you in the cheerless position of disappointment and disgust. The first cross *between different races* will sometimes give you fine animals for the butcher, and may improve some deficient point, but the next admixture, if you do not take especial care, will leave you with nothing which you can call by any other name than mere *sheep or cattle*. Like poor land made rich, without changing its constituent parts, ever struggling to get back to poverty, so live stock, from a jumble of different breeds, are perpetually inclined to breed back to their original races, under deteriorating circumstances. Occasionally you may get what naturalists term an accidental variety, but when you do get an animal of this description which you may desire to perpetuate, the experiment is a dangerous one, and to transmit its good qualities, requires no ordinary degree of judgment and intelligence, and also indomitable perseverance.

GEN. EMORY.

More *gold* is to be obtained within the plough's depth of the surface of the earth, than far below it.

For the Farmers' Cabinet.

Magnesian Lime.

MR. EDITOR,—On re-perusing the pages of the back numbers of the Cabinet, a custom to which I confess I am much addicted, I find an article at page 339 of the 5th volume, on "Magnesian Lime," which I would wish to notice, for the purpose of drawing from the writer farther information on a topic which still agitates the minds of some of our practical friends, although to him this must appear strange, after what he has said to settle the question by a verdict which would seem to admit of no appeal: but as facts are stubborn things, and eye-testimony goes a good way with a class of persons who are accustomed to judge pretty much by the light afforded by that mode of reasoning, I have wrought myself up to the point of encountering from your correspondent a withering glance that may possibly render me incapable from ever looking into the subject again; and yet that would be a pity, for how could such as I come to a knowledge of the truth, if we were to give up one of our seven senses, and consent to be led by the doctors, *seeing*, as we do, that none are more apt to differ than they?

That the presence of magnesia in lime was once believed to be injurious to vegetation, cannot be denied. That it is now by many considered rather advantageous than otherwise that it should contain a certain portion of magnesia, would also appear to be a fact; while others there are who look upon its presence as neither beneficial or hurtful, farther than robbing the lime of just so much *carbonate*—to which state it returns on exposure to the atmosphere—as it is found to contain on analysis. Now which way lies the truth? And after Mr. Kinsler has answered this question, I would ask why is it that lime, when quite pure from magnesia, can be applied in almost any quantity to land in almost any state, whether of poverty or fertility, without injury to the crop, while that which contains magnesia, to the amount of about 40 per cent., cannot be used on the same soils and under the same circumstances to a greater extent than, say from 40 to 60 bushels per acre without manifest injury? We are told that in England lime is given with impunity, even to the amount of 500 bushels per acre—what would be the result if such excess were indulged in here with lime containing 40 per cent. of magnesia? It may be said the difference is in the climates of the two countries, but I must be permitted a difference of opinion. In the third volume of the Cabinet, pp. 14, 17, there is recorded a series of experiments, the correctness of which I was informed by the then

editor of the Cabinet might be implicitly relied upon, as they had been copied from a diary or journal that had been kept by the writer while in the management of certain estates in Wales, upon which they had been most carefully conducted, for the purpose of ascertaining the value of lime in agriculture, and where occasions had offered to prove that its application, even to the extent of more than 500 bushels per acre, had been attended with the most beneficial results; but there the limestone—a pure black marble—contained, by analysis, 98 per cent. of carbonate, with not a trace of magnesia. If the readers of the Cabinet, having the 3d volume, would turn to these pages, I think they would be much interested with a perusal of their contents.

At page 275 of the 4th volume of the Cabinet is a letter on this subject from Mr. Mahlon Kirkbride, of Morrisville, Bucks Co., which shows conclusively—at least to me, who saw and examined the land upon which the lime had been used in the way that he states, and found it comparatively barren, the year after the time when he wrote—that the injury had been caused by the lime, which, it is admitted, contained magnesia in its composition. He says, "my father had a field of 25 acres of as good wheat soil as could be found—a deep loam. Its produce for years stood almost unrivalled; he, wishing to make it still better, applied to a part 50 bushels of lime to the acre, to the balance (excepting half an acre) about 65 or 70 bushels to the acre; the result was as follows: in 1837, wheat crop not much more than the seed; 1838, corn, about 10 bushels per acre on the heaviest limed part, on the other 40 bushels; 1839, oats good where there was the least lime, on the other part 15 to 20 bushels per acre. The half-acre above alluded to received 50 bushels, and the result was, of wheat not a handful; of corn, some stalks three feet high and two bushels of nubbins; of oats, a growth of straw 16 inches high, which refused to show any symptoms of ripening, and was cut to get it out of the way." It must be added, the spot on which the lime had been deposited when taken from the canal-boat, and from whence it had all been removed with the most scrupulous care, had not, three years after, produced a single trace of herbage, not even a weed—would Mr. Kirkbride be pleased to inform us the *present* state of that portion of his land? At page 55 of the 5th volume of the Cabinet, notice is taken of Mr. Kirkbride's communication by a writer who has had great experience in the use of lime, and it is to be regretted that he did not give us the analysis of that which he applied so unsparingly and profitably.

Now I am sure I have no private interests

to serve, and no prejudices to support, but I would just ask Mr. Kinser, at the risk of having applied to me the old adage, "a fool can ask more questions in an hour than a wise man could answer in a month," 1st. How is it that when the lime from Messrs. Potts and Dager's quarry, containing 96 per cent. of carbonate, and not a particle of magnesia, is exposed in a heap, and has become perfectly slaked, that white-clover and the finest grasses will be found to penetrate through the lime at the margin of the heap from the depth of perhaps an inch or two, and spread over its surface; and on the removal of the heap, that the herbage will grow on the bald spot and become a rich turf in a short time? 2d. How is it, that the lime burnt from the stone quarried from the south side of the valley at Downingtown shows exactly the same results; while that produced from the stone quarried from the north side of the same valley, perhaps not a quarter of a mile distant, is totally different in its effects, destroying all vegetation, and leaving a galled spot for years where it had been deposited for slaking? for this fact, and a true analysis of these two varieties of limestone, I would appeal to Dr. Sharpless and his brother, who reside on the spot, as also to Mr. Linley in the immediate neighbourhood, asking of the latter gentleman if he has not known oats, sown on a limed soil, to penetrate through a lump of lime several inches in thickness, and grow to the height of about five feet with the greatest luxuriance, that lime having been procured from the south side of the valley. The difference between the two stones being peculiar likewise, that from the north side being *heaviest*, but producing the lightest lime—the stone from the south side being lighter, but producing the largest quantity of pure lime; showing that more foreign matter had been thrown off and dissipated during the process of calcination from the stone obtained from the north side of the valley, and proving conclusively, the greater purity of that from the south side. And 3d. I would ask, was it ever known, that herbage would spring up on the margin of a slaked heap of lime containing 40 per cent. of magnesia, even penetrating through it from the depth of an inch or two, and spreading over it, and for the earth to show no sign of its pernicious effects in the shape of a galled spot, after its removal?

The subject is of vast importance, and is the cause of my troubling you with this communication, my object being to "keep the ball in motion," and to elicit the truth. And to this end, I would take the liberty to ask your subscribers, Mr. R. T. Potts, Mr. Dager and their neighbour Mr. Henderson, who has, I understand, erected a kiln for the purpose

of calcining the cuttings of his pure white marble, whether they have it not in their power to throw some light upon the matter, not doubting that the white marble of Mr. H. contains at least as great a proportion of carbonate of lime as the beautifully mottled variety of Potts and Dager, namely, 96 per cent.

That magnesian lime has proved of very great service when applied to the soil, no one can deny, for the evidence is before our eyes; but I hope that the subject may be investigated to its better understanding, without fear for the result. And I know of no one who has it in his power to do us more service than your correspondent—will he, therefore, take the above remarks into his consideration, and favour us with his conclusions? I am, I must confess, by no means inclined to *blink* the question, lest it should "arrest the march of improvement, and throw cold water on the spirit for liming" which is abroad in the land, but I do wish that your correspondent would inform us the cause of the very great difference which is seen in the effects between lime containing 96 per cent. of carbonate and no magnesia, and that containing about 50 per cent. of carbonate and 40 per cent. of magnesia. It may be that magnesia operates in a different manner from lime—nay, it might perhaps be found to be more valuable than it for the purposes of agriculture—and to this I have not the slightest objection; that is of no consequence, and need not frighten any one whose sole object is to become acquainted with the true mode of its operation. S.

P. S.—Since writing the above, the No. of the Cabinet for February has reached me, and I find that your correspondent, Mr. Lewis of Pottsville, has embraced the opinion that the presence of magnesia in lime is not injurious for agricultural purposes, nay, that it is "diametrically opposed to it;" and to this decision he has been brought, not by a "two-penny experiment made in a garden-pot, or the corner of a field," but by its extended use over hundreds of thousands of acres through a long period of years, in opposition to the "would be oracles of the day," or the theory that has been "babbled" on the subject. Now, by such men as your correspondents, Messrs. Kinser and Lewis, I presume we shall be sure that the subject will be properly treated, and the truth elucidated, but I would meekly ask, why do these gentlemen use such strong language to express themselves, if they are not in some way interested in the matter? Surely it does not require such terms of contempt and reproach to silence the workers in a garden-pot or the corner of a field, or those very small oracles or babblers who presume to arise in their path!

S.

For the Farmers' Cabinet.

Sugar-Beet.

MR. EDITOR,—I find that the Massachusetts Agricultural Society has awarded a premium of \$15 to F. Tudor, of Nahant, for a crop of sugar-beets measuring 1300 bushels per acre. Mr. Tudor's account of the *management* of the crop—a statement which should, I think, always be made to accompany a premium crop—was as follows. "The ground was old pasture of indifferent soil and very stony; it was broken up in 1840 by trenching, 20 inches deep, which brought much poor soil to the surface. The stones were gathered from the land and buried in the bottom of the trench, upon which was spread three inches deep of mussel-mud, then the turf and the best of the soil, then two inches of rock-weed fresh from the shore, or cut from the rocks; then the less rich part of the soil and more mussel-mud, the top being left with the poorest and most gravelly soil. In the spring of 1840 it was sown with sugar-beet, but the crop was poor. In 1841 the land was ploughed six inches deep without reaching any of the rich soil below, the surface still exhibiting little but yellow loam and gravel. Upon this I caused sugar-beets again to be sown, and when the plants had sprung up, I had the land *dressed on the surface*—merely spreading on 15 cords of rich cow-yard manure. This caused the young plants to shoot and grow away most vigorously, and the crop has been so large that I have determined to exhibit it before the State Agricultural Society, and put in a claim for premium. No particular care has been taken of the crop, for although the seed had missed on several patches, they were not filled with plants, while during the drought of August, many of the tops were cut as fodder for cows; but for this, I believe the crop would have produced 1600 bushels per acre. The crop was sold by auction, and the weight given was what the purchasers paid for. The largest root measured 34 inches in circumference, and weighed 31 pounds, but it was hollow; the largest sound and perfect root weighed 21 pounds; a fair bushel weighing 60 pounds. I think the large crop which has been produced on my land was not caused by the trenching, but *by the looseness of the soil and the top-dressing of rich manure*; the value of a top-dressing in a season of drought being undoubtedly great."

I conclude with one remark—the above account speaks volumes for the systems of subsoiling and top-dressing, a mode of management which seems at length to be commanding the notice of agriculturists generally throughout the land.

J. GRANT.

To the Editor of the Farmers' Cabinet.

Potatoes.

SIR,—Seeing in the public prints that Mr. Gowen had received the Philadelphia Agricultural Society's premium for a crop of potatoes yielding 200 bushels per acre, I have not hesitated to consider it an error of the press, for I can in no other way account for the circumstance; what! 200 bushels of potatoes a premium crop, and no other competitor? how can this be? In the N. E. Farmer for the present week, I find an account of General Barnum's crop of potatoes of which we have often heard, and feel a desire, upon the present occasion, to bring it to your notice. It is said by the General himself, "Presuming the product of my potatoe crop would be such as to partake too much of the marvellous for general belief, to put it beyond the reach of doubt or contradiction, it was agreed to appoint S. Wilson, one of the common council of the city, and R. Stowell, measurer, to superintend the measuring of the ground, the digging of the potatoes and the measuring of them; and the following was the result of the different pieces; No. 1, 1361 bushels per acre; No. 2, 3410 do.; No. 3, 2041 do.; No. 4, 1654 do.; No. 5, 2253 do. Average of the whole number of pieces 1843 bushels per acre; the casting of the sums being performed by B. Allen and Sidney Dunton, mathematicians." From the way in which they were cultivated, the General believes that 1000 bushels of potatoes per acre may be raised with less than one-half the expense that it would require in the common mode to raise that quantity on four acres, and this conviction arises from 25 years of experience. For the account of the mode of cultivating the enormous crop above mentioned we are referred to page 329 of the 13th volume of the N. E. Farmer. If any of your readers are possessed of that volume, would they favour us with a copy of it for our information? I confess the quantity there stated is so great that the General must excuse me for saying, I should have liked to see "'em are taters mishured," and would ask how many inches thick of potatoes would an acre square of land exhibit, if 3410 bushels were packed upon it? The largest crop I ever saw was 700 bushels per acre, and then the earth seemed perfectly covered with them, although about a fifth only of the Vermont crop.

POMME DE TERRE.

Jan. 23, 1842.

Economy, industry, reading, observation, reflection—when you see all these concentrated in the same individual, set that man down as a good manager.

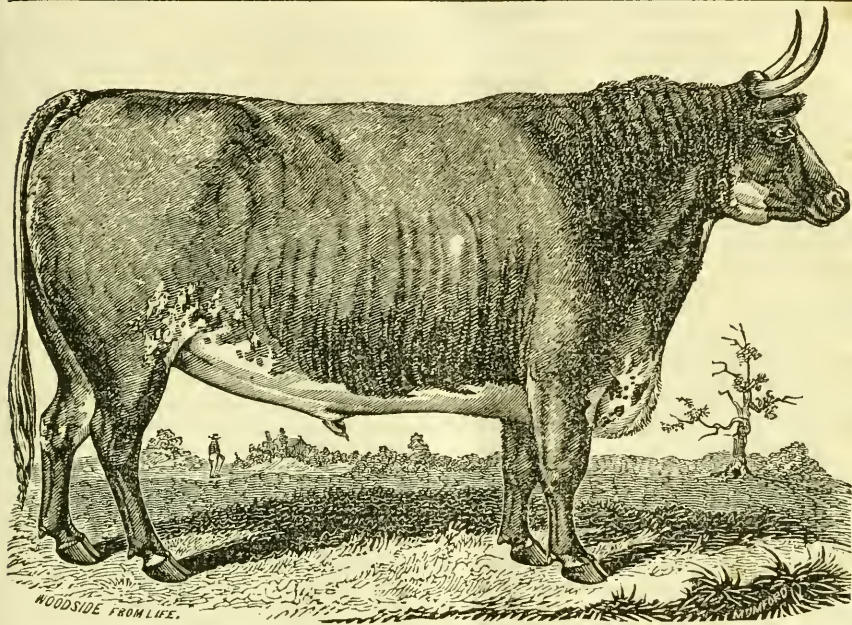
Desultory Reading.

How much of the reading, even of persons ignorant of all science, refers to matters wholly unconnected with any interest or advantage to be derived from the knowledge acquired! Every one is amused with reading a story; a romance may divert and a fairy-tale may entertain, but no benefit beyond the amusement is derived from this source; the imagination is gratified, and we willingly spend a good deal of time in this gratification, rather than in resting after fatigue, or in any other bodily indulgence. And so we often read a newspaper without any view to the advantage we are to gain from learning the news, but because it amuses us to know what is passing. Accidents, adventures, anecdotes, crimes, and a variety of other things entertain us, independent of the information we receive respecting public affairs in which we feel interested as citizens of the state, or as members of a particular body. It is of little importance to inquire why these things so excite our attention: the fact is certain, and proves clearly that there is a positive enjoyment in knowing what we did not know before; and this pleasure is greatly increased when the information is such as excites our surprise, wonder or admiration. Persons who take delight in reading tales of ghosts which they know to be false, and feel all the while to be silly in the extreme, are merely gratified or rather *occupied* with the strong emotions of horror excited by the passing fancy, for it can only last an instant. All such reading is a degrading waste of precious time, and has a bad effect upon the feelings and the judgment; and children's books have too often been made upon the pernicious plan of exciting wonder, generally *horror*, at whatever risk. But *true* stories of horrid crimes, murders, and pitiable misfortunes, shipwrecks, &c., are not much more instructive; it may possibly be better to read these than to sit drinking or gaming, which, when carried to excess, are crimes themselves and the fruitful parents of many more, but this is nearly all that can be said for such vain and unprofitable reading. But if it be a pleasure to gratify curiosity, to know what we are ignorant of, to have our feelings of wonder called forth, how pure a delight of this very kind does NATURAL SCIENCE hold out to its students! Now recollect some of the extraordinary discoveries of mechanical philosophy; how wonderful are the laws that regulate the motions of fluids! Is there any thing in all the idle books of tales and horrors more truly astonishing than the fact, that a few pounds of water may, by mere pressure, without any machinery, by merely being placed in a particular way, produce an irre-

sistible force? What can be more strange than that an ounce weight should balance hundreds of pounds by the intervention of a few bars of thin iron? And then observe the extraordinary truths which optical science discloses! Can any thing surprise us more than to find that the colour of *white* is a mixture of all others? that red and blue and green and all the rest, merely by being blended in certain portions, form what we had fancied to be no colour at all, rather than all colours together! And chemistry is not behind in its wonders—that the diamond should be made of the same material as coal; that water should be chiefly composed of an inflammable substance; that acids should be, for the most part, formed of different kinds of air, and that one of these acids, whose strength can dissolve almost any of the metals, should consist of the self-same ingredients with the common air we breathe; that salts should be of a metallic nature, and composed in great part of metals, fluid like quicksilver but lighter than water, and which, without any heating, take fire upon being exposed to the air, and by burning form the substance so abounding in salt-petre and the ashes of burnt wood:—these surely are things to excite the wonder of any reflecting mind—nay, of *any one* but little accustomed to reflect; and yet these are all trifling when compared to the prodigies which ASTRONOMY opens to our view! the enormous masses of the heavenly bodies; their immense distances; their countless numbers and their motions, whose swiftness mocks the uttermost efforts of the imagination! To learn these things, and to reflect upon them, occupies the faculties, fills the mind, and produces certain as well as the purest gratification.—*Selected.*

Painting Houses.

It has long been a subject of inquiry as to the best time to apply paint to the clapboards of houses for durability. Repeated experiments have been made, within twenty-five years past, which have resulted in the conviction, that paint applied between November and March, will stand more than twice as long as that which is spread in the warmest weather. The reason is obvious; for in cold weather the oil and the component parts of the paint, form a hard substance on the surface of the clapboard, nearly as hard as glass, and not easily erased or even cut with a sharp knife, and will not soon wear off; whereas paints applied in the months of July and August, and more especially if in a severe drought, the oil immediately penetrates into the wood like water into a sponge, which leaves the lead *nearly dry* which will soon crumble off.



"JERSEY INDEPENDENCE."

The property of the breeder and feeder, Edward Tonkin, Esq., Clarkesboro', N. J.

THE above is a splendid portrait of one of the magnificent herd of fat cattle, bred and fed by that spirited improver, Mr. Edward Tonkin, drawn from the life by Woodside, and engraved by T. H. Mumford. There are six others in the group—five oxen and a spayed heifer—which are in no way inferior to the individual that has furnished so fair an opportunity to draw forth the powers of the pencil and the graver; all which it is intended shall lend their aid to embellish the pages of the "Farmers' Cabinet" in future numbers. Our next will contain the portrait of "WASHINGTON," which will be accompanied by a full account of their "birth, parentage and education," &c., and much that will be interesting to the agriculturist generally, and to the breeder of fine stock in particular.

"LITTLE DELAWARE."

MAJOR PHILIP REYBOLD'S annual exhibition and sale of fat sheep took place in Philadelphia on the second day of March. It consisted of twenty-one *two years' old wethers*, of the pure Leicester or Bakewell breed, raised by himself, and fed by his son, Mr. Clayton Reybold, who has the immediate charge of the Major's flocks, which now number upwards of 1000, pure and half-bloods, of remarkable size and perfection of symmetry. We obtained portraits of two of these splendid specimens of nature and art, which have been named "Major" and "Clayton," after the judicious breeder and feeder. These are designed for publication in our future pages; but even the talents of our friends, the artists, have not been more than equal to the task of doing justice to their fine proportions. The publication of these portraits will be accompanied with interesting particulars relating to their "breed and feed," and in the meantime we give below the live and dead weights of these animals, as rendered by the Major and the spirited purchasers, Messrs. Schneck and Brothers, exclusively for our work. They were slaughtered on the 3d of March, and were exposed for sale at the stalls Nos. 24 and 26 in Second St. Market, between Pine and Lombard, Philadelphia. "MAJOR," live weight 251 pounds—dead weight, the four quarters, 147 pounds. "CLAYTON," live weight 227 pounds—dead weight 130 pounds—cutting 4½ inches thick on the rib. A specimen of the mutton is deposited at the office of the Cabinet for the inspection of our friends.

For the Farmers' Cabinet.

The Bee Culture.

MR. EDITOR,—There is nothing better calculated to strengthen our local and home attachments than a proper attention to those little matters which evince a correctness of taste, and impart a neatness to the grounds around our dwellings. They heighten our domestic comfort; give lessons of experimental instruction, and in a little time afford us luxuries almost "without money and without price." This remark, if carried out, might apply to many branches of quite a domestic nature, and immediately connected with the gardens and grounds adjacent to our domicils; but in this article it is my purpose to speak only of the advantages and pleasures derived from a proper attention to that little insect that

"Gathers sweets from every opening flower,"

and which ought to receive the care and attention of every family whether rich or poor. There are but few who do not consider that the sweets extracted from the nectary of the flowers of the field and forest, manufactured by this industrious insect, as one of the greatest of luxuries. What then can be the obstacles to a more general introduction of this branch of domestic luxury but carelessness and inattention! But perhaps it would be as well to modify the conclusion implied in the question, by attributing this want of attention to a want of correct information on the subject, to which may be added a knowledge of the fact that almost all bee-breeders resort to the mistaken, cruel and repulsive practice of destroying the bees to obtain their honey, and also, as a difficulty, the frequent destruction of swarms by the larva of the bee-moth when reared in the common hive. The bee-house, the bee-palace, and other hives that have been constructed for the better security of bees from the moth and other depredators are objectionable, not only as bad protectors, but from their inconvenience and the expense attending them without a corresponding advantage. The bee-breeder wants a hive that is simple in its construction, portable, cheap; and at the same time affording every facility to extract the rich surplus stores from the habitation of his numerous labourers, without putting them to a cruel death as practised under the old system, or interfering with their labours. These important advantages, I may safely say, have been combined in the construction of *Hall's Patent Self-protecting Bee-hive*. Sometime in the latter part of last spring I had occasion to call at a public house in my neighbourhood, where one of these hives was exhibited by Messrs. Benton and Deming, the purchasers from the patentee to make, use and vend the same in the eastern counties of Pennsylvania. On

discovering that it contained many important principles judiciously arranged, I at once purchased an individual right for which I gave four dollars, I also took a hive at \$1 75. I would here state for the information of such of your subscribers as may feel interested in this subject, that Mr. Samuel Guss, of the borough of West Chester, is now the proprietor of the patent-right for this, and, if I be correctly informed, of several adjoining counties. The new hive was taken home and secured in a suitable place to receive the first swarm that should appear from the old hives. On the morning of the eighth of June a fine vigorous swarm issued from a two years' old hive, and in a little time settled on a cherry-tree limb, about ten feet from the ground. The new self-protecting hive was taken from the stand — the bottom detached — the hive held up inverted under and near the swarm — the limb was then suddenly and rather violently jarred, causing the bees to fall in the inverted hive, which was then restored to its proper position on a sheet that had been spread under the tree, the four corners of the hive resting on blocks some three inches thick, leaving a space sufficient for the scattering bees to make their way in. The bees settled down and became reconciled to the hive in a very short time, and in the course of two or three hours thereafter, the hive was set on the detached bottom, hooked on, and the inclined planes also hooked up to keep the bees from escaping; it was then carried to the place where it was intended to remain — the planes unhooked, and the bees left in full and undisturbed possession of their new habitation. The hiving, as I have above stated, took place on the 8th day of June. On the 24th day of June I discovered that the bees had filled the body of the hive with honey, and had commenced working in the boxes above. On the 29th day of July I took a well-filled box from the hive, the honey in which weighed 6 pounds 6 ounces, and on Sept. 27th, I took from the same hive two boxes containing 11 pounds 4 ounces, making altogether in the three boxes 17 pounds 10 ounces of surplus honey. One of my neighbours has four self-protecting hives, from each of which he took four boxes of honey last summer and fall; but again there are others that did not succeed so well, owing I have no doubt to weak swarms. In what way, I would ask, could a man invest a few spare dollars to better advantage than in a good swarm of bees? If placed in a self-protecting hive, or in any hive of equal advantages, in an ordinary season the surplus honey would almost, if not quite, pay the original cost of the swarm the first year. In concluding this article, which I have run to a greater length than I had at first intended, I trust

that the above flattering results from actual experiments will be of themselves ample apology for the strong terms in which I have expressed my opinion of the advantages afforded in the construction of "Hall's Self-protecting Hive." APIS.

Chester Co., Feb. 5, 1842.

To the Editor of the Farmers' Cabinet.

Experience Teaches.

MR. EDITOR,—I am a constant reader of the Cabinet, and a general approver of its contents, but have not hitherto been able to subscribe to one of its leading doctrines, viz. that blight is only an *effect*, and not a *cause*; indeed the time has been, when the idea was to me preposterous; and even very lately, when I witnessed my rose-trees covered with insects, my fruit-trees loaded with worms, and my wheat destroyed by the Hessian fly, I have often exclaimed, if these animals be not the *cause* of the disease, I can never again believe my eyesight; and if seeing is *not* believing, I know not what is. But all at once I am become a firm believer in the doctrine, and my conversion has been brought about by the agency of the testimony above alluded to, namely, the evidence of my eyesight, and I must tell you how it happened.

You must know I am very fond of flowers, and have plants in pots which I, too, nurse with a parent's care — that is, I often spoil them by indulgence and over-caressing. Now it so happened that they were left so long abroad in the autumn, that one morning I found them looking very blue from the effects of the night exposure, although no frost had happened: upon this, I removed them to an upper room in the house where were three windows, and plenty of light and warmth, but with all my care and attention, I soon found them covered with the aphide insect, and showing signs of deep disease. I washed them with warm water; gave them air and sun, and cleared the leaves from vermin, but all to no purpose, for although the young shoots advanced a very little in growth, every new leaf was clothed thickly with small aphides which continued to grow with their growth and strengthen with their strength; so that, at last, I gave up the hope of cleansing them from a mass of corruption, and was often tempted to throw away the whole of them. At length I determined to take them into winter quarters, and fitted up for their reception a shelf in my bed-room, after the plan mentioned at page 42 of the present volume of the Cabinet, and here they have been preserved from frost, although their appearance has been deplorable, their leaves and young shoots having been constantly covered with living blight, which was renewed as of-

ten as removed, in a surprising manner. The result has been the death of several of the plants, and the rottenness at heart of some others, with a falling away of almost all the old foliage. But about a fortnight ago, I observed a freshness in the appearance of the young shoots, which caused me to examine them closely, when I found that the unseasonable warmth of the weather had induced a partial spring, and that new buds had begun to make a start; while the aphides, which had hitherto been in active health and vigour, were almost motionless, and had become pale and of a sickly hue; and repeated after examinations have exhibited a regular return of health in the plants, with as regular a state of decay of the animalculæ; and on this day there is not a living aphide on any of the plants; a new start of vegetation — arising from a return of the circulation of the sap — having operated just in the way described; rendering the juices unfit for the support of a tribe of beings which can exist only on putricity. The young shoots of the plants are now hung with the dead carcasses of the aphides in the shape of little white shells, but not a single living insect can be found! The plants are throwing out young shoots from the stalks, and those of them that are dead at the heart of the top-shoot are making fresh heads all perfectly free from vermin, although it was found impossible to clean them while in a state of sickness by any artificial means whatever. The sap now *circulates*, and no longer exudes through the pores of the plant to serve as food to a race of beings which are created, I am now convinced, for the purpose and the *only* purpose of feeding on putricity — to clear all away and renew the face of nature.

This little circumstance has opened an immense field for reflection! I am amazed with the view which it unfolds, and shall take every opportunity to investigate so very singular and astonishing a provision of nature. Its beautiful simplicity, united with a wisdom of purpose absolutely profound, overwhelms the contemplative mind, and creates a feeling of awe and reverential devotion which is quite unspeakable, and surpassing human thought. I shall return to a re-perusal of the articles on this subject contained in the Cabinet with increased interest, and with the expectation of deriving from it a never-ending source of delight.

SUBSCRIBER.

Jan. 12, 1842.

Money is coveted because it can command labour; but of what use would it be, if labour would not be commanded by it? What would it avail to possess the riches of Potosi, if thereby we could not acquire the products of agriculture?

To the Editor of the Farmers' Cabinet.

Soiling of Cattle.

SIR,—At the commencement of spring I was given to understand that Mr. Jabez Jenkins, of West Whiteland, had determined to put to the test of experience the English mode of summer soiling, and from his known character and capability I was led to expect a full and faithful account of the result; but hitherto we are without information on the subject. I wonder if he could be induced to describe the means which he used, and the success attending them, more especially as it regards the health and comfort of the stock, many persons entertaining the idea that even partial confinement for so long a period would be found of injurious consequence; would he therefore say what was the extent of quarters allowed them for exercise, and whether the whole space was littered or covered with any foreign substance to receive their manure when dropped? for without this provision, I fear that much waste would be sustained. The subject has always appeared to me a very interesting one, and I had often wished that some person, who had it in his power to do justice to the scheme, would undertake the experiment in this country, and see if any other than the consideration of the expense of labour attending it could be brought against it: it is found to be economical and profitable on the continent of Europe, and if nothing more than the difference in the price of labour here and there can be brought against the practice amongst us, it must indeed be a poor business that could not afford about the amount of half a man's wages when divided amongst a score of cattle. For myself, I should not readily be brought to believe that so trifling a matter would be able to turn the scale in a fair experiment.

Many essays have been written on this subject, and we are yet calling for "more facts"—indeed I begin to think your correspondent, who proposes that farmers should grow their own facts, is about right, and if I were differently situated, I would set about it, but my land is in pasture at present, and divided into small portions, and I should not feel justified in changing my course until I had more data to proceed upon. Would, therefore, our friend Mr. Jenkins furnish them at his early convenience, and inform us of the extent of crop which he found sufficient for the support of a given number of cattle for a given space of time? And in the meantime I send for insertion in the pages of the Cabinet an excellent paper from the American Farmer, the writer, however, appearing about as uninformed on the subject as myself, and seeking the same "fact." J. GODSON.

Feb. 20, 1842.

"The question has often been discussed, whether it be better to depasture stock, or soil them? that is, whether it be more economical to let them run on the meadows and gather their own food, or keep them up through the grass season, and cut and carry the grass to them; but as yet the old custom of depasturing prevails, though every one who has made the experiment of soiling, bears testimony to its superiority on the score of the economy of provender, as well as manure. In England, where there has been much experience, the difference in favour of the last system of feeding, is so apparent, that but very few attempt to controvert the claims which are there put forth in behalf of its advantages. To be sure, labour, a great essential, is in that country much cheaper than here, but as half the labour of a hand would be competent to cut a sufficient quantity of clover for, and to fodder 20 head of cattle, that should not be permitted to operate to the non-adoption of the plan, as the cost would not be anything in comparison with the value of the extra quantity of manure which would be made under a well-devised and properly executed system of soiling, over and above that which arises from depasturing. Even if it took the same quantity of land to support cattle under the former system, which it does not, still the great saving in manure alone should be of sufficient moment to influence the judgment in behalf of the latter. Let us see how the two systems compare:

"In grazing, an acre of *good* grass is considered necessary to the support of each head of stock; of *ordinary* grass one and a half, or two acres are not more than enough. In England, where the soiling system has been very generally adopted, and carried on with care, according to Mr. Curwen's experience, three acres of grass cut and carried, supplied 30 milch-cows, with 28 lbs. each, daily, during a period of 200 days. To have supplied a similar number of cows, with a like quantity for the same period, would in the usual way of management, have required 75 acres of land for its production. And to have grazed such a number of cows at liberty that length of time, must, it is obvious, have taken a very considerable number of acres. Again he says:

"This vast produce from so small a piece of land, may at first appear very problematical; but experience and good management will soon convince the dairyman that he may realize the advantage, great as it may appear. To enable the meadow to support this exhaustion from the scythe, it should be cleared at the end of every autumn, from all kinds of weeds and rubbish, and fresh grass-seeds of the best kinds, cast upon the bare places. A coat of good rotten manure, or

ashes, should then be allowed, consisting of all that can be collected from the household, or procured elsewhere, mixed up and augmented with virgin earth.'

"If we admit that the number of acres assumed by Mr. Curwen, three and a half to each cow, be too great, and take one, the minimum quantity named by us, as the proper one, then there will still be a saving of 27 acres of grass by the soiling over the depasturing system. And if we reserve this grass to be cut for hay, it will give a sufficient quantity to carry the cows through the winter, or foddering season; so that, to this amount there will be a clear gain. Then let us add the immense quantity of manure, which will be accumulated in the soiling-yard, and we cannot hesitate a moment in coming to an opinion as to the relative merits of the two plans of feeding stock; for all will admit that summer-made manure is very far better than that made in winter, as also that the most of the droppings in pastures is lost, by means of evaporation and rains, to all the available purposes of the farm, and no one will contend, that the cost of the price of half the labour of one hand, and that of a horse and cart during the time, should be considered to be of more value than the savings we have pointed out. Suppose that, in addition to the accumulation of manure from the droppings of the cattle, the yard be covered some 9 or 12 inches deep with mould or other earth from the woods, or head lands, to act as absorbents of the cattle's stale—we say, suppose this be done, and we will venture the assertion, that every square foot of such mould or earth would be so saturated with the urine of the cows as to be equally as valuable as their droppings. Thus then, in whatever light we may consider the subject, the advantages in favour of soiling are apparent to the judgment.

"It may be urged against the soiling system that it would not afford the requisite exercise to the stock. We are free to admit that exercise, to a certain extent, is necessary to the health of the brute creature, but at the same time we are free to maintain, that all that is indispensably necessary to ensure health and comfort, may be obtained in a yard of a fourth of an acre in extent, and we doubt much if regularly fed and watered therein at stated hours through the day, and salted semi-weekly, whether they would not maintain as much physical vigour thus confined, as they would roaming at large in a pasture of many acres. It is questionable with us also, whether they would not yield fully as much if not more milk and butter. At all events, the experiment is worthy of a trial, and we, therefore, commend it to our readers' consideration. The following article, from the

Maine Cultivator, is strongly confirmative of the position we have taken, and we venture the opinion that no one who may make the experiment will ever have cause to regret it:

"Josiah Quincy, President of Harvard College, has one of the finest farms in the vicinity of Boston. It is extensive and surrounded by a flourishing hawthorn hedge but there is not an interior fence on the premises; the whole presents a single field, devoted to all the various purposes of agriculture. No part of it is allotted to pasture, properly speaking, as his cattle are fed in their stalls and never suffered to roam over the fields—and the advantages of his system are thus given:—Formerly there were seven miles of interior fences to be kept in repair, but by keeping the cattle up, the whole of this expense is saved. Formerly, sixty acres of this farm were devoted to pasturage; but now, a greater number of cattle by one-third, are kept by the products of twenty acres, and the cattle are in the best condition.

"The savings by these means are enormous, and the immense advantages arising from it too apparent to be dwelt upon. During the summer the cattle are fed upon grass, green oats or barley, cut the day before and suffered to wilt in the sun, but the manure which is thus saved will more than pay the extra expense and trouble. The farm is most highly cultivated, and every kind of grain and vegetable has a place."

To the Editor of the Farmers' Cabinet.

Green-Sand and Shell-Marl.

SIR, — It is seldom indeed that I leave home, but when I do, I am pretty sure to find that some friend or neighbour, from whom I had wished or expected a visit, has called in my absence; and just so it happened when on your late sojourn in our neighbourhood you did me the favour to visit my place and found me absent—an occurrence which I much regret, for I had long wished for the opportunity of an hour's conversation with you on my favourite topic, agriculture, of which I never tire. I wished also to thank you for your attention to my request, and for the valuable information contained in your answer to my private communication, of which I availed myself much to my satisfaction. For your services I am greatly your debtor, and will you accept my thanks?

But there is one subject on which I was very desirous of obtaining your sentiments, for just at that time I had received my copy of Mr. Booth's Geological Survey of Delaware State, and had gone deeply into his statements respecting the different beds of marl which he examined and analyzed as he passed through the section of country where

they are situated, and should have been happy to have visited, with you, some of these pits, *book in hand*, and spent a day in reading, comparing and noting some striking peculiarities which, while on the spot, would be found to add greatly to the interest of certainly one of the most important subjects treated of in Mr. Booth's book. But as I have been deprived of the pleasure of your company in the personal examination of these interesting spots, I must be permitted to notice a circumstance relating to them which I cannot reconcile with their real appearance. In Mr. B.'s book we are given to understand that the green-sand, although not exhibiting a trace of lime in its composition, is still extremely rich and valuable, in consequence of the silicate of potash which it shows on analysis. Now what I wished was, to visit with you these green-sand pits—Rogers's, Polk's, and Wheeler's, and compare the spontaneous growth of the herbage around them, with that of Biddle's, Reybold's, Higgins's, and Hurlick's pits of shell-marl, for I know not a better criterion by which to judge of the fructifying influence of these remarkable substances, so different in their appearance and in their properties; for whenever I visit these last mentioned pits, I am struck with the richness and variety of the native verdure which completely covers all the earth about—not only white clover, but green grass and red clover of immense growth, which, although some persons consider to have sprung from the seeds of hay with which the horses and oxen have been fed while the wagons were loading, I am satisfied is of spontaneous growth, the effects of the marl. At Mr. Hurlick's marl-bed, on the Delaware canal, the effect of the marl is in this particular very apparent, for the road from the pit, which leads through a field not yet improved, is covered like a carpet with the finest grasses, white clover predominating, brought up by the marl which had dropped from the wagons while passing; and, more remarkable still, the pathway formed by the treading of the drivers of the teams, on the right-hand side of the road coming from the pit, is most exactly marked with a beautiful covering of the same, the effect of the marl brought from the pit on their shoes, to which it adhered while loading their wagons, and is left on the ground while walking by the side of their teams. But nothing of this spontaneous growth of herbage is to be seen on the banks of the green-sand pits, although they too must have often been covered with the droppings from wagons, &c. Now I would ask, while reasoning from this perceptible difference, is it necessary that the green-sand, although containing silicate of potash in abundance, should receive a dose of lime before it can be

made to operate as the shell-marl does in its *natural* state? if so, there must be a considerable difference in its value as a manure when compared with the shell-marl, for besides the cost of the lime, there is the time lost before it commences operations, as well as the labour of mixing the two together. And again, does not the shell-marl operate, secondly, by adding to the staple of the soil? a consideration of great importance, acting mechanically and chemically at the same time. Now, from what I have said, it must not be supposed that I wish to detract from the value of the green-sand—by no means—but the comparison which might be instituted will, I conceive, show that there is a marked and very peculiar difference in the mode of operation between the two, the advantage being much in favour of the shell-marl, which contains as well the means of permanently renovating the soil, as invigorating and stimulating the present growth of crops, a circumstance of very great moment, and warranting, perhaps, the expectation that, while in some seasons and under peculiar circumstances a very heavy dressing of green-sand might prove injurious as an overdose, the application of shell-marl in *any* quantity will be beneficial, particularly if we were to do, as I am convinced we ought to do, allow our marl to lie and ferment and sweeten after taking it out of the pit, and before spreading it; and if the whole mass were to be turned over and pulverized during that time, there is every reason to expect that the beneficial result would pay amply the expense of the labour bestowed. We have often observed, that on exposure to the atmosphere, a kind of efflorescence takes place on the marl, which, no doubt, is highly conducive to the *immediate action* which we have sometimes noticed to take place on spreading such marl on young clovers as a top-dressing. In our marl beds we have a mine of *gold*, but I fear we as yet but little understand the process of *refining*, and practise less; but the difference between the two articles is just this—while gold is the “root of all evil,” marl is the root of all good; and while the one, even in Solomon's time and since, has ever been the *precious metal*—meaning, I presume, that it costs about \$5 in labour to make \$4 in value, marl has bestowed wealth in abundance upon all who have been engaged in mining and disseminating it. T. B.

Near Middletown, Del.

Mr. A. Palmer, of Goshen, Connecticut, gives the following as the crop taken from 5 acres of land in 1840: viz. 600 bushels corn in the ear, 118 cart loads of pumpkins, 300 bushels turnips, and 240 bushels potatoes.

Sunrise over the Ocean.

THE East is kindling with the first pale streak
Of deep'ning, bright'ning red. The firmament
Is full of clouds, light, soft and beautiful,
And ever varying in their shades and shapes,
While each new change seems lovelier than the last.
Slowly the light extends;—the morning star
That glittered, jewel-like, amid the gloom,
Is fading in the twilight, strengthening still
And, like a curtain gently drawn aside,
Revealing, as the dawn glides softly on,
Earth, in her dewy freshness, fragrant, fair;
And Ocean—glorious in serene repose!

Meanwhile, the East is bright'ning; tint by tint
The crimson melts to rose and saffron hue;
And the dark clouds above the horizon's brow
Are bathed in splendour, and in haste assume
The livery of their MASTER, at the news
Which the swift rays have brought of his approach.
He comes!—he comes!—and, like a warrior-king,
Rejoicing in the might of his wide sway,
Bursts on the dazzled sight! Old Ocean's brow
Is wrinkled into smiles at his return,
And his white breakers a rude welcome roar!
What marvel, if th' untutored savage bow
In worship to an image so divine
Of its divine Creator! Oh! happier we,
To whom 'tis given, to view with Faith's bright glance,
An image of the "Sun of Righteousness,"
Who doth arise upon the sin-sick soul
With healing on his wings,—and ever shines
With glory, tenfold richer to the mind,
Than to the dazzled vision is this scene
Of sunrise o'er the waters—though it be,
Of all God's wondrous works, *most wonderful!*

MISS E. S. RAND.

For the Farmers' Cabinet.

The Potatoe Crop.

ALTHOUGH the potatoe crop has been very much increased both as to quantity and quality within the period of nine years, the time that I have been in this country, still it must be admitted, that much remains to be done before we reach the point at which some of our eastern brethren are doing business in the "tater line;" nor can I quite consent to believe that all the difference is to be attributed to a difference of climate, for after a considerable allowance has been made for the heat and drought of the middle and southern states, there will yet remain a "discrepancy" to be accounted for, to the amount of some hundreds of bushels per acre; and I am inclined to think that much of this arises from the want of properly working and preparing our land before-hand, it being considered that so much labour and expense are not necessary here, as on the lands at the east, with so stern a climate. So we see, according to the old adage, "where God does most for man, man does least, either for God or himself," for we find the best management and the greatest share of health and happiness in a country where man is, emphatically, compelled to eat his bread in the sweat of his face—witness the agriculture of the eastern states, where it has been said, in derision of their small and stony possessions, a farmer is compelled to pasture his sheep by letting them down to feed between the rocks by means of a rope fastened to their hind legs, and holding them in that

position, there not being room on their small meadows for more than their mouth and fore-foot! And in journeying towards these states I have often observed that the most unkind soil and the wildest portion of the country is always settled the best, and there it has been that I have witnessed the truth of our motto, that "the productions of the earth have always been in proportion to the cultivation bestowed upon it;" and where also surprisingly large crops of potatoes have been raised by *artificial means*, on land the most unsuitable by nature.

Before I came to this country I was much employed in raising potatoes for the market, and believing that some observations which I then made might not be out of season or place, even in a country where it is admitted that soil and climate, as well as circumstances, differ, I will, with your permission, recount a few, in the hope that a portion of them at least might be found applicable, and be made subservient to the purpose of those of our friends who are not yet convinced that "there is nothing more to be learnt in farming." And in this hope, I must first state a fact which I was witness to sometime since. A farmer had brought potatoes to the landing at the foot of Chesnut street on the Delaware, which attracted the notice of the bystanders, to whom he was disposing of them by the bushel at a price not above that of the market, although they were very superior indeed, being remarkably even in their growth, neither large nor small, and particularly free from knobs and scabs; and every one was surprised to hear him say they had not been assorted, but had grown just as he had put them into the baskets for sale, adding, "I never have any large or small, and in a favourable season never less than six hundred bushels per acre, oftentimes more." He was a "Friend," but from what part of the country I did not learn—not, however, from Jersey. To the question, how do you manage to obtain such crops? he replied "I plant in season on well prepared land, keep the crop clean, but never mould up the rows, and that is all my secret in raising potatoes." I was sorry that business called me away at the time, or I should have liked to compare notes with him on a subject which of all others had employed my thoughts, and of which I flatter myself I know a little, and with the hope that he would have had it in his power to teach me more, but I have not since been able to learn his residence.

This is the season, the month of March, in which in England I used to finish all my potatoe planting, both for the middling and late crops, if the weather was favourable; the plants have then time to grow and shade the ground before the extreme heat comes on to

check them; and this one circumstance is oftentimes the cause of securing the crop. The land was prepared by an autumnal ploughing, and sometimes two, when requisite; so that when the furrow came to be turned out to the sets, it mouldered over them like ashes, the dung having been carried on to the land during the frosts of winter, and spread when the season would admit. The business of planting commenced by throwing out a furrow, in which the sets were placed about 14 or 15 inches distant, and then came boys with rakes, pulling in upon them the dung from the land designed for the next two furrows, when the planters again followed, and then the rakers: thus the land was planted in every alternate furrow, in which only the dung was placed. After the field was planted, it was well harrowed, and very carefully spread with a thick coat of lime that had been slaked on the ground by being covered, a basketful in a heap, by throwing a little earth on it, which effected the business in a surprisingly short space of time, and in the most complete manner; and a single flat-hoeing of the weeds, completed the labour until the time of taking up, unless, perhaps, the pulling by hand a few single weeds that might have escaped the operation of the hoe. The crop was generally taken up by the plough, and always proved very superior to those that were planted by any other mode, especially in seasons of drought, when the common system of moulding up, is attended by very *uncommon* injury to the crop. My potatoes were always of a very regular size, with no small and ill-formed roots or small tubers growing to the larger ones, those being occasioned by moulding up the crop while growing, which operation, forcing on another start in vegetation, it expends itself in the formation of small and incipient tubers, to the very great deterioration of the crop and its delay in ripening. I ought to have said, I always selected my seed from the finest potatoes that I could obtain at any price, cutting one eye only to a piece, and planting as soon as cut; and in this way I have raised more than 700 bushels per acre, with far less labour and expense than others have bestowed on crops of less than half that quantity, and of very inferior quality. A good coat of lime spread on the land after planting the potatoes operates surprisingly, first, as destroying the worms and grubs, second, by its antiseptic property, retarding the action of the dung, and preventing it from giving forth its whole powers during the early growth of the crop; preserving it until the time of ripening, when the most of its vigour is required; and, third, in preventing a surface-growth of weeds, which I am convinced that it does in a remarkable manner; and all this is effected by

the water which percolates through the surface-soil after every rain. In every way its use is great, but in none more than in the benefit which it yields to the following crop, which ought always to be oats, seeded with clover; my custom being, as soon as the potatoes are removed, to plough up the ground into wide ridges, called reaches, so to lie all winter, and on this surface, without another ploughing, to harrow in the oats, four bushels of seed per acre in February if the season will admit.

I find that some person declares that he has found the largest crops of potatoes to be raised from the stalk-end of the tuber—now this is contrary to all my experience, having always found the best and earliest crops to spring from the *eye-end* of the potatoe—a larger yield and an earlier harvest by two or three weeks; the quality also being very superior. From an experiment which I made with the thin cuttings from the eye-end of the potatoe, taken off while preparing for cooking—the pieces often not larger or much thicker than a twenty-five cent piece—I have raised the best crop that I ever grew, uniform in size and early in growth, the slices weighing at the time of planting 100 pounds, the crop on taking up weighing 2240 pounds.

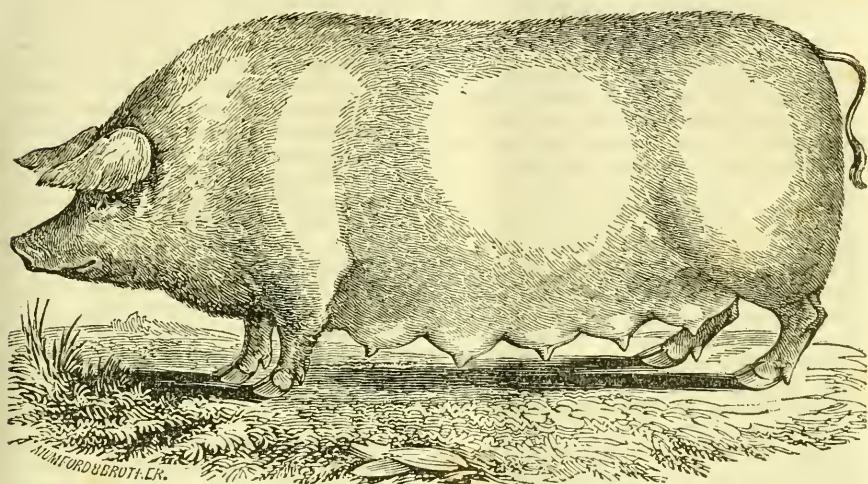
V.

Philadelphia, March 4, 1842.

The Peach-Worm.

“MR. L. PHYSICK had always observed that on soils containing nitrate and muriate of soda the peach-tree lives luxuriantly to an advanced age, while on soils immediately adjoining, premature decay takes place. This led him to an examination, and the result was a confirmation of his opinion that the effect was produced by the presence of these salts. He therefore commenced experiments with salt and saltpetre, in the year 1836, on a peach-orchard six years old, with the trees full of worms, many of them dead, and but very few with the appearance of health. Clover was sown upon the land that spring, and it remained in grass until last fall, when it was ploughed and sown with wheat. The result is a perfect conviction that the application in the month of March of half a pound of saltpetre and salt, equal parts of each, on the surface of the land, and in contact with the trunk, will not only add new vigour to the growth of the tree, but protect it from the worm, and almost insure a crop of fruit.”—*Alb. Cult.*

Agriculture is the commanding interest—nor can all other interests of a secular nature combined, be brought into competition with it.



THE CHESTER AND DELAWARE-COUNTY HOG.

THE above cut is the portrait of a sow of this distinguished and highly valued breed, drawn from life, and engraved by those excellent artists, Mumford and Brother, expressly for our work. The measurement of this fine animal was 6 feet 9 inches long, from the tip of the nose to the root of the tail, and 6 feet in circumference immediately behind the fore legs. Her colour was perfect white, with a softness and silkiness of hair scarcely ever before witnessed, while her great length and depth of carcass, together with a breadth across the back and loins enormous, were such as to satisfy the most craving appetite for monstrous hogs. A sketch was first taken when she was heavy in pig with her fourth litter; in an adjoining pen on the right, was a daughter, second only in size to herself, with a litter of ten pigs, and in that on the left, were her spring litter of pigs, fifteen in number, she having brought up *seventeen*, two having been sent to New Orleans as specimens of the Chester-county white hog, of which so much has been said. But before the sketch could be fully completed, she had farrowed *sixteen pigs*, and her death followed within the space of three or four days of that event. Her very peculiar character and fine points, however, have been traced by the hand of our draftsman with the most perfect exactness, and exhibit a specimen of "a Chester and Delaware-county hog," such as the advocates for that breed might well be proud of. It will readily be perceived that this fine animal was not allied to the *no bone breed*, nay, that she "had a head of her own," as honest John Lawrence says, and that she was able to carry it too; nor was her gigantic carcass supported upon four "spermaceti candles!" her symmetry of form and proportions were *perfectly in keeping*, and it was a fact that when she lay down, she was able to rise without assistance—which could not have been the case with nineteen-twentieths of those we see portrayed, with the assurance that the likeness is perfect. Many of these fine deep-sided, long-bodied white hogs may be met with in the adjoining counties of Pennsylvania, as also in New Jersey; but to those who have been acquainted with the best of that breed, their peculiarities are as marked as the old English breeds—the Berkshire, the Hampshire, the Lancashire, or the Ryswick, none of which, however, ever exhibited a more perfect specimen of what such a hog ought to be, than the individual portrayed above. She was owned by a person named Montgomery, who refused \$70 for her and her seventeen pigs the last year, but her progeny was not worthy of her, the sire of the brood having nothing to recommend him but his length of carcass and white colour, and his ability to subsist on almost nothing—a grazier indeed, coarse and heavy in the offal, although boasting of the cognomen "The Great Western!" The character of the old Berkshire and the present Hampshire (see pp. 89, 121 of the Cab. vol. 5, for portraits) is, that the meat when cut up exhibits the same thickness, or very nearly so, on the sides and belly as on the back; producing what is called *streaky bacon* in extraordinary proportion, with the rind by no means thin, but gelatinous, and the whole carcass *cellular*, and remarkably delicate in texture.

To the Editor of the Farmers' Cabinet.

Crack Stock.

SIR,—I have said, it is not necessary that the stock of the improving breeder should consist of high-priced animals of any variety; and I am led to the re-consideration of the important observation, by seeing the advertisement of sale of Col. Jaques's stock of "Cream-pot" cattle, which are made to appear upon paper about as high in value as those of any crack breed whatever, be they short, or long, or middle horns; and yet they are merely the produce of judgment in the selection and care in the rearing, and crossing with our native breeds. There are also the grand red cattle, belonging to Mr. R. T. Potts, which took premiums and won high encomiums at our last agricultural exhibition, and from which he will, by his consummate skill and care in the rearing, produce a stock of cattle which—or I am much mistaken—will far outvie many scores of those of which we see and hear so much, with long pedigrees and heathen names! There is also the cow "Yellow Flower," a common cow of the country, as she is termed by her owner, and which superior animal I was so fortunate as to see some months ago; and the very fine half-breed animal "Queen of Chester," whose portrait is given at p. 25 of the present volume of the Cabinet; as also a cow belonging to Mr. Kenworthy, of Frankford, whose history I will endeavour to procure for your pages on a future occasion—from such stock I am satisfied that a breed of cattle for the dairy might be raised, far superior to a great proportion of those which are sent over to us for no other purpose, it would seem, than to "astonish the natives."

Now there can be no reason in the world why persons should not amuse themselves in any way they may choose, in the very laudable pursuit of rearing fine stock; but I do *protest* against the right of those who have thought proper to commit themselves so deeply in a speculation, which, in my opinion, is sure to deceive their expectation, to *compel* us to believe that none but the breed which they have chosen to lavish their favours upon can be worthy of any consideration; and I am not willing to submit to the opinion, so unceremoniously expressed by them, that a man's judgment in stock must be measured by the length of the horn of his favourite breed, and the euphonious names, which it has been his pleasure to adorn them withal. But thus it is, and there will always be some new thing to urge us on, if it be only to substitute one thing for another—the size and colour of our animals for instance—and then away go the cost of thousands, perhaps, in a twinkling—witness the great *white* hog that

has been brought over from England by A. B. Allen, and which is to take the place of the black-and-white Albany humbugs—both small and great—in about another year, a space of time that would have sufficed to settle the disputes of Messrs. Bennet and Lossing, without giving them the necessity of showing themselves up to the public in the way in which they have long been amusing one another, to the edification of those who have expended their hundreds of dollars for white hairs in the tail and three white feet on a *black* hog! But I would fain ask, what *more* need be desired in the shape of a hog, than what we already possess in our own Chester and Delaware-county breeds? Witness the account furnished by Homer Eachus at p. 329, vol. 5, as also at p. 133 of the present volume of the Cabinet. If *less* be required, it is only to cross by means of "one dip" with the Berkshire, and then you have whatever you desire. I tell you, Mr. Editor, we are *fooling* away our time and money by seeking abroad what we already possess at home; it is only for us to have more confidence in our own judgment and exercise it in the way they do in England, and there will be no need of any one going to bring over either white or black hogs, or long or short-horned cattle, any more.

But just as I am writing comes the "Delaware Republican," in which is contained an excellent article touching on this subject, which I am induced to copy for insertion in your very valuable pages, and with which I conclude.

SUBSCRIBER.

"The cultivation of the soil, in a free country, is the highest and noblest profession in which man can be engaged—as it is the foundation of all true wealth. It is also the solid basis of a nation's greatness. In the vast resources of the soil, commerce finds capital and employment—from the rich granaries of the nation are her manufactures cherished; the mechanic, artisan, and labourer clothed and fed.

"Many plans have been set on foot for the encouragement of agriculture, and mostly by those who have no *practical* knowledge of farming, or the slow and tedious method of cultivating the soil of their country by their own manual labour. The schemes of wealth and improvement set before the honest farmers by these *theoretical* tillers of the soil, are to be found in the management of the five hundred dollar cow with the male that shall cost one thousand dollars, requiring the attention of as many hands to keep them in the high condition they are generally kept, as are required in the management of a moderate sized farm, including the stock. Good stock is a desirable portion of the farmer's wealth—yet the value of the stock by no means

consists in the high price given for the animal. I recollect when one thousand dollars was paid per head for merino sheep, yet no breed of sheep that lived was worth half the money. The farmer of moderate means, should be careful to keep himself clear of the high priced stock, and carefully count the costs of feeding the cow, that is to yield her thirty quarts of milk per day. A little examination into the feeding of these cows, the time required to bring them to an artificial and bloated condition, will satisfy the practical farmer, that if they received the same attention and feed of the best of our domestic stock, the yield in milk or butter would be no more. The man who cultivates his own land, will receive more benefit from a judicious selection of a good common stock, being more easily kept, and from occasional inattentions do not decline so rapidly as that stock which, by forced feeding and attention, makes a much larger show in the eyes of the world. That those who have large means and plenty of hands to attend to the feeding of high-priced cattle, may add largely and beneficially to the stock of this country, I admit, and while it gives amusement to the gentleman farmer, may, no doubt, in his own circle, add something to his profit also; yet, I am decidedly of the opinion that the generality of farmers do much better with good domestic stock."—*American Farmer*.

The "Orchardist's Companion."

WE would inform our correspondent, POMONA, that the third number of the "Orchardist's Companion" is published, and may be had by application to the proprietor, Mr. Hoffs, 41 Chestnut St., Philadelphia. The present number contains twelve coloured illustrations of fruit, namely, two grapes, three pears, three apples, two peaches, one plum and one apricot, of most delicious and inviting appearance. The testimonies in commendation of this national work are very numerous and of the highest character, and the proprietor has lately received the silver medal as first prize from the American Institute, New York, with a most flattering notice of the estimation in which the work is held by the public generally—an honour conferred without solicitation or expectation on his part. The price for the best edition is \$7 per annum, for the second edition \$3 per annum, payable in advance.

In the present number of the "Orchardist," there is a beautiful coloured specimen of the apricot, drawn from nature; the specimen having been furnished by Mr. C. Morris, of Philadelphia, who, in an accompanying letter addressed to the proprietor, remarks, "The tree which produced the fruit, is a graft upon a *plum stock*; my next-door neighbour has a tree growing from a stone of my apricot, which produces an ordinary blue plum, ripening late in the season; the trees are very different in appearance, both in leaf and growth; my apricot ripens the earliest of any of the kind—say, early in July." The anomaly of a tree raised from the

seed of the apricot producing plums, has caused much discussion amongst the whole fraternity of horticulturists, and the very idea of the thing is almost universally scouted—"It reminds us," say they, "of the justly exploded doctrine of transmutation of wheat to cheat; and is not to be tolerated for an instant by any one of respectable standing in the profession." We were, a few evenings ago, spending an hour with a most intelligent friend, whose knowledge and experience in the science of horticulture is of long and high standing; while turning over the pages of the present number of the "Orchardist," his attention was drawn to the above circumstance; and being informed that the subject had been viewed with universal skepticism, he replied, "Is there any doubt of the fact as there stated? there need be none, for I have such faith in the thing, that I will venture to say, one out of every six trees raised from the seed of the apricot that has been grafted or budded upon the *plum-stock*, shall, on fruiting, be found to produce a plum; it is a thing perfectly well known to those who have practised the mode of raising the apricot from the stone of the fruit, which stone is precisely in appearance like that of the plum; and very different indeed from that of the peach.* The transmutation may be considered, in a degree, natural, and goes to open afresh, and for future discussion, the interesting question of the *influence of the stock upon the graft*."

We once resided for several years in the Island of Jersey, England, and were personally acquainted with a gentleman, a Mons. Mallet, whose taste for horticultural pursuits was proverbial; his garden was situated on the south side of the town hill, and there the fruit, of which he was exceedingly proud, attained such a degree of maturity and richness, as to yield, on drying, sufficient saccharine to preserve without the aid of sugar—his plums were even superior to those of the south of France. Amongst the trees which he had raised from seed—a practice which he strongly advocated—was one that had sprung from a peach or apricot stone, which, on fruiting, produced a plum of large size and most delicious flavour and extraordinary appearance; from this tree, which he denominated a *black peach*, he would never allow a graft or bud to be taken; but his friends, who had seen the tree and the fruit, pronounced it a *plum*, nor were they desirous of propagating from it, expecting to be disappointed in the attempt, considering it a chance production, and not likely to perpetuate its kind; every one being satisfied that it had been raised from the seed of a tree that had been worked on a *plum-stock*.

In several of the back numbers of the Cabinet, the influence of the stock upon the graft has been discussed and much interest excited; if the instance above mentioned shall tend to renew the consideration and examination of the important subject, we shall rejoice, and would respectfully offer the pages of the Cabinet as a book of record.—Ed.

Philadelphia, March 1, 1842.

In the year 1809, English grown Spanish wool was sold for 26s. sterling per pound!

* A friend here remarks, the apricot may very properly be denominated a *plum*.

For the Farmers' Cabinet.

Magnesian Lime.

HAVING noticed an article in the March number of the Farmers' Cabinet, for 1841, which was extracted from an old report on the agriculture of Scotland; militating most unequivocally against an axiom long since too firmly established, by the experienced and learned practical farmers of this country, to be shaken. The conviction that the *anti-magnesian notion* had come regularly up, and had gone regularly down, for the last half-century, and owed its origin long behind the enlightened age in which we live, induced me to animadvert on the article in question, in a succeeding number of the Cabinet. My strictures having reflected, in some degree, on the Editor's discrimination for publishing an article in such "bad odour" in this part of the world, where every practical farmer has had experience to teach him better,—brought up the following clause, in a note, by the Editor: "The subject will bring forth communications from those of our friends* who, without going back to the time of Dr. Tenant or Dr. Davy, conceive they have had experience of the fact, that magnesian lime has been injurious to their land rather than otherwise." Is the Editor not aware of the fact, that lime, as a fertilizing agent, is now meeting universal favour, and already transcends in importance any one subject connected with agriculture? Is he aware of the vast amount of improvement already effected by it, particularly in Lancaster, Berks and Chester Cos., Pa., and Cecil Co., Md., in parts of which, without lime (humanly speaking) some of the farmers could not live? I now, therefore, propose a very easy and ready way to satisfy demurring minds—'tis this, let it be ascertained whether the lime, which has, as above stated, "worked wonders," is, or is not, magnesian. We, who profess to know, avow that all the *best* lime in use for agricultural purposes, in the above districts, is more or less impregnated with magnesia. In the very districts above named, where the application of lime has long been in full tide of successful experiment, are found as good, if not the best, samples of husbandry and the most productive agriculture in the United States. Within ten square miles in the neighbourhood where I reside, 200,000 bushels of magnesian lime are annually burned, and the quantity is increasing.

The principal reasons why magnesian lime is being more valued in this country and Europe than other lime at present, are substan-

tiated by the array of scientific testimony to be found at pages 339 and 340 of vol. 5 of the Cabinet, from which we may deduce as follows:

1st. In our most fertile soils, carbonate of magnesia is found to be one of the principal constituents.

2d. In magnesian lime we have, by its action, a two-fold advantage, carbonic acid having a greater affinity for lime than magnesia, the lime carbonating almost immediately, while the magnesia retains its causticity, or corrosive alkaline quality, much longer, thus acting more powerfully in destroying undecomposed vegetable matter, than common lime, (or the advocates of the antiseptic doctrine would say, staying or retarding too rapid decomposition) answering either view.

3d. A much smaller quantity of magnesian lime answering the purpose, and the effect more durable.

4th. In common lime the proportion made up by magnesia, in magnesian lime, is supplied, it is ascertained, by sand, flint or silica and other drossy substances entirely useless.

5th. Magnesian lime has less specific gravity, and is composed, when fresh burned, almost entirely of lime and magnesia, frequently less than one per cent. of silica or sand.

6th. Much of the vague conjecturing, prejudicial to magnesian lime, it is believed originated in the unskilled and unpractised hand, which being accustomed to lay on impure common lime in large quantities, without perceptible injury, by applying magnesian lime, in the same quantity, would of course for a time rather injure vegetation, by reason given and explained, No. 2, above; yet, in the end, this same heavy application of magnesian lime, when after having had time to carbonate and yield its causticity, will be *very* efficacious.

The Editor having promised communications from those who conceived they had experienced injury from the use of magnesian lime, has kept me waiting anxiously to learn what ground they would *stand upon*,—would it be fair to apprehend that, like Archimedes, when he undertook to raise the world by a lever, they could find no ground to stand upon? However, without vaunting of the feeble hold, that the advocates on my side may take of the subject, we nevertheless invite the anti-magnesian farmers to come out boldly on this all important subject. Our knowledge extends over four or five counties, embracing about as many thousand square miles, by way of laboratory, so we can of course admit no "two-penny experiment in a garden-pot," according to S. Lewis, in your last number, whom, I am happy to acknowledge as another strong spoke in the great wheel of truth. But really when the period arrives when we who attribute so much of our success in farming to the application of

* Our correspondent has affixed a meaning to the term "friends," which it ought not to be made to bear—he himself is one of our best "friends" and correspondents.—ED.

magnesian lime, are to be convinced that the very article we so highly prize, as a fertilizer, is *actually* a sterilizer, I may certainly say, in advance, we must first, like Zeno, the famous Stoic Philosopher, deny the laws of motion, and submit tamely to any innovation which may follow.

In the last number of the Cabinet I discover the premonitory symptoms of a redeeming change, the sound article of S. Lewis occupies the front page conspicuously, a place it well merits, and as it is merely a prelude, may his pen not be idle in arresting a prejudice so pregnant with mischief to the farmer's interest. As no one can plead infallibility, I would just refer to the subject of applying putrescent or stable-manure; it will be remembered that to plough under recent stable-manure, with a view to retain the volatile gases, was the favourite idea of the justly esteemed and lamented Judge Buel, who ranked among the most distinguished agriculturists in this country and Europe. Well, mark it *now*, the time is at hand when that very idea must vanish along with other visionary things, and be dispelled by the light of truth. An anomaly indeed to imagine that the volatile gases can be confined among the roots of plants, to be taken up by their spongioles as nourishment: while the denser gases, carbonic acid for instance (which stable-manure generates), a principal constituent and stimulant, in the growth of plants, is of such gravity that it can be poured out upon the earth, and descends into the soil almost with the same facility that water does. Hence the approach of the period when ploughing under the furrow stable-manure, in any state, will be recurred to among the things *which have been*.

W. PENN KINZER.

Springlawn Farm, Pequea, Feb. 20, 1842.

For the Farmers' Cabinet.

The Cut-Worm.

MR. EDITOR,—The remedy for this scourge which your correspondent, Mr. Johnson, at p. 231 of the last number, flatters himself that he has discovered, although he is not prepared to offer any reason for the plan which he has so successfully adopted, is, I think, very easily accounted for, without supposing that the eggs of the fly are carried into the barn with the hay, or that they are destroyed by the scorching rays of the sun on the removal of the crop, but merely by adopting his third supposition, namely, that the fly or bug or beetle or whatever else is the parent of the cut-worm "seeks other fields better adapted to its purpose." Did your correspondent never witness and admire the intelligence and cuteness of the tumble-bug,

while collecting from the droppings of cattle materials for the purpose of encasing an egg, which is destined one day to become another bug exactly like itself, to practise the very same contrivance for the perpetuation of his race in which itself was then engaged? In somewhat the same way, I conceive, are the eggs of the cut-worm preserved and provided for, and from hence they emerge when their operations are required, by the universal and unalterable law of nature "in that case made and provided." But where could these animals be furnished with materials fit for their purpose, except in those fields that have been grazed by cattle, and where their droppings have been left? In fields that have been twice mown, none, of course, is to be found, and therefore "the fly seeks those fields better adapted to their purpose."

But I cannot consent to believe that fall-ploughing, when properly performed, is not very effectual in the cure of this "scourge," yet I admit that in the way this operation is generally performed, it will oftentimes be found but of little avail; want of success, arising from the circumstance of the land being turned too shallow, or too deep, or not turned at all, as we often witness—one-half the earth remaining unmoved after the passage of the plough. In the hands of a careful cultivator, I should be willing to commit the question of a "remedy" by a thorough autumnal ploughing, having had opportunity to witness the result of such a course the past season, on a field belonging to Homer Eachus, Edgmont, Del. Co., where one-half the piece having been ploughed before the frosts of winter and the other in the spring, the whole being planted with corn. The difference in regard to the ravages of the cut-worm was very striking, and showed most conclusively the benefit to be derived from fall-ploughing—but it is only common justice to remark, that the work was carefully and effectually performed by one "who had an interest in the soil," which often makes all the difference in the world. Will your correspondent inform us what are the results of his experiments the present season, and oblige, amongst the rest, an anonymous correspondent, who cannot yet bring his mind to appear before the public in propria persona.

C. W.

Feb. 23, 1842.

"What a consummation would it be to witness the establishment of national agricultural establishments by *national funds* devoted to the blessed labours of the field, instead of being wantonly squandered in the perpetration of acts of violence, and the destruction of human life and happiness."

For the Farmers' Cabinet.

Orr's Air-tight Stove.

MR. EDITOR,—Having so strongly recommended the air-tight stove, I thought you would like to be informed that a terrible explosion has taken place in one of them at Nantucket, which demolished the chimney, and threw the bricks and stove all out into the middle of the room. Now I should be glad to know if you still approve of them? for in this neighbourhood there is considerable alarm felt on the subject, and I rather congratulate myself on delaying the purchase of one—which I had intended from your recommendation—until I hear farther about it. Pray enlighten us, and oblige your subscriber.

J. DENNIS.

Hearing an account of the explosion, we made it our business to call on the agent for the sale of the air-tight stove, who informed us he had written to Mr. Abbot, and had received a most satisfactory answer to his inquiries, which, having since appeared in print, we copy, for the information of those who have already purchased or intend to purchase a stove, that, in our estimation, still continues unrivalled. A moment's reflection will convince any one, that the explosion must have taken place in the chimney and not in the stove, which, weighing a few pounds only, and very easily removed from its position by a single finger, could not have formed a resistance sufficient to throw out brick-work, iron mantel-bar and wood-work, scattering all over the room; but the writer explains all.—ED.

“*Explosion from an air-tight stove.*—As the explosion which occurred from an air-tight stove in the house of the subscriber a few days ago, has excited some interest, I send you, for publication in your paper, if you judge it expedient, the following statement of the facts in the case.

The stove was a large one, called the fourteen dollar size. It was set by bricking up the fire-place, and no ventilator was made. At ten o'clock, the evening before the explosion, there being then a glowing fire in the stove, I put in an armful of green walnut wood, and closed entirely both the register and the damper. When I arose the next morning about 6 o'clock, I opened the door of the stove, and could see but little fire, though the wood seemed to be converted almost to charcoal. I left open the door and the damper perhaps three minutes, when the wood became in a light blaze, and the stove in some parts red hot. The funnel, where it entered into the brick-work, had, by repeated contractions and expansions, become loose, leaving quite a crack around the funnel through which I could plainly see the flame from the stove entering the chimney. I then shut the door of the stove, and opened the register, leaving the damper still open. Ob-

erving, perhaps in a minute, that the fire was much checked, I again took hold of the door, and had opened it about half an inch, when, with a loud report, truly a fearful explosion took place, *not in the stove, but in the fire-place behind it!* The brick-work was thrown out clear; the iron mantel-bar torn out, and the wood-work around the mantel greatly shattered. The stove was driven two or three feet into the room, and much indented by the bricks which were thrown against it. The bricks and mortar were scattered all over the room. The explosion was unquestionably caused by gas—probably carburetted hydrogen, generated in the stove, and collected behind the brick-work in the fire-place. This gas, when mingled with certain proportions of atmospheric air, possesses great explosive power. If there had been a ventilator in the brick-work near the hearth, the collection of this gas, and the consequent explosion would probably have been prevented. I have now had my stove replaced in its former position, with a ventilator. I cannot reject a friend I value so highly, for a single misdemeanor.

“JOHN S. C. ABBOT.”

Nantucket, Jan. 15, 1842.

[Mer. Journal.]

For the Farmers' Cabinet.

Good Example.

MR. EDITOR,—Twelve years since, I resided in a district of country which enjoyed superior agricultural advantages in respect to soil, climate, water and wood, and a convenience to the best of markets; still there was a perceptible want, throughout, of enterprise and prosperity among the farmers. Of corn, the average crop seldom exceeded 20 bushels per acre, and that of every other kind of grain was in proportion. Wheat, however, they would seldom attempt to raise, unless upon new land, or that which had been favoured by a scanty supply of manure which their barn-yards annually afforded. Their farms appeared in a slovenly condition, and the several kinds of work were indifferently and unseasonably performed. Their cattle and sheep were entirely destitute of shelter, and left at all seasons exposed to the peltings of the pitiless storm—their houses and out-buildings were, in general, very ordinary, and many of them old and much dilapidated. The best farms in that neighbourhood, had they been exposed to sale at that time, could have been purchased for less than \$40 per acre. But “a change came o'er the spirit of my dream.” At this day, that same neighbourhood is widely reputed for its excellent farmers, its productive soil, and abundant crops, of which wheat is now the principal, and generally yields from 25 to 30 bushels, fre-

quently 35, and sometimes 40 bushels per acre. Rye, corn, barley and oats are also cultivated to a moderate extent, and with like success. Their old shabby buildings have chiefly given place to new ones, which, by their neat and substantial appearance, indicate the good taste and the good judgment of their proprietors. Do you inquire by what cause, by what miracle, so great a change, so great a reformation, has been effected within so short a time? I answer, all this has been accomplished by the *good example of one good farmer*. The farmer to whom I refer, removed into that neighbourhood in the fall of the year 1830, and undertook, in behalf of a widowed relation, the management of her farm, which contained about 125 acres of arable limestone land. The proceeds of this farm, under its former occupant, had been annually insufficient to pay the expense of its own cultivation and support his family. But its new overseer turned over a new leaf, and that farm is now one of the most productive, and one of the most valuable of any in the township in which it is situated. The first step towards improvement with this man was to dispose of all the poor, old, worn-out cattle and horses which he found on the farm, and supply their places, not by good ones merely, but by the very best he could procure, regardless of the price. The farming utensils from the least to the greatest, underwent a close inspection and a thorough repair. A shelter was provided for his cattle and sheep, and a comfortable pen for his hogs; a lime-kiln was built, and all other necessary improvements were immediately made. In his farming operations there was nothing peculiar, or different from those of his neighbours, except in their seasonable and perfect performance. In the early part of spring his fences were thoroughly repaired; the stones were collected and hauled from the fields designed for mowing, and from other places where they might interfere with the proper cultivation of the land, or prove detrimental to the growing crops. One kiln of lime was burned in the spring and placed on his corn ground, at the rate of 60 bushels to the acre, and another at midsummer, and applied in like quantity to an inverted clover sod, as a preparation for wheat. His corn was planted with care in hills three feet apart each way, and three grains in a hill; it was twice harrowed, twice plastered, twice ploughed, and all at the proper season. A part of his wheat was sown on open fallow, which had received a heavy dressing of manure in the spring, and had been twice ploughed and once harrowed before harvest, and once ploughed afterwards. A part also was sown on clover lay, which had been enriched by ploughing under a luxuriant growth of grass, and which, with the

lime applied as before stated, and thoroughly harrowed and incorporated with the soil, always proved an excellent preparation for wheat, and insured a bountiful crop at the ensuing harvest. I need scarcely add, that his crops of every kind were uniformly good, and far surpassed those of his indolent and improvident neighbours, and afforded him a clear profit of more than \$1500 a year. But at length his success and increasing prosperity attracted the notice, and excited the emulation of the surrounding farmers, and led them gradually to imitate his example, until finally most of them became good farmers, and many of them superior; and generally they have rendered themselves independent, and enhanced the value of their farms at least 100 per cent. And instead of the sloth, ignorance and poverty which disgraced the agriculture of that region of country a few years since, it is now distinguished for its industry, wealth and intelligence, with every concomitant blessing—all of which is the effect of the GOOD EXAMPLE OF ONE GOOD FARMER.

P. W.

Rural Retreat, Pa., Feb. 23, 1842.

For the Farmers' Cabinet.

Rotation of Crops — Top Dressing.

MR. EDITOR,—Your correspondent, Mr. Mellor, in his article on the rotation of crops, p. 172, Jan. No., says "as soon as the wheat is carried off, plough up the land and *sow* buckwheat, or turnips, or beets." Does he mean to *sow* beet-seed broad-cast? Does he bestow any labour or cultivation after sowing? He also recommends "heavily top-dressing clover during winter and early spring with compost of all kinds," for hay. Does he not find that his cattle do not so readily eat hay made of the grass cut immediately after manuring with barn-yard manure? From the apparent disposition of Mr. M., I think he will cheerfully answer these inquiries if you will communicate them to him through your paper, or in any other way you may think best, and oblige

ONE OF YOUR SUBSCRIBERS.

On the receipt of "Subscriber's" letter, we took the opportunity of forwarding it to our correspondent, Mr. Mellor, by the hands of a friend, with a request that he would favour us with a reply—it is here subjoined.

—Ed.

DEAR SIR,—I herewith return "Subscriber's" letter with a few remarks in answer to his inquiries.

On the removal of the wheat crop, I recommend the sowing of buckwheat, or turnips, or beets, as a second crop: the two first I should not hesitate to broad-cast, but the latter I would drill—the general term *sowing* was used indiscriminately. The cultivation, or after labour, must depend entirely on the

state of the land; a hoeing of the crop of turnips or beets will, I presume, be found requisite, while a sprinkling of plaster would be likely to pay cent per cent the cost.

The top-dressing of clover early in the spring I consider the "primum mobile" of the new husbandry, and have never found that cattle do not so readily eat hay made of grass cut after dressing with barn-yard manure, but the contrary; for the growth of grass which is caused by it, does not proceed from the *putricity* of the manure, as "Subscriber" seems to imagine; the influence of air, light and heat, bringing on a state of fermentation, when the impure gases escape by their levity and leave the heavier or pure gases — carbonic gas for instance — to be taken up by the leaves of the plants in respiration, or to be conveyed to their roots in a state of solution, purified and made fit for being taken into circulation. But all this beautiful arrangement of nature is reversed, when *fresh dung is buried* so deep in the earth as that the process of fermentation is prevented or retarded; then it is that the plants are compelled to take into their circulation an impure food, which would no doubt cause the cattle to reject or loathe it; the evil is however remedied, and nothing but good can arise from the application of manure to the surface in top-dressing, whether the dung for that purpose be fresh, partly fermented, or perfectly rotted; but as the old proverb says, "in medio tutissimus ibis" (the middle way is best), I must prefer the middle course, and apply the manure from the compost-heap, after it has undergone a partial fermentation; it would then be fit for immediate operation, and I am convinced that no kind of dressing whatever can be of service to vegetation until fermentation has taken place, by which process the wholesome and injurious gases are separated, and rendered subservient to the laws of nature. The observation of the old farmer, that "no good can come of dung that smells disgustingly," is perfectly correct, for it is a great mistake to suppose that plants would imbibe the nauseous matter if they could avoid it. There is an article on this subject, page 270 of Cab., vol. 5, which goes very fully into the matter; it is there said, "Then comes the question as to the propriety of applying manure to the surface of the earth only, and I am strongly of opinion that it is the carbonic gas which is of service to vegetation, and is destined by its weight to *descend* and perform that office, while the hydrogen, which has possibly been employed in the formation of that or some other necessary ingredient, passes off by its levity, after its presence is no longer required, escaping into the atmosphere to perform again the destined round. And it would in all probability be found injurious rather than

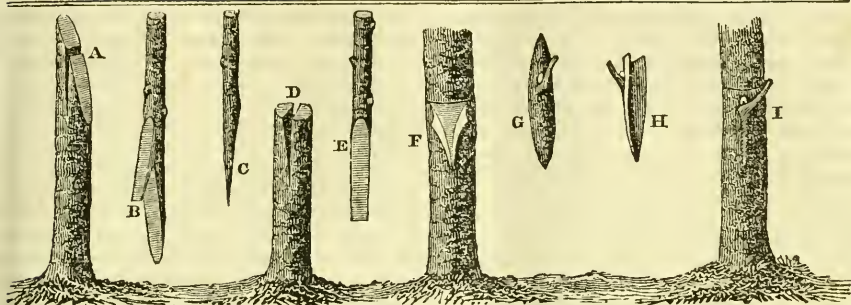
otherwise, were any attempt made to confine it in *contact with the plant*, after its necessary office had been fulfilled — according to the theory contained in a paper at p. 134 of the 5th vol. of the Cabinet," as well as in another at p. 86 of the same volume, "and I am led to think very seriously on this theory, from the circumstance of the necessity of waiting until the *poisonous* gas has escaped from a newly-made hot-bed, before any plants or seeds can with safety be consigned to it; and the very observable difference there always is between the *smell* of the gas which rises from a fresh-made hot-bed and that which is evolved after it has become *sweet*, as it is termed, by evaporation," emitting the smell of mushroom, "goes strongly to corroborate the truth of the theory." The paper last mentioned, p. 86, is strikingly in point, accounting at once for the death of the trees in the cherry-orchard in Kent, England, so soon as their roots had penetrated to the dung at the bottom of the trench, where it had been buried so deep as to be out of the influence of *air, light and heat*, by which the purifying process of fermentation had been prevented altogether, and where it therefore lay a poisonous and destructive mass of corruption.

My proposal therefore is, to remove occasionally during the winter the dung from the cattle-yard, placing it in those fields where it may be required; the very act of removal will bring on a state of fermentation just sufficient to purify and render it fit for use; and I have in view at the present moment two heaps of about 500 loads each, which have thus been accumulated during the leisure of winter, convenient for carrying abroad, both as top and corn-dressing, by a person who is setting an example worthy imitation — and all his information has been derived from *book-learning*! his corn-crib exhibiting clearly the value of such kind of knowledge, for nowhere do I see ears so well filled towards the ends—a mark of good management which I always seek for. T. MELLAR.

Feb. 22, 1842.

P. S. It would give me sincere pleasure to come into personal contact with "Subscriber" — judging from his hand-writing, such a man would be *worth* knowing.

WOOD AND WATER.—It is estimated that a cord of wood contains, when green, 1,443 lbs. of water. So that a farmer who brings into market a cord of green wood, has no less load for his team, than another who should put on the top of his cord of dry white-oak, *three-quarters of a cord* of seasoned pine, or one hogshhead and two barrels of water.—*Brown's Sylva Americana.*



GRAFTING AND BUDDING.

From *Affleck's Far. and Gard. Almanac.*

ALTHOUGH it is generally better for a farmer to go to a nursery, and there select the young trees he may require, yet every one ought to have a knowledge of grafting and budding—with this view a sketch descriptive of the process has been prepared, and is here offered.

Stocks for grafting or budding are produced either by sowing seed, or from layers, suckers or cuttings; but the stock must be of the same natural family as that to which the graft belongs, or have a close affinity to it. To use others—as the sycamore for the pear and apple, the walnut for the peach, &c.—may do as a matter of amusement or experiment, but can be of no permanent and real advantage. In grafting, mere propagation should not be the only object, for to secure a permanent union between the stock and graft is of far more importance. For apples, seedlings of the apple and the crab. Pears, those of the wild species or of the quince. Plums, seedlings of the common or wild plum. Cherries, seedlings of any free-growing wild variety. Peaches, on the stock raised from seed. The apricot and nectarine, the larger sort of plums. The season for grafting may begin by the middle of March, and continue until the end of April; the grafts being cut into lengths of four or five buds each; the knife to be thin, small and keen-edged. Cut off the head of the stock and the base of the scion at a corresponding angle, so as to form, when put together, a neat splice: the tip of the stock, if larger than the graft, is to be cut off horizontally. Next a slit is made downwards in the centre of the sloping cut in the stock A, and a corresponding slit upwards in the face of the scion B; in applying the scion to the stock, the tongue formed in the base of the former is inserted into the cleft of the latter, and so fitted that the inner bark may unite neatly and exactly on one side; the splice is then tied and covered with clay or waxed bandage. Other methods might be

mentioned, but it will suffice for our purpose to include cleft and root grafting; the former being adopted where the stock is much larger than the graft, when the head of the stock is cut off, and a perpendicular slit made, D, the scion being sloped on both sides, C, E, and inserted like a wedge into the cleft of the stock. Root-grafting is performed on a root a little thicker than the graft, and the more fibrous the better; a quantity of them may be procured in the fall, and packed away in sand or earth in a cellar, those from young trees being most desirable; the plan represented at A, B, will answer best, and when grafted they may be packed away in earth in the cellar until the spring, when they may be planted out in nursery rows.

Budding. This mode of propagation is applicable not only to fruit-trees but to ornamental trees and shrubs, including the rose, and there are some fruits that can scarcely be multiplied in any other way. It consists in removing a bud with a portion of the bark from a tree, and inserting it in a slit in the bark of another tree. The season for performing this operation is in July or August, when the buds destined for the following year are completely formed in the axils of the leaves, and when the portion of bark parts freely from the wood beneath; the buds to be preferred being those on the middle of the shoot. There are many forms of budding; but that which is the simplest and most easily performed need alone to be described. The operator should be provided with a budding-knife in which the cutting edge of the blade is rounded off at the point, and having a thin ivory or bone handle, like a paper folder, for raising the bark of the stock. A horizontal or transverse incision is made in the bark, quite down to the wood, and from this incision a perpendicular slit is drawn downwards to the extent of perhaps an inch. The slit has now the resemblance of the letter T, see F; a bud is then cut from the tree

that is wished to be propagated, having a portion of the wood attached to it, so that the whole may be an inch and a half long as at G. The bit of wood is then gently withdrawn, care being taken that the bud adhere wholly to the bark or *shield*, as it is called, as at H, which is the reverse of G. The bark on each side of the perpendicular slit being cautiously opened with the handle of the knife, the butt and shield are inserted, as at I; the upper tip of the shield being cut off horizontally, and brought neatly to fit the bark of the stock at the transverse incision. Slight ties of moistened bass matting or candle-wick are then applied, and in about a month or six weeks these ligatures may be taken away, when, if the operation has been successful, the bud will be fresh and full, and the shield firmly united to the wood; the next spring a strong shoot is thrown out from this bud, and to this the stock is headed down in the course of the summer.

To the Editor of the Farmers' Cabinet.

Lime.

IN the last number of the Cabinet, Samuel Lewis has endeavoured to show that the opinion "that magnesian lime is deleterious to vegetation, has no foundation in fact, and is, in short, all a humbug, both as it relates to this country and to Europe." Now I have turned over the pages of the Cabinet, and some publications that have treated the subject more in detail, and on comparing the views of others with my own experience, I have arrived at a different conclusion. That the application of magnesian lime in south-eastern Pennsylvania has had the effect described by S. Lewis, I freely admit, but I do *not* admit that the lime applied without the magnesia would not have had a much better effect. The fact stated by S. Lewis does not prove this point, nor does it prove that magnesia is not deleterious to vegetation, which is the main question. From what is known on this subject, at least as far as my knowledge extends, lime is congenial to the growth of plants, but magnesia is not; if, then, a favourable result follows their application to land in a mixed state, it only shows that the good effects of the lime have not been counteracted by the bad effects of the magnesia. All lime is mixed, more or less, with foreign substances; some are injurious, some are harmless, and others again exert a favourable effect upon vegetation; but in no case can we expect the mixture to be equal in value to the lime, and consequently it must be a drawback upon the profits of the business. Pure lime is the article to buy, and if you cannot get it pure, get it as pure as you can.

If mixing is wanted, you can do it to your own liking, and at less expense. Lime is an article of prime necessity, and in most situations very costly; it behooves the farmer then to inquire and examine closely into the kinds and qualities before he makes purchases. The geologist of Maryland found as much as forty per cent. of foreign mixtures in some of the lime around Baltimore, while in the purest kinds he found but ten—there is a difference of thirty per cent.; yet it is very probable the farmers have been in the practice of buying it all at somewhere near the same prices. Lime, thus indiscriminately bought, has improved the soil and enriched the owners, but the knowledge how to avoid those extraneous substances would have added still more to their success, and is certainly no humbug. Just so in Chester county; I have no data at hand from which I can state facts, in relation to the foreign matter in their lime, but there can be no doubt that some of it that comes to our market for sale, contains thirty per cent. of sand, besides other mixtures.* Now we all know that the farmers in Chester county, who use *sandy lime*, make their land rich, and increase their profits; but the operation would be as quickly and more profitably performed, to buy 70 bushels of pure lime and mix it with 30 bushels of sand out of the road, and apply it to the land in the same way they do their lime. Those facts in relation to the qualities of lime were little known or thought of by the farmers 30 years ago; they found that lime improved the soil, but as to the quality, or manner of its application, they knew but little. They generally adopted the Dutchman's rule in its simplicity, without asking *unnecessary* questions, "be sure get lime, and put it on your land." The farmers too in Chester county cherished, for a long time, an inveterate prejudice against book-learning; they looked with pride and self-satisfaction on the hardy yeoman who succeeded better by the dint of physical power, than his neighbour who combined moderate labour with ingenious mental operations; but the present generation in every section of our country, are more inclined to inquire and adopt speculation in their practice where they see probable reason for success. This medium course between the ultraisms of physical and mental power will, if they retain the plain economical habits of their forefathers, produce results in agriculture and in every department of productive industry, that will go far ahead of any thing that has preceded them.

I should not have noticed S. Lewis's article, but I thought it calculated to lead the

* For a most minute and accurate analysis of several kinds of lime, see Cabinet, vol. 4, p. 308.—Ed.

young and inexperienced farmer astray; for he does not fairly recommend a preference for magnesian lime, he is certainly very indifferent about the mixture. From long observation upon the effects of lime in tanning, building, and in the manuring of land, I have discovered a great difference in its qualities, and from recent experiment, I am satisfied that those different results proceed from the foreign substances attached to the lime, and not from any peculiarity in the lime itself. Most of the lime that comes to our market from the great valley of Lancaster and Chester county, is very soluble in water, mixing with it quickly, and forming a substance like milk or cream, and is the best solution known for the preparatory operations of morocco-dressers and tanners of leather. Three bushels of such lime is quite equal to four and a half from the quarries about New Garden and London-grove, in Chester county; but the latter lime is as much superior for building as the former is for tanning. Bricks made with this caustic lime set quickly, and will temper 50 per cent. more sand than the valley lime. But in this kind of lime there is a difference for building, proportioned to the quantity of sand contained in the lime. But for land, I prefer lime as pure as it can be obtained. Within a few years past a great variety of opinions have sprung up about the proper quantity of lime for an acre of land, in order to insure the best success in agriculture. Similar experiments in different countries have produced very different results. In England the experiments are in favour of four, five and six hundred bushels to the acre. In France from 30 to 50. In Chester county the opinion is gaining ground that 50 bushels are as good as 100. An intelligent farmer from that neighbourhood informed me, that a few years ago he limed over one of his fields at the rate of 60 bushels to the acre, and then limed a strip of land across the middle of the field at the rate of 60 bushels more, but he had never been able to obtain any advantage from the additional quantity. On the other hand, some of the New Jersey farmers, who obtain their lime from the Schuylkill, have increased their experiments from 50 bushels to 200 with the most flattering success. But I understand that those experiments have been made with the purest qualities of lime. On this point many of the farmers in Delaware are very particular; one of them informed me, that some of the Schuylkill lime is so impregnated with magnesia that it is not worth buying, and other kinds so pure that you cannot buy too much of it; and this I hold to be the true nature of the case everywhere, as Tillet, Tenant, and other agriculturists have shown in Europe, "that magnesian lime is exceedingly

injurious to land." This view of the subject accounts for the entire want of confidence that some people have in the use of lime as a manure; they say it is good for nothing; and having applied more magnesia than lime, it is not only good for nothing but worse than nothing.

Magnesian lands produce no vegetation: the earths found in soils are mostly silex, clay, lime and magnesia, and where magnesia predominates, the land is always barren. One of my neighbours spread at the rate of 1000 bushels to the acre on his garden, and the produce was exceedingly great and excellent in quality. As for pure lime, I do not know the quantity that would be injurious to vegetation. I have seen 400 bushels of it applied to an acre of corn-land, and the rich green colour of the plant, with its great produce, sufficiently indicated the experiment to be in the right course. But as to magnesian lime, I have no doubt of its being deleterious to vegetation, and think it should not be purchased in any case where purer lime can be obtained.

In the fall of 1834 I bought a vessel load of lime from the Schuylkill; it was not subjected to any chemical operation, but it had the appearance and character of a good quality. It was deposited on the field all in one place, where it was intended as a top-dressing for grass. The spring work came on, and the spreading was not finished until the season had considerably advanced. In consequence of this delay, and working at it at intervals it was littered about and trampled into the earth, and the sod not being taken up, a great quantity must have remained on the ground, but it never appeared to have any other effect than to increase the immediate growth of the grass; but I bought, the same winter, 500 bushels of magnesian lime, that destroyed every vestige of grass wherever a load of it was deposited. In 1825 I tried an experiment with unburnt lime of a very pure quality; I ground 60 bushels in an old-fashioned tanner's mill, and spread it on an acre of land across the middle of a corn-field; the effect was visible at a distance by a greener colour, and a more luxuriant growth; it continued in the wheat crop, and for many years after could be seen in a closer and better quality of grass. Lime prepared in this way is very heavy, about 120 pounds to the bushel, and I am not sure but the mode of application is better than to burn it. The carbon that escapes by the action of the fire has to be returned to the earth, before it is useful to vegetation, but whether the ground-lime will attract as much ammonia from the atmosphere as the burnt lime, is a question I am unable to solve. The effect produced by the ground lime was very great, for the sam-

ple I tried the experiment with was imperfectly pulverized; I cannot suppose that more than half the quantity acted on the soil.

Upon the whole, I conclude, we have much to learn on the subject of lime. I am aware that the productive properties of the land are so influenced by various causes, that no plan can be adopted independent of experiment, but there are few cases in which the labour of analyzing the soil and the manures we apply to it would not be repaid, and therefore I am opposed to this "silent, unostentatious practice of knocking theory on the head."

B. WEBB.

Wilmington, Del., 2d mo. 26, 1842.

For the Farmers' Cabinet.

Rotation of Crops.

A PROPER rotation of crops, thorough culture, and adequate manuring, are the three great points for which every intelligent farmer should strive. In regard to the first, it is admitted by all scientific farmers that the present, common, and almost universal rotation of corn, oats and wheat in annual succession, without any intervening grass, or root crop, is bad husbandry, and tends to impoverish the soil or keep it in a low condition, unless there is much meadow ground to furnish nutriment for stock, or that manure of some kind is derived from an extraneous source. A consequence of this rotation is, that the winter's manure remains during the summer season in the barn-yard exposed to great waste, and the benefit which ought to be derived from it during that period is entirely lost. The carbonic acid gas, which is the product of putrefaction, and is the principal food of plants, is dissipated and lost; for it cannot be conveyed to the crops in the fields after it formed, but ought to be developed on the spot where it is intended to be effective in promoting the growth of plants. I have met with a few very successful farmers recently, who inform me, that in order to secure the greatest effect from their stable-manure, and at the same time to separate two exhausting grain crops by a crop of grass, they sow clover-seed plentifully with their oats, and the following spring top-dress the clover with their winter's manure. This uniformly produces a very abundant crop of grass, which is pastured in moderation, and early in the autumn is ploughed down, and after due preparation sowed with wheat. This is then laid down with grass in the usual way for mowing-ground, and the next season serves for pasture alternately with the top-dressed clover-field. The following season corn is planted on the sod, which is followed with oats and clover manured on the surface—then wheat,

grass to mow, followed by pasture, and so on round.

This course requires six fields, three in grain and three in grass, and it is believed that each will produce much more grain or grass annually, than when one-fifth of the arable land is farmed annually as is usually the case, and that the land will, under good management, be rapidly improved; and no person deserves the name of "good farmer," whose soil is not in a state of progressive improvement, furnishing a larger and larger return annually for the labour and expense bestowed upon it.

The theory of the application of plaster of Paris recently promulgated by the celebrated Leibeg, corresponds with the practice of J. Taylor, of Virginia, who, more than 30 years since, stated in an essay written by him, and published in the *Arator*, that he always derived the greatest benefit from plaster when he applied it directly on the manure. On this principle it would be well, on top-dressing with stable-manure, to sow plaster immediately over it to fix the ammonia, as the German chemist recommends. Of the immense quantity of carbonic acid gas developed during the decomposition of a "dung-hill" in the summer season, every ounce is lost, never to be reclaimed again; whereas if this same manure was spread over a crop of clover early in the spring (and it might be hauled out in the winter as it is made), every portion of this most valuable gas, which is much heavier than the atmosphere, would be formed where its services were most needed, and washed to the absorbing fibres of the roots of the plants by the descending rains.

AGRICOLA.

For the Farmers' Cabinet.

The Garden.

THE month of March affords most ample employment for the industrious gardener, the utmost diligence to embrace the earliest season for operations being of paramount importance. By the early sowing and planting of crops, much of the ill effects of drought might be obviated, as by their growth they will have advanced so as to shade and protect the land by the time the hot weather arrives; this, and the constant stirring of the soil between the rows, have oftentimes saved whole crops during a season of drought, while those immediately adjoining, late sown and ill attended, have totally failed. Additional security will arise from a top-dressing of composted manure, a mode of management which is destined to become universal. In the course of this month every thing should be forwarded relative to the cultivation and preparation of the ground, by levelling, trenching, dig-

ging, &c. in order to a general sowing and planting at the latter end of the present, or the early part of the next month. Plants in pots should now be encouraged in growth by a removal into fresh mould and frequent slight watering, admitting the sun and air at all suitable opportunities. Many species and varieties of seeds may now be sown in hot-beds, which will astonishingly expedite the business of the season. This being the best time also to prune grape-vines, selecting a full supply of last year's shoots for bearing the present summer, shortening each to three or four eyes, in proportion to their strength. Prune apples, pears, and other fruit trees, with currant, gooseberry and raspberry bushes, planting the cuttings and suckers of the former in a shady border. Sow fruit-stones and kernels of the different varieties of fruit, and keep all clear of weeds by flat-hoeing, never moulding up any crop whatever, not even the potatoe: and this is the best time for planting full crops of that most valuable and inestimable root, the *universal potatoe*, it being advisable to use the fairest and most perfect roots for seed, one eye in each piece being then ample. The large crops of which we so frequently hear, owe their full maturity to early planting, by which their growth is accelerated so as to cover and overshadow the ground, and form a shelter from the scorching rays of the sun—a consideration of the highest importance, particularly in the climates of the middle and southern states; and to this might probably be attributed a difference in yield amounting to one-half the crop. In countries in Europe noted for large crops of potatoes, it is customary to finish the planting of the main crops in March, no danger being to be apprehended from a too early planting, although frosts often destroy the first shoots.

It is important to have the land in condition for an early sowing and planting, even at the risk of losing a little seed; a light, sandy soil being benefited by working when moist, but a clay soil or stiff loam, when worked wet, kneads like dough, and is sure to bind in dry weather; this prevents the seeds from rising, and injures the plants in their subsequent growth, the land becoming impervious to moderate rains, dews, the air and influence of the sun—all which are necessary to the promotion of vegetation. Some writers recommend certain *fixed days* for sowing and planting, but to this very circumstance is oftentimes to be attributed the failure of the crops, for if the seeds are deposited when the ground is wet and cold, they will become chilled, and the germinative part will be destroyed; while in very dry weather—maugre the *moon's* influence—the influence of the sun will soon put an end to all that, depend upon it.

E.

For the Farmers' Cabinet.

Good Farming and Good Hogs.

MR. EDITOR,—I am glad to see that a correspondent, in the last Cabinet, has taken up the subject of Berkshire pigs. There has been quite too much sneering and ridicule thrown out against this invaluable breed of swine, where the real cause has been, not that Berkshire pigs were inferior, and did not come up to what their friends had claimed for them, but that those whose business it was to sell them, had begun to quarrel about whose stock was the best. In listening to these interested disputes, the public have lost sight of the true question, which I conceive to be this: Is not the Berkshire hog, all things considered, by far the best breed ever introduced into the country?

Your correspondent P. M. presents the question in its proper light, when he contends that the Berkshires *return the greatest weight for the quantity fed*. There can be no doubt he is perfectly correct, for a wide experience in this country has proved it to be so. Warner M. Yates, of Tennessee, has now two Berkshire pigs, one of which, at two months old, weighed 106 lbs.; the other, at three months, weighed 107 lbs. G. B. Gunter, of Nashville, has a pig which at five months old weighed 202 lbs. This pig was fed with no other object than that of making him a fine animal. A Berkshire pig, the property of James F. Taylor, of Kentucky, fed last year, actually gained 21 lbs. in ten days' feeding. Mr. Yates's pig, mentioned above, gained 28 lbs. in the twelve days preceding the day it was two months old. But these illustrations of the superior value of the Berkshires could be multiplied interminably. They come, too, from responsible sources, from men of as high character, and strict integrity, as any in the country—who have no interest whatever in selling pigs. Now where is the other breed of hogs from which such great and constantly recurring results are to be obtained? I do not wish to undervalue other races, but as to the *common breed* of our country, intelligent farmers have long since satisfied themselves there is no money to be realized from raising them. The exquisite symmetry of a fine Berkshire hog, will immediately strike the eye of the commonest man. Their delicately formed heads, their short legs, and the fine, *long, round, deep* barrel, ending in a ham that a Mohammedan would be ravished to behold, all place this splendid breed of animals at the very head of the whole race. In Ohio, Kentucky, Indiana, and the other great pork-producing states, they are preferred before all others, and although throughout the south and west they cannot be purchased under thirty to forty dollars per pair (such is

the increasing demand for them), yet they are superseding the old breed with the new Berkshire cross as rapidly as they can be propagated.

The injustice of these sneers at Berkshires has been presented forcibly to my mind by a recent visit to the farm of Benjamin W. Cooper, near Camden, N. J. Go there Mr. Editor, and you too will be delighted at looking after some of the finest Berkshire pigs that even your experienced eyes have ever gazed upon. Mr. Cooper takes a noble pride in having the best of every thing that can be got. One Berkshire sow, whose parents were both imported, has now a litter of ten pigs, finer than which I never beheld. He has a Berkshire boar, which is now twenty-one months old, and he thinks but little feeding would be required to make him weigh nearly 500 lbs. He is a noble, although rough-looking animal, yet his pigs are models of all a fastidious farmer could desire. Another sow could as easily be made to weigh 400 lbs; and you cannot inspect his numerous stock of swine—for he has two other litters of remarkably sprightly Berkshires—without admiring, not only the stock, but the taste and judgment, as well as the politeness and urbanity of the proprietor. Besides these charms in farmers' eyes, you look around on his ample fields, stretching peacefully down to the margin of the Delaware, and giving ample token, turn where you may, of good farming. His spacious barns, before which extends a cattle-yard, in whose boundaries he manufactures manure by the *hundred* loads, and in which you see a large collection of the mixed Durham blood—his beautiful flock of Bremen geese, of enormous size, and with plumage of snowy whiteness—his multitude of poultry, celebrated as growing to a great weight, and being first-rate layers, with much else that my limits (and yours) forbid my adding, indicate this gentleman to know pretty well what good farming is. Were you to inspect his premises and his stock minutely, I cannot but believe you would unite in my encomiums. Your intelligent correspondent P. M. would be gratified in spending, as I did, an hour in the same pleasing occupation.

PAVONIA.

Feb. 25, 1842.

For the Farmers' Cabinet.

The Potatoe.

MR. EDITOR,—It is perhaps not generally known to the subscribers of the Farmers' Cabinet, that in the potatoe there are two parts, which, if separated and planted at the same time, one will produce tubers fit for the table eight or ten days earlier than the other. This fact has fallen under my own observation, and is the plan I now pursue in order to

obtain an early supply for my table, fine and very mealy. The apex or small end of the potatoe, which is generally full of eyes, is that part that produces the earliest—the middle or body of the potatoe produces later, and always large ones. The butt or navel end is worthless, except for feeding stock, and, if planted, produces very indifferent small ones, and often none at all, the eyes, if any, being imperfectly formed. The potatoe being cut two weeks before planted, and spread on a floor, that the wounds may heal, separating the small end from the middle, then cutting off the navel or butt, the body or middle of the potatoe is then divided into two pieces lengthwise, taking care to have always the largest and finest selected, being convinced that if none but large potatoes are planted, large ones will be again produced—small things produce small things again, and therefore no small potatoes should be planted; this practice is too prevalent, and may account for the many varieties and small potatoes met with in our markets. Who would not prefer a large mealy potatoe to a small one, that will take hours to boil soft, and then may only be fit to feed the cattle with?

For several years past I have adopted the plan of putting potatoes into the ground late in the fall, covering them with manure, sometimes with tanners' waste bark, and always have succeeded in raising a fine early crop. Last fall I had taken up some as fine and large Mercer potatoes as any one could wish; they were covered with tan six inches thick the preceding fall; many weighed sixteen ounces. No particular care or attention was bestowed upon them through the summer, the tan not permitting any weeds to trouble them, or to draw out the nourishment from the earth, they had therefore all the benefit of the soil, kept moist and clean by the tan, for tan will keep the ground moist and clean, and in an improved state in the driest season. I have found the great advantage of it to my asparagus and strawberry beds, which are annually covered with it.

The potatoe I consider so valuable and indispensable a vegetable, and having never seen a suggestion in print of separating the potatoe and planting each by itself,* that I have been induced to send you this imperfect and hastily drawn up communication. Perhaps you may think it worthy a place in the Farmer's Cabinet, and if so, should be pleased to hear that some of its patrons will try the experiment of planting separately each part of the tuber, believing that the potatoe may be much improved by a due regard to the above suggestions.

J. F. H.

Lancaster, Feb. 25, 1842.

* At p. 132 of the Cab., vol. 5, our correspondent will find this subject particularly treated. Ed.

For the Farmers' Cabinet.

Magnesian Lime.

MR. EDITOR,—I was much amused with our friend S. Lewis's article on lime; for as far as I can learn, such an opinion is entirely new in this part of Pennsylvania. He seems to think, if I understand him rightly, that magnesian lime is quite as good for land as that which has no magnesia in it. And to prove it he cites the practice of farmers in the south-east part of Pennsylvania; but I think he is mistaken with regard to them.

South-east Pennsylvania is large I know, so I do not answer for the whole of it, but only for the part in which I live: it is in the midst of limestone, and not very far from the Great Valley; and it is the general opinion of this part, and founded on sound experience, that magnesian lime in large quantities is very injurious to land: some of our graziers would not allow it to be spread on their land free of cost; but I think they go too far, for with the present mode of applying lime (100 bushels at three coats), it does not make so much difference.

One field on my place was limed with about 300 bushels to the acre at one coat, five years ago, with lime from J. Pyle's quarries, which, upon examination, proves to have very little if any magnesia in it; the last summer I cut near two tons of grass (green grass, timothy and clover) to the acre from part of it. A friend of mine, who lives not far from here, limed one of his fields six or seven years ago with about 75 bushels to the acre, from another quarry, which, when examined, was found to contain, if I remember rightly, from 15 to 25 parts of magnesia; the consequence is, he has never had a crop of any kind on it since, until this last summer, when it was farmed for corn. S. Lewis also says, "he does not wish to be understood that he imputes all of the improvement here to the use of lime," in which he is right, for without our manure from our cattle, &c., our farms would not be what they are. His expression of "whatever part of this improvement is owing to lime, is owing to magnesian lime, and none other," is too strong entirely; for the opinion and experience of this part of south-east Pennsylvania is quite the contrary. I do not wish to dampen the ardour of any young farmer with regard to liming, for as I said before, 33½ bushels of lime is now considered sufficient to the acre at one coat; and I do not think in the above quantity there would be enough magnesia to occasion any serious drawback. Now I hope that neither thee, nor any of thy readers, will think of me as one of the "would be oracles of the day," for I can assure you all, I have no wish to be considered anything of the kind. But if any

of thy readers should be out-argued by any such, let them be careful where they point.

There is an old saying in *these diggings*, that lime, when used properly, "if it puts the farmer in jail, it will bring him out again."

C. TAYLOR.

Spring Hills, London Grove, Chester Co., Pa.

To the Editor of the Farmers' Cabinet.

Sulphate of Lime.

SIR,—Having read with much pleasure two articles in the Cabinet, vol. 5, pp. 378 and 382, on plaster saturated with urine, and being anxious to try it on corn, I take the liberty to ask, what quantity will be sufficient for each hill, on a poor sandy loam, which has been a long time untilled, and is incumbent on a porous subsoil. I also purpose applying it exclusively to a drill or two of early potatoes, but would like to know how much ought to be given to each set.

I feel much obliged, as no doubt many others are also, to your correspondent E. T., for his very valuable article on potatoe planting. But it appears to me he has forgotten two things, the precise time for planting, a subject on which I find some diversity of opinion, and the depth of soil to be laid on the sets. If my memory serves me, a Mr. Murphy of Connecticut says 7 or 8 inches; and, as E. T. says, no earthing up in the after culture. All to be put on in the beginning. As E. T. seems to be acquainted with Gen. Barnum's mode of planting, perhaps he will be kind enough to furnish it in detail through the Cabinet to your numerous readers.

GEORGE S.

Harford Co., Md., Feb. 11, 1842.

Notice.

PHILADELPHIA AGRICULTURAL SOCIETY.
Notice to competitors for premiums on crops for the year 1842.

Competitors must apply to the committee at least one month previous to housing their crops. They must furnish the committee with an account of the manner of cultivation; kind and quantity of manure applied; a description of the soil, and expense or amount of labour bestowed on each crop. They must also furnish satisfactory certified evidence of the quantity produced per acre. Competition is limited to Pennsylvania, and a distance within 20 miles of the city. The committee will withhold premiums, when those offered for competition are not deemed worthy of distinction.

PREMIUMS.

For the best 5 acres of wheat,.....	\$10
For the next best 5 do.....	5
For the best 3 acres of rye,.....	10
For the next best 3 do.....	5
For the best 2 acres of potatoes,.....	10
For the next best 2 do.....	5
For the best 1 acre of sugar-beets,.....	10
For the next best 1 do.....	5
For the best 1 acre of ruta-baga or field turnips,.....	10
For the next best 1 do.....	5
For the best ½ acre of carrots,.....	8
For the next best ½ do.....	4
For the best ½ acre of parsneps,.....	6
For the next best ½ do.....	3
For the best 5 acres of Indian-corn,.....	10
For the next best 5 do.....	5

AARON CLEMENT, }
J. W. ROBERTS, } Com. on Crops.
HENRY CHORLEY, }

Notices.

WHILE the publishers of the Farmers' Cabinet acknowledge the punctuality of many of their subscribers in paying for it, as the terms prescribe, in advance, they feel obliged to remind others, that although more than half the numbers of the 6th volume are issued, it still remains unpaid for. Not a few are in arrears also for the 5th volume. The amount to individuals is small;—the paper is published at a heavy expense. A large subscription list, and prompt payments, are therefore essential to sustain it. Those connected with the publication flatter themselves that they "have done the state some service," in throwing before the public a large amount of valuable agricultural information: they think their paper may fairly put in a claim to a full share of the consideration attached to many others of similar character, which are throwing, broad-cast over our land, the benefits resulting from the intelligence and the experience of our whole farming population. They believe it important to the community, that their labours and their wishes may not be frustrated, by neglect on the part of any of their subscribers. Remittances for subscriptions may at any time be made, by mail, through the kindness of post-masters, who are at liberty to frank them. Where subscribers wish to discontinue at the close of a volume, it is particularly desirable that early information be communicated to this office.

To the Editor of the Farmers' Cabinet.

DEAR SIR.—According to the suggestions of your correspondent W., expressed in the Cabinet for November last, I have had constructed at our manufactory, a Centre-Draught Sod C Plough, with longer and straighter handles, and a longer beam; the point of the share also projecting before the coulter, &c. It has arrived at our Implement and Seed Store, No. 176 Market St., and is accompanied by a subsoil-plough suited to the draught of a pair of horses; both having been made expressly for the trial to be given under the auspices of the Philadelphia Agricultural Society, and they are here awaiting their arrangements.

We have also received a new and very superior assortment of field seeds, amongst the rest, the new and splendid variety of purple-top ruta-baga, of which mention is made in the Cabinet for December, as having been grown of very large size by Dr. George Uhler, and exhibited at your office; which we strongly recommend to the notice of our agricultural and horticultural friends. D. O. PROUTY.

MR. ISAAC NEWTON, of Delaware county, has deposited at our office, a cut of remarkably fine fat mutton, of the Bakewell and South-Down cross, which shows very distinctly the value of an union of these justly celebrated breeds of sheep, whether it be on account of the wool or the meat, the former being augmented to the amount of at least one-half the weight, without a correspondent deterioration of quality, it still yielding a staple fit for clothing, the meat also being of superior quality and in much larger quantity.

JUST published, price \$1, and may be had of Kimber and Sharpless, proprietors of the Farmers' Cabinet, "Lectures on the application of Chemistry and Geology to Agriculture, by J. F. W. Johnson, Professor of Chemistry and Geology in the University of Durham." These lectures were delivered before a society of practical agriculturists, and are addressed, not to the philosopher, but to the tiller of the soil; they are therefore compiled in the most familiar manner, without unnecessary technical terms, and none are used unless explained. The author says, "That art on which a thousand millions of men are dependent for their very sustenance—in the prosecution of which nine-tenths of the fixed capital of all civilized nations is embarked, and 200 millions of men expend their daily toil—that art must confessedly be the most important of all, the parent and precursor of all other arts." The work, of which the present publication forms the first part only, is destined to become extremely popular, and is exactly suited to the present enlightened state of agricultural society; it will form the text-book of the Farmer's Library.

In a few days will be published by Thomas, Cowperthwait and Co., Phila., price 50 cents, "The Farmers' Land Measurer or Pocket Companion, showing at one view the content of any piece of land from dimensions taken in yards; to which is added a set of useful tables relating to the business of agriculture, husbandry and rural affairs." Prepared for the press by James Pedder, Editor of the Farmers' Cabinet.

Contents.—Introduction to the Measurement of Land.

First table for measuring land, from 1 to 500 yards.

Second table showing the width required for an acre.

Tables for manuring land.

Table of planting distances.

Table for ploughing.

Overseer's account of time.

Measurement of Corn in the crib—right angle.

Span level for draining.

The imperial bushel table.

Measurement of live stock.

The Editor, desirous of furnishing the subscribers and friends of the Cabinet, and agriculturists generally, with a concise and easy mode of measuring their own land, and computing its contents, by means of many hundred ready-worked tables, offers this little manual with the most perfect confidence, it having been his constant "companion" during many years of practical experience. It is printed, and bound in leather, in a shape fitted for the side-pocket of the farmer, who will soon find that he never ought to be without it.

The quantity of rain which fell during the 2d month (February), 1842, was 4½ inches.
Pennsylvania Hospital, 3d mo. 1, 1842.

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THE FARMERS' CABINET, AND AMERICAN HERD-BOOK,

DEVOTED TO

AGRICULTURE, HORTICULTURE, AND RURAL AND DOMESTIC AFFAIRS.

"The Productions of the Earth will always be in proportion to the culture bestowed upon it."

Vol. VI.—No. 9.]

4th mo. (April) 15th, 1842.

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For the Farmers' Cabinet.

Magnesian Lime, No. 3.

PERHAPS, strictly and scientifically speaking, there is but one variety of lime, that is, pure lime uncombined with any other substance. But in common language we say there are different varieties of lime, meaning thereby that the properties of lime are modified by its being combined or mixed with other earths, such as magnesia, clay, sand, &c. And as this common language is quite sufficient for all common purposes, we shall take the liberty of using it in its common acceptance on the present as on former occasions. Lime in a pure or uncombined state is not found in nature. It may however be procured in a nearly pure state, in the large way, from the finer kinds of chalk, and some varieties of sea-shells, by merely calcining them. It appears also that some varieties of limestone in England, probably belonging to the upper secondary class, furnish it in nearly a pure state. To this variety of lime the term mild lime is sometimes applied in contradistinction to magnesian or hot lime.

It is probable that but a very small portion of the limestone on the south-east side of the Alleghany Mountain would furnish this kind of lime, most of it having a large portion of magnesia in its composition. The secondary limestones of our western country, particularly some of the upper portions of them, may furnish the mild lime. These are questions, however, by no means decided, and which will require much further investigation before they can be. But enough is known to warrant us in saying that a large portion of the limestone of south-eastern Pennsylvania yields the magnesian lime.

It appears from abundant testimony that a much larger portion of mild lime can be applied, as manure, to a given quantity of land, than of the magnesian variety. But whether a benefit can be obtained from it in proportion

to the quantity used, over the other variety, seems not so clearly ascertained. In the present state of knowledge, the contrary doctrine would appear the most probable. I recollect to have read somewhere (though I have not the work at hand to refer to) that as much as 400 bushels of mild lime have been put on an acre in England with good effect, and that if this kind of lime be left neglected in heaps, the grass will grow up through the outskirts of them, and instances have been known of grass growing entirely over the heaps. In the account of the application of lime to land in the Forest of Brecon, in South Wales, to be found at p. 14 of vol. 3 of the Farmers' Cabinet, it is stated that the quantity put on was from 30 to 60 barrels (of 30 gallons each) to the acre at a dressing, that is about from 100 to 200 bushels per acre, we presume. It is also stated that a dressing of 35 barrels, or near 120 bushels per acre, without any other manure, produced a yield of wheat 50 per cent. greater, than another part of the same field dressed with dung, but without lime, and this too on a soil exhausted by constant cropping. From our knowledge of the effects of magnesian lime in this country, and from the description given of the limestone in the article above referred to, it seems probable that it was the mild lime that was used.

At p. 348 of vol. 4 of the Farmers' Cabinet an account is given of a kind of lime procured from a particular side of the Valley (the Great Valley of Chester county we presume is meant), which, when placed in heaps for slaking, the grass grew up through it where the lime was several inches in thickness, while a lime procured from the opposite side of the valley destroyed all kinds of vegetation under the heaps, if left lay for any considerable time. The former of these is probably a mild or pure lime, or nearly approaching it,—the latter a hot or magnesian lime. It is a fact well known to our farmers that the common or magnesian lime of Pennsylvania cannot be applied in anything like the quantities above mentioned without very materially lessening the subsequent crops, both in quantity and quality, and sometimes rendering the land entirely unproductive for years. But it is equally well known to them that, applied in smaller quantities and in a proper manner, it is highly beneficial.

May not then all this pother and hubbub which have been raised about the deleterious nature of magnesian lime be owing, so far as it may be countenanced by experience, to the want of proper attention to its peculiar qualities, and the consequent mistake of using it in too large quantities? Should a farmer, accustomed to use the mild lime, put on the same quantity per acre of magnesian lime as of the former, he could scarcely fail to ruin, or seriously injure his land, while a less quantity might have been used with great advantage.

In England it seems to have been well ascertained that mild lime is highly valuable as a manure, and we think that the experience of Pennsylvania has proved beyond a reasonable doubt that the magnesian variety can be used with great advantage for the same purpose. The most prominent questions which would seem now to remain undecided are, as to the comparative value of the two kinds of lime to the farmer, and whether each can be applied with equal benefit to all crops indiscriminately, or whether one kind of lime be better suited to some kinds of crops, and the other to other kinds?

That much larger quantities of mild than of magnesian lime can be applied without injury to a given quantity of land seems highly probable; but will it produce a correspondent increase of crops? This is an important inquiry, particularly where lime has to be carried a great distance. For if it requires 200 bushels of mild lime to produce as great an effect as 100 bushels of magnesian, there would evidently be no economy in the use of the former, unless the magnesian cost more than double the price of it.

Again, there is some reason to suppose that mild lime is better adapted to the production of grasses than the magnesian, or at least there will not be found so much difference in the proportion between the product, and the quantity of the different kinds of lime used in these as in some other crops. But this is only a conjecture, and requires to be verified by extensive, varied, and long-continued experiments before any reliance can be placed on its correctness.

Let then all those who feel an interest in the subject, and have an opportunity of procuring both kinds of lime, bend all their energies to the solution of these problems, by varied, well-conducted, and long-continued experiments, and give the result to the public; by these means they will be adding to our stock of useful knowledge, and do more towards deciding the whole question at issue than by merely writing essays on it till doomsday.

S. LEWIS.

Ploughing Stiff Soils.

It is a generally received maxim among intelligent farmers, that the more perfectly soil of this character is pulverized by judicious and thorough ploughing, harrowing and rolling, the more prolific will it be in its products. This maxim is, we think, founded on common sense and reason, and justified by the practice of centuries; and we are pleased to find, that a greatly increased attention is being paid to its importance, from which we augur the happiest results. The propriety of ploughing such soils deeply, we are also pleased to find is becoming fashionable. But still there is one thing that we desire to see gaining upon the affections of husbandmen—we mean *subsoil-ploughing*. There can be no question, that the greater the depth to which the plough may penetrate into a *healthful* subsoil, the better will be the chance of the plants finding pasturage. An objection with many has obtained against deep ploughing, because, in some instances, the mellow and productive surface-soil, which had been meliorated by the culture and application of manures for an age, had been turned down, and its place supplanted by subsoils not only infertile, but possessing properties noxious to healthful vegetation. This is all very true—and it is equally true, that the fertility of such soils was not restored until after applications of large stores of animal and calcareous manures. This, however, is not so much the fault of deep ploughing, as it is the result of the improper method of doing it. Therein we maintain the error lay; and it is our intention to promote an avoidance of that error, by pointing out the method by which it may be accomplished. Although we are the advocates of deep ploughing, in order to provide ample pasturage for plants, we are only so far so, as good and not injury will result therefrom, and, therefore we propose that while the share-plough only penetrates so far as the earth may have been previously turned up, in the course of cultivation, that it shall be followed, in the same furrow, by a subsoil-plough, so constructed as to *loosen without turning up* any portion of the subsoil. If by this operation, two or three inches additional depth at a time, be laid open to the action of sun and air, and the meliorating influence of the decomposing manure covered up by the first plough, by the succeeding year, one-half of the loosened surface, in depth, may be brought to the surface with decided advantage; and, if necessary, to that extent, may the subsoil-plough be employed to penetrate beneath the point at which the first experiment was made. We say this, because to us it is evident, that the causes and agencies of which we have spoken, will, in the interim,

have wrought such a change in the condition of the first body of sub-soil penetrated the previous year, as to justify its being brought to the surface. If this can be effected, and the thing is so self-evident, that we think few will doubt it, we would ask, are not the chances greatly in favour of the plan we propose? Is it not reasonable that, in the enlarged sources of gaining nutriment which would be thus unfolded to the roots of plants, they would prosper better than before? Our common-sense view of things tells us that such would be the inevitable effects produced. And there is no one who may have traced the astonishing depths to which the roots of various plants penetrate, even through *hard-pan* subsoils, that will, for a moment, doubt the justness and propriety of our conclusions. We have admitted, that subsoils which have not been disturbed, and consequently have not received the meliorating influences of sun and air, should not be turned up in that state; but in this admission we do not concede the point that they are always to remain in that condition. Our plan presupposes the practicability of neutralizing, by the application of proper means, whatever, in the constituent properties of such soils there may be pernicious to the growth of plants, and by so doing, not only to encourage, but positively to enhance, the productive capacities of such land. Deep fertile soils, we all admit to be the best adapted to the purposes of culture, and surely there can be nothing wrong, where it may be practicable, in deepening soils where we find them less deep than they should be.

In Flanders, where agriculture is conducted with persevering industry and intelligence, by means of pursuing a system of enlightened manuring and trench-ploughing, for a series of years, the soil has been deepened until it has assumed a depth of from 18 inches to 2 feet. This desirable object has been attained, not by turning up the earth to that extent at once, but by a patient persistence in a course of culture which looked to a gradual achievement of the end in view. There, owing to their superior economy of manure, and, consequently, its freer and more generous use, the agriculturists are enabled to use the trench-plough and turn up the maiden earth; because in their facilities for changing its character, they have a sure guarantee for so doing. But with us, we think the plan of subsoil-ploughing, and previous partial melioration, is the more preferable one, and hence we advise its adoption.

There is another view which we take of this question, from which we think good would arise. By opening the earth to the depth we propose, in stiff soils, a greatly increased field would be presented for the ab-

sorption of rain, whenever it might fall in quantities of excess; by which means the roots of growing crops would be relieved from that serious evil, and vegetation would go on healthfully.

In all cases where a field may be submitted to the operation of subsoil-ploughing, unless a strong clover-lay be turned down, a good dressing of compost, stable, or cow-yard manure, should be given it—and where the soil is not naturally calcareous, or has not previously received a dressing of lime, one should be administered.—*Am. Far.*

For the Farmers' Cabinet.

Law Courts.

MR. EDITOR, — Having sold out early on Saturday last, at Philadelphia market, I thought I would visit the law courts a short time before my return home, and cannot but think, if some of my neighbours, whom I could mention, would sometimes indulge their *propensity* in a taste of the expensive article *second-hand*, it might save them much money and time, and more anxiety and unhappiness. I found that the cause on trial was one of a vexed nature, relating to property, which I could not understand; the witness up on cross-examination being a distant neighbour, a plain farmer like myself, whose situation was anything but enviable—indeed, the opposing counsel had, by cross-questioning, reduced him to a non-entity! I pitied my poor friend from my heart, and wondered how I should appear in such a situation — in the midst of half a dozen men sitting round a table, and with pens in their hands recording every word the moment I should utter them, in the hope of making me eat them by and by—with countenances screwed up for the sport, and crouching like tigers to make a spring at their prey the instant it should fall into their net! I felt such horror at the scene that I left in disgust; and on my peaceful and plodding journey home in my wagon, *wondered* what would be the result if a witness were to decline answering any question which was not relevant to the business on hand. Perhaps I shall be told he would be committed to prison for contempt of court—but with a proper deference for the court and all connected with it, I cannot but believe that a man would be justified in his refusal, if it were offered upon proper grounds. I pursued the inquiry in my mind until I had concocted an address to the judge—supposing myself to be the unfortunate being “up for cross-examination,” which I here set down for your perusal, and, if you think proper, for publication; this being on a business with which many of our class of the community

are too well acquainted, although it might not come under the head either of agriculture, horticulture, or rural affairs.

“Q. What is your name? A. John Smith. Q. Where do you dwell? A. At D. Q. What is your occupation? A. I am a farmer. Q. Where does—A. I beg pardon, but may I be permitted to address a very few words to the court? C. You may: say on.

“Gentlemen of this honourable court:—I come here to answer to the best of my ability every question that might be put to me relevant to the cause on trial. I have sworn to speak the truth, the whole truth, and nothing but the truth, and have invoked the Almighty to enable me to do so. I have neither prejudice nor preference—I respect the opposing counsel and I honour the court, and it is perfectly indifferent to me which way the trial terminates; but after this, I wish to be permitted to say, I have made up my mind, solemnly and fearlessly, not to answer any question that is not relevant to the subject on hand, and of such relevancy I must be allowed to judge for myself. I have told you my name, my residence and my occupation, by that you will know where to find me if I bear falsehood, and this I consider sufficient. If my mind is to be disturbed by cross-questions that have nothing earthly to do with the subject, and if I am to be harassed and baited like a bull at the stake, I may lose my temper and offer indignity to the counsel whom I respect, or to the court which I honour—no one knows how I might commit myself—I have, therefore, in the fear of God and relying on his assistance, determined to answer no questions that do not bear on the business, and upon which I have been subpoenaed much against my will and my convenience; and in this my resolution, I throw myself upon the court for protection.”

Now I should like to know what would be the result of such an address? I may be told the judge is to decide what is relevant and what is not, and to him an implicit obedience must be yielded; but I should fear for myself in the hands of any judge that I have ever yet known, and I have never heard of but one who did what I consider his duty in this respect, and his name I now forget. It was on occasion of Vicary Gibbs, when, as counsel, tormenting a witness even to distraction, that he exclaimed, “you scorpion, let the man alone.” I grant there may be circumstances and situations in which the rule would not work, but it is the universal cross-questioning of every witness who appears in court that I deprecate. A man of good sense and sound judgment can easily discriminate between individuals that are brought before him, and, assuredly, the poor friend, of whom I have been speaking, might have been seen

through at a glance by any man of discernment in his profession, and I could not but consider him a proper object for the protection of the court. But I bless God that I am totally ignorant on this subject, never yet having been in any court, either as plaintiff, defendant or witness, and fear that on trial I should be found quite as “non compos” as my friend and neighbour, who, even yet, has not regained his usual serenity of mind and self-possession.

There is, however, another business of a more legitimate nature, of which I am more competent to form a judgment, upon which I shall soon have to address you, and which admits of no *cross-questioning*; it is on the planting of potatoes—a thread-bare subject truly, but one that ought to be examined into, for I am loth to believe that while the “Vermonsters” can raise their 1800 bushels per acre, we must of necessity be compelled to content ourselves with about half a quarter of that quantity. Now as this is a question which I cannot *understand*, I cannot *believe* anything about, and am not therefore prepared to receive the statement upon trust. I am preparing to put the matter to the test of experiment, and hope to present you with the result for publication in your very useful pages at some future day. VERITAS.

March 15, 1842.

On Cutting Cattle Food.

A DIVERSITY of opinion exists among some of our correspondents, as to the length which hay and straw is most advantageously cut for horses and cattle—one party contending that an inch is short enough, and the other that it is not. We incline to the former opinion, and we would respectfully offer our reasons. The object in using the straw-cutter is to prevent waste, and to facilitate the process of mastication. It is not enough to get the food into the stomach, but it should go there in a proper condition for easy digestion—in a perfect masticated form, the fibre broken down, and intimately incorporated with the saliva of the glands. It is uniformly enjoined upon persons who are sickly, or have weak stomachs, and it is a common admonition to the hale, to eat slow, and to chew well their food before they swallow it, that it may more readily digest. And we see that cattle, high-fed with corn and oats, often void the perfect grain, without its having benefited them a particle. Whether this would not be more or less the case with fine-cut hay, we cannot judge from observation, but we are told it would be so. There is another difficulty to be apprehended from short-cut food, if given to ruminating animals, as cattle or sheep, which chew the cud—that they would be

very liable to lose this indispensable requisite to health. At all events, there can be no doubt, that all solid food should be perfectly chewed, and mixed thoroughly with saliva, before it passes to the stomach of the animal—the grain crushed, and fibre of hay and straw broken by the teeth. To insure this we doubt whether forage should be cut shorter than an inch, or an inch and a half. A gentleman who had fed largely with very fine-cut hay, found that much was voided in an undigested state, tinged with blood from the intestines, and that his cattle, after a few weeks, ceased to thrive.

Drainage of Wet Soils.

It may be said with safety that the air is the most healthy source of the water for soil, but this becomes injurious if, when falling in excess, it is not capable of getting away readily, so as to prevent an undue accumulation: in fact, there is every reason to believe that surface-water, which is for the most part stagnant, is by far the most injurious, because in this manner the currents produced during the heat of summer, namely, the period at which vegetation should be most active, will, of necessity, be entirely from below upwards, being produced by the evaporation of the water upon the surface of the soil; and the consequence will be, that the roots of the plants, instead of being supplied with water charged with the valuable gases of the atmosphere, will be glutted with water which has existed so long in the soil that it will have lost these valuable ingredients, and will, moreover, be charged with excrementitious matters. No system of drainage can diminish the quantity of water which a soil receives; it can only affect the quantity which it retains, and prevent stagnation by allowing it to escape so freely, that continual currents are produced so long as any excess of water remains.

Water affects the various processes in vegetable nutrition which occur above ground, by rendering the atmosphere moist; and by this means we have reason to believe that three distinct injuries will be inflicted, two of which are *functional* and one *organic*. There are two processes of the greatest importance to plants, which take place in the leaves, both of which are effected by the condition of the atmosphere as regards moisture—I refer to *absorption* and *evaporation*. It is well known that the green parts of plants, but more especially the leaves, have the power during day-light to absorb carbonic acid, fix its carbon and emit the oxygen; and it is further known that this process is not only of vital consequence to plants, but likewise from its purifying influence on the atmosphere, is of great importance to the whole animal cre-

ation; but this process is greatly interfered with by an excess of moisture, for the absorption of carbonic acid occurs through small pores in the leaf, which are denominated *stomates*; these lead into sub-cuticular cells, in the walls of which the process of assimilation goes on. Now, as soon as these cells become filled with water they close, and it consequently follows that the absorption of carbonic acid must cease whenever this takes place; of course we need scarcely say, that anything which increases the dampness of the atmosphere must increase the frequency of this effect, and hence diminish the absorption of carbonic acid. But these *stomates* have another office to perform, for it is through them that *evaporation* takes place—a process essential to the digestion and elimination of the crude sap; the sap, as received by the roots, is in so diluted a state that it requires to lose two-thirds of its water during digestion before it acquires the proper consistence—all circumstances, therefore, which retard evaporation must, in an equal degree, retard digestion; and this evil will, moreover, be still augmented by the necessarily dilute state in which plants will receive their food, from the excess of water existing in the soil. But plants have the power, in a certain degree, of accommodating themselves to circumstances, and in this manner the *stomates* will diminish in number, for there are always fewer of them in plants growing in marshy places, and thus an *organic* change will be produced upon the leaf; and it is certain that if plants in a healthy state have naturally a great many *stomates*, they will no longer thrive, if, to suit themselves to unnatural circumstances, these pores diminish in number. But it may be asked how it happens that plants should be rendered unhealthy from diminished evaporation when they possess a greater number of stomates than those natural to marshy places? to explain which it is merely necessary to remember that in marsh plants the cuticle or outer covering of the leaf is so thin that evaporation takes place indiscriminately over its whole surface—and hence stomates are not necessary or required; whereas in plants frequenting dry situations the cuticle is thick, to prevent injury from drought, the stomates being chiefly situated on the under surface of the leaf. It follows, therefore, that plants which naturally inhabit dry situations will be injured by a continual excess of moisture in one of two ways—either by diminution of the functions of absorption or evaporation, the structure remaining unaltered; or, from the leaf acquiring an *unnatural* organization, by an effort of nature to overcome the primary source of the soil.

So to the question, how does efficient drainage remove all the bad effects caused by

water, and produce the many good results with which its employment is accompanied? the answer is self-evident.—Drainage effects all its good by affording a ready outlet for all excess of water, by preventing stagnation, and thus removing the source of evil. The bad effects produced by an excess of water—all which are of course removed by draining—are these:

1st. One great evil produced by it is, the consequent diminution in the quantity of air within it; which air we have proved to be of the greatest consequence, not only in promoting the chemical changes requisite for the preparation of the food for plants, but likewise to the roots themselves; for *Sassure* and Sir H. Davy have proved that oxygen and carbonic acid are absorbed by the roots, which gases, however, especially the former, can be conveyed to them only by the air.

2d. Excess of water injures soil by *diminishing* its temperature in summer and *increasing* it in winter—a transposition of nature most hurtful to perennials, because the vigour of a plant in spring depends greatly upon the lowness of temperature to which it has been subjected during winter (within certain limits of course), as the difference of temperature between winter and spring is the exciting cause of the ascent of the sap.

3d. The presence of a large quantity of water in the soil alters the result of putrefaction, by which some substances are formed which are, in all probability, useless to plants; such, for example, as carburetted hydrogen—and diminishes the proportion of more useful ingredients—as urlic acid.

4th. An increase in the proportion of fluid in soils has a most powerful effect upon its saline constituents, by which many changes are produced diametrically opposite to those that take place in soil where the water is much less in quantity; and in this way the good effects of many valuable constituents are greatly diminished, as, for instance, the action of carbonate of ammonia upon humus, and gypsum upon carbonate of ammonia.

5th. The directions of the currents which occur in wet soils are entirely altered by drainage; for whereas in undrained soil, the currents are altogether from below upwards—being produced by the force of evaporation at the surface—consequently the spongioles of the plants are supplied with exhausted sub-soil water; but when land is drained, the currents are from the surface to the drains, and the roots are, consequently, supplied with fresh aerated water.

6th. An excess of water in soil produces a constant dampness of the atmosphere, which has been shown to be injurious to plants:—

1. By diminishing evaporation, and thus rendering the process of assimilation slower.

2. By diminishing the absorption of carbonic acid, and thus lessening the atmospheric supply of food.
3. By creating a tendency in the plant to produce leaves possessing a different structure from those which the same plant produces in dry situations.

Thus we have six distinct methods in which an excess of water in soil has been proved to be greatly injurious to the plants cultivated by the farmer; and it hence follows that the adoption of any method capable of affording a certain and ready means of escape for the superabundant moisture, must be accompanied by the most beneficial results. That DRAINAGE has this power, the experience of many years has abundantly testified.

DR. MADDEN.

On Idleness.

Up and be doing, my friends! up and be doing! Idleness is a sad thing. What! have we feet, and shall we not walk? Have we hands, and shall we not work? We have more to do than we shall ever accomplish if we are *industrious*; how, then, shall we get through it if we are idle? Every bird building her nest, every spider weaving her web, every ant laying up for the winter, is a reproach to an idle man. Up and be doing, I say; and do not expect the pot to boil while you let the fire go out. We must climb the hill to view the prospect; we must sow the seed to reap the harvest; we must crack the nut to get at the kernel. I cannot bear your tattling, talking, interfering, busy-bodies, attending to the affairs of others, and leaving their own duties undone; but yet, it is a sad failing to go to sleep when we ought to be wide awake; to be creeping and crawling like snails, when we ought to be bounding forward like greyhounds. It is a sad thing, I say, and we ought to be ashamed of it. I have known blind men and lame men, who, without an eye to see with, or a foot to stand upon, have done more for the good of their neighbours, than many of us who have the use of all our faculties. Then, up and be doing, and let not the grass grow under your feet! Though the flesh be weak, if the spirit be willing you will not be *happy* in standing still. If you cannot hew wood, you may draw water. If you cannot preach in public, you can pray in private, and be striving to enter in, rather than waiting to be carried through, the strait gate that leadeth unto life. Let us not complain of poverty, with a mine of gold under our feet; let us not die of thirst, with a fountain of living waters within our reach. If we have health and strength, let us work for the bread that perishes; and having the means of grace, let us be diligent to obtain that bread that is eternal.—*Selected.*

For the Farmers' Cabinet.

Agricultural Retrospect.

MR. EDITOR,—There are some articles in late numbers of the Cabinet which I turn to with great interest, for from them I have derived much matter for reflection; they are those which go to show the comparative difference between the climate of this country and that of England for the purpose of farming, and I am prepared to consider the preference which is given to the former over the latter, amounting to a *rent*—see the leading article of the number for December last—by no means overrated: indeed, of this I am abundantly convinced by reading a retrospect of the past year in the last number of the Quarterly Journal of Agriculture; and believing that the perusal would be of much service to some of your readers who have it not in their power to judge of the difference by any other mode of comparison, I am induced to copy a few extracts for their comfort and consolation in these times of low markets and cheap prices. The report was written in November last, and proceeds to say:

“The field operations of this year have possessed a very peculiar interest. Spring commenced under the most auspicious circumstances, and high hopes were entertained that a bountiful crop would allay the anxious fears of scarcity arising from a succession of short crops, but these hopes were checked by continued rain during the summer, amid the anticipations of more steady weather in the autumn. Such was the state of the farmer's mind through the year which is now about to close; and although, amidst the greatest vicissitudes of weather, hope springs eternal in his breast, the sad reality has, in this instance, ‘froze the genial current of his soul,’ and doomed him to disappointment! and we do not remember a season of so tantalizing a character. While the seasons of '16 and '17 presented an unmitigated sternness of aspect—cold and wet alternating day after day—in this, where general warmth of temperature, gleams of sunshine, and balmy winds—elements essential to healthful vegetation, and fostering hopes of a well-filled crop, which might have been realized, had not these kindly elements assumed a change of character which neutralized the good they had done. The crop, however, gradually ripened, and was cut with some satisfaction as to its quantity, but there was no possibility of saving it; the cutting was continued, but the carrying was not attempted, so that at the end of September the whole crop of the country was still abroad in the fields, and little grain was carried for a fortnight after, the warm weather continuing with gentle rains. The consequences were disastrous, for the grain of all

kinds sprouted in the straw. The extent of damage in this way cannot be yet ascertained, but the largest portion of the crop was cut and out when the ‘muggy’ weather hung like a miasm over the face of the whole country. After the 25th of October, however, the weather cleared, which allowed the last of the crop in the late districts to be pretty well secured; but from the nature of the season the wheat cannot be of fine quality, although in good soils the quantity might be pretty fair, still much light grain will be found amongst it. The barley is sprouted and unfit for malting, while the oats will be the most deficient of all the grains, the dry weather in the early part of the season stunting their growth; an evil that can never be remedied. The grain markets are dull, the portion of grain that has been presented is far from fine. There is nothing like an average crop of turnips over the country, nor do those which have attained a pretty fair size bear the eating of the last year's crop. The weather was favourable to the taking up the crops of potatoes; since then, however, the frost has been severe, the ice bearing skaters.” in November, remember, “and the thermometer ranging as low as 16° on the Tweed, the river being nearly covered with ice! So early a winter is unusual. The experience of this season should act as a stimulus to the farmers of wet and cold soils to drain their lands, for although that operation cannot entirely alter the nature of soils, yet it will, if well executed, so far change their nature and texture as to deprive poor thin clays of their superfluous moisture, and so afford to labour and manure the opportunity of fertilizing it, whilst the climate above it will be rendered innocuous.”

Now, after reading this account, one is prepared to ask, what can compensate the anxiety of mind and harassment of body in such a climate? Surely these things alone make a difference of many rents; after which come the advantages of a harvest in July, and the opportunity of obtaining winter-food for cattle by means of second crops, sown after the main crops are harvested—witness the crop of beets, weighing 8 lbs. each, which obtained the premium at the last horticultural exhibition, raised after a ripened crop of peas, and the ruta-baga turnips exhibited at your office, grown after wheat! I tell you, Mr. Editor, there is no comparison between such climates; and the criterion of judging by *rents* holds no longer good, for such facilities and comforts are above all price, and are not to be estimated by dollars and cents. We only require to be more sensible of our advantages, content ourselves with a less quantity of land, plough deeper and more carefully, drain where necessary, subsoil by means of the

plough, compost our manures, dress our grass lands, especially our clovers, sow wheat only on clover-lays, religiously abstain from sowing two grain crops in succession, seed our oats instead of our wheat, plough less and feed more, lay a portion of our land to pasture for five or six years, and top-dress as heavily as possible with compost of all kinds—lime forming a large proportion—and this, let it be remembered, being preparatory to a course of grain crops, when the land shall revert to tillage on laying down that portion of the farm now under the plough, and which grain crops must be debited with a portion of the expense of such dressing—take more care of our cattle if it be only for their dung, husband our resources and return thanks for our blessings, and the American farmer is assuredly the most enviable being in the world.

In conclusion, I must beg your readers to notice the last paragraph of the above extract from the *Journal of Agriculture*: it contains a volume of sound instruction, particularly the remark that “although draining cannot entirely alter the nature of soils, yet it will afford to labour and manure the opportunity of fertilizing it, whilst the climate above it will be rendered innocuous.” VIR.

March 23, 1842.

Management of Swine.

In the first place, *there must be a good piggery*. There is a greater failure in this respect than any other. The swine are too cold in cold weather, and too warm in warm weather. The owners of these animals do not sufficiently consider that they require to be comfortable, in order to thrive and do well. It is a lamentable fact, notwithstanding so much has been said and written on the proper management of swine, that many have hogs that are continually *scolding* and *crying*; not so much on account of being scantily fed, as for the want of a comfortable piggery. I went by one of these miserable pens the other night, where the inmates were whining out something like the following:—

Oh! cruel master, why do ye
Confine us in this piggery?
Oh! here we lie, without a bed,
Dirty and wet, from foot to head;
Boreas comes in, from every crack,
And bites our ears, our legs and back:
Thus we shiver all the night;
We scold, we whine, and sometimes bite.
Hard master! shall it always be,
To have no better piggery?

Who can suppose that swine will do well, when so uncomfortable and restless, and nature forces them to whine out such heart-rending complaints? A moment's reflection must convince every one that swine ought to have a dry, comfortable nest. Furthermore, it is highly necessary that it should be so,

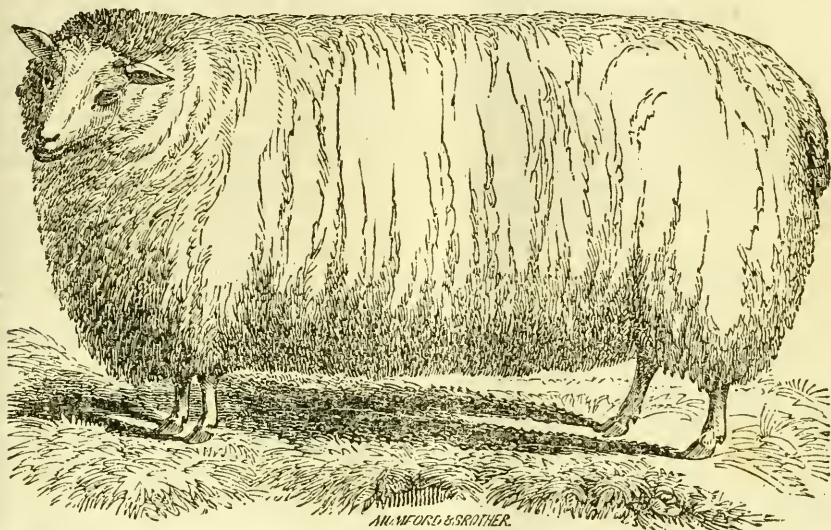
that they can bask in the sun in cold weather, and have the benefit of the air and shade in the warm. There is no doubt but a third may be saved by good accommodations.

In the second place, *there must be suitable food and good attendance*. Sows that have pigs, ought to have different keeping from what hogs generally have. In order to have their offspring do well, they not only must have meal, but a good supply of milk, or whey. This is soon imparted to their progeny, and, generally, (with good attendance) produces what the owner so much desires. Parturition having taken place, care should be taken for a few days not to over-feed. After which, the sow ought to be fed five times a day, and have about what the appetite craves. In other cases, roots, especially the *potato*, can be used to great advantage. This, I think, is the most natural for swine, and can be raised (all things considered) with the least expense. Not only roots, but meal, ought to be cooked. I very well know that there is some expense about it—but where the accommodations are good, there will be undoubtedly a great gain. Weaned pigs and swine that we are fattening, ought to be fed three times a day, and about such a time. Punctuality in this respect is highly important. Some contend to feed twice per day is as well, or better, than oftener. But against this practice, reason and experience raise a powerful voice. Nature teaches that they require not only a breakfast and supper, but a dinner. The food must be of good quality and dealt out liberally, but not to cloy. Meal should be made of a mixture of grain; it is more palatable, and has a better effect upon the recipients. By feeding swine three times a day, in a proper manner, the stomach may be duly distended, but not so as to produce disease. Whereas, if the food that they have at three times, be given at two, it will so distend the stomach as to have this effect.—N.

E. Fur.

Soap Boiler's or Spent Ashes.

EVERY 110 bushels of the spent ashes of the principal soap boilers, consist of 45 bushels of lime, 45 bushels of barilla, and 35 bushels of wool ashes, so that every 100 bushels contain $40\frac{1}{2}$ bushels of lime; and hence, in part, their great value as an improver of the soil. In the process through which they pass, they necessarily imbibe a large portion of ammonia, and the material for its formation, so that it is a question with us, whether they are not better adapted to agricultural purposes, after, than before the ley is extracted. If such were not the case, it appears evident to us, that the effects of the small quantities usually applied, would not be so lasting as they are.—Am. Fur.



MAJOR.

Bred and fed by Major Philip Reybold, Delaware.

THE above is a portrait, drawn from the life, of one of the splendid wethers exhibited in Philadelphia, and slaughtered by Schneck & Brothers, on the 3d of March, 1842. He was a perfect specimen of the pure Bakewell; the stock, imported from Ireland, boasting of an alliance with the first flocks in that country, and showing most plainly the *nobility* of his lineage. He was two years old, his live weight being 251 lbs.; weight of carcass, the four quarters, 147 lbs., cutting $4\frac{1}{2}$ inches thick of fat on the ribs, and furnishing a splendid saddle of mutton, weighing 78 lbs., which was purchased by B. Tevis, Esq., and presented to the postmaster-general, Chas. A. Wickliffe, Esq., at Washington, from whence it found its way to the table of the president, where it demanded and received due honour, and the "applause of the senate." Of this superlative breed of sheep, it is said, in Professor Low's work on Domestic Animals:

"The formation of the Bakewell or Leicester breed of sheep may be said to form an era in the economical history of the domestic animals, and may well confer distinction on the individual who had genius to conceive and fortitude to perfect the design. The result was not only the *creation* of a breed by art, but the establishment of principles which are of universal application in the production of animals for human food; it has shown that there are other properties than size, and the kind and abundance of the wool, which render a race of sheep profitable to the breeder; that a disposition to assimilate nourishment readily, and arrive at early maturity, are properties to be essentially regarded; and that these properties have a constant relation to a *given form*, which can be communicated from the parents to their young, and rendered permanent by a mixture of the blood of the animals to which this form has been transmitted; and it was BAKEWELL who carried these principles to their limits. Every breeder of sheep is taught by the result, that an animal of a size to fatten to 40 lb. per quarter is more profitable than one that is capable of reaching only 30 lb. in the same time. While Bakewell was compelled to confine himself to his own stock and to the blood of one family—to breed "in and in"—in order to preserve that standard of form which he had produced, modern breeders are relieved from all necessity of this kind; they can obtain individuals of the form required from different families of the same breed, and need never, by a continued adherence to the blood of one family, produce animals too delicate in form, deficient in weight of wool, or in that hardness of constitution, which are even more necessary than the perfectness of individual form, for the profit of the breeder—an incalculable advantage. Hence, the present breeds of the improved Bakewells are much larger than those which were the result of that great improver's exertions; and in every way has the diffusion of the race added to the value of live-stock in every country; it has even improved its *agriculture* in an eminent degree, by calling forth the necessity for a larger proportion of forage and herbage for the supply of a race of animals whose superiority over all the older races of the long-wooled districts, is attested by the degree in which it has supplanted them, and the eagerness with which it has been everywhere received, having, in little more than twenty years, supplanted other flocks of different breeds throughout entire districts, and given to the long-wooled sheep an uniformity of character, eminently favourable for further improvement, by multiplying animals of a given breed which can be selected for crossing, without the danger of a too close affinity."

For the Farmers' Cabinet.

Marl.

This is one of those terms which, having been applied to many dissimilar substances, has almost ceased to have any definite and distinctive meaning, further than as it may be used as a generic term to denote any substance dug out of the earth and applied, without further preparation, as a manure to land.

It is said that "in England the most scientific agriculturists apply the term marl *correctly* to a *calcareous clay* of a peculiar texture, but most authors, as well as mere cultivators, have used it for any smooth, soapy clay which may or may not have contained, so far as they knew, any proportion of calcareous matter." It has been divided into shell-marl, composed of fragments of shells, and earth-marl; the latter is again subdivided into five sorts: "1. Coroshut marl, which is brown, mixed with fragments of chalk and blue veins. 2. Stone, slate or flag marl. It resembles blue slate, and crumbles easily when exposed to the weather. 3. Pont marl or delving marl; it is brown, and rough to the touch. 4. Clay marl, which contains much clay as its name denotes. 5. Steel marl; its colour is black, its consistence like that of bits of paper." Other writers tell us that the "virtue of all these different kinds of marl is the same, and that they may be all used on the same ground without the smallest difference in their effect; and that marl without any reference to its colour may be known by its *pure and uncompounded* nature. There are many marks to distinguish it by; such as its breaking into little square bits; its falling easily to pieces by the force of a blow, or upon being exposed to the sun and the frost; its feeling fat and oily, and shining when it is dry. *But the most unerring way to judge of marl, and know it from any other substance, is to break a piece as big as a nutmeg, and when it is quite dry, drop it into a glass of clear water, where, if it be right, it will dissolve and crumble, as it were, to dust in a little time, shooting up sparkles to the surface of the water.*"

Can any thing be more vague and unsatisfactory than such definitions and descriptions. Yet such is the account of it we find in books. We do not pretend to understand it, and shall therefore not undertake to explain it to others. nor to decide to which of the different substances the term marl most properly applies.

We have several dissimilar substances in this country known under the general term of marl. To a few of these we shall now advert. And first of calcareous marl. This article, under the name of pond marl, is thus noticed by Prof. H. D. Rogers in his report on the Geology of New Jersey. "At seven-

ral places in the limestone districts of the Kittatting Valley we meet with a material which is identical with the *lake marl* of Europe, occurring around the shores and in the beds of small lakes, and throughout some of the swampy meadows of Sussex and Warren counties. This useful deposit is only found where the water is copiously impregnated with the carbonate of lime, and hence it occurs only within or immediately adjacent to extensive limestone strata. The ponds where this deposit occurs present a rather singular aspect, being fringed with a broad white beach, and from this circumstance are frequently called White Ponds.

Analysis of a fresh-water marl from a pond four miles from Newton:

Description.—Light ash colour; pulverulent.

Composition in 100 parts:

Carbonate of lime,	90.22
Carbonate of magnesia,	1.91
Alumina and peroxide of iron,	0.61
Insoluble matter,	3.13
Organic matter, moisture and loss,	4.13

100.00

This kind of marl must evidently owe its fertilizing power to carbonate of lime in a very finely divided state. "A material so easy of access, demanding no preparation to suit it for the soil, and unquestionably so efficient when judiciously applied, ought to be extensively used" wherever it can be obtained. "Though much neglected until recently, this useful substance is beginning to attract attention to its valuable properties as a manure. Ample evidence is furnished of its fertilizing agency by experience in Sussex county, even if we had not the testimony of many districts of Europe in its favour."

The next variety we shall notice is the greensand or Jersey marl; and shall again make use of Prof. Rogers's report on the Geology of that state—occasionally condensing his statements, the better to suit our present purpose. This material is known to exist extensively in the lower parts of New Jersey and Delaware, and will probably be found in other states further south.

"The prominent and often the sole ingredient of these marl or greensand beds is a peculiar mineral," to which the name of greensand has been applied, "occurring always in the form of small, dark granules about the size of the grains of gunpowder: their form is roundish and they are often composed of two or three smaller ones united together, a *distinctive feature* by which they may at once be recognized from other dark kinds of sand. The prevailing colour of the grains is a *deep green*, though sometimes the colour is as light as that of the green paint called verditer." "Though the green granular mineral above described constitutes the

essential and distinctive ingredient in the greensand stratum, it rarely exists unassociated with several substances, particularly clay and white siliceous sand. These constitute sometimes as much as 50 per cent. of the bed,—influencing materially its properties as an agricultural agent." The following table exhibits the average composition of seven specimens of the greensand marl, taken from many different parts of the formation in New Jersey, some of them widely distant from the others: The ingredients were separated by mere mechanical means.

Greensand.....	75.07
Clay.....	20.93
Quartzose sand.....	4.00
	100.00

It must be evident from the above that the New Jersey marl must owe its fertilizing powers to the greensand, as it contains no other material of much efficacy. From the results of 15 analyses of the greensand mineral itself, its own composition appears to be of

Silica.....	49.5
Alumina.....	7.3
Protoxide of iron.....	22.8
Potash.....	11.5
Water.....	7.9
Lime, about.....	0.5
Magnesia, a trace.	

"Abundant evidence might be adduced to prove that the true fertilizing principle of this kind of marl is not *lime*, but *potash*," but we think it unnecessary, as a mere inspection of the above table will fully show that it contains no other ingredient in sufficient quantity which is known or suspected to have any fertilizing powers, particularly on the sandy soils of Jersey; unless an indirect agency, that of neutralizing the acids in the soil, be attributed to the protoxide of iron. In this particular we believe it differs from all other substances known under the general term of marl.

Another kind is the shell-marl, found extensively in the tide-water region of Virginia and some other states. It is made up of small shell shells, or their fragments, and of clay and sand. The average proportion of carbonate of lime in 107 specimens, taken from nearly as many different localities in Virginia, and analyzed by Prof. William B. Rogers, was 47.4 per cent. nearly.* The shells in this marl exist in all states from the most entire and perfect fossil to a broken and finely comminuted mass, and from a soft powder to a hard concretion, which might properly be termed a tertiary limestone. Its value as a manure frequently depends more on the facility with which the shells fall into very minute particles than on the absolute quantity

of the carbonate of lime it may contain. It no doubt owes its fertilizing powers mainly to the carbonate of lime contained in its shells; but some varieties of it contain also a small portion of greensand similar to that of New Jersey, as well as a portion of sulphate of lime, or gypsum, which may aid in its effect. It has produced the most astonishing effects in the tide-water region of Virginia,—working in fact an entire revolution in the appearance and product of many farms where it has been liberally applied.

In the above brief notices the object has been to show the loose and indefinite manner in which the term marl has been applied, both in Europe and this country, in doing which, so far as relates to the latter, that I might not make "confusion worse confounded" by attempting to describe what I knew nothing about, I have confined myself for the present to such substances only as have undergone the investigations of gentlemen eminent for their science and general intelligence, and whose descriptions, therefore, (of which the foregoing is an imperfect abstract,) may be relied on with confidence.

S. LEWIS.

Inflammable Gas.

The lightness of inflammable gas is well known: when bladders of any size are filled with it, they rise upwards and float in the air. Now it is a most curious fact, ascertained by Knight, that the fine dust, by means of which plants are impregnated one from another, is composed of very small globules filled with this gas—in a word, of small air-balloons. These globules thus float from the male plant through the air, and striking against plants of the other sex, are detained by a glutinous substance prepared on purpose to stop them, which no sooner moistens the globules than they explode, and their substance remains; the gas, which enabled them to float, flying off. A provision of a very simple kind is also in some cases made to prevent the male and female blossoms of the same plant from uniting; this being found to injure the breed of vegetables just as breeding "in and in" spoils the race of animals. In this case, it is contrived that the dust shall be shed by the male blossom before the female of the same plant is ready to be affected by it; so that the impregnation must be performed by the dust of some other plant, and in this way the breed be crossed. And the levity of the gas with which the globules are filled is most essential to the operation, as it conveys them to great distances—a plantation of yew-trees has been known in this way to impregnate another, several hundred yards distant.—*Brougham*.

*See his Fourth Annual Report of the Geological Survey of Virginia.

For the Farmers' Cabinet.

On saving Liquid Manure.

MR. EDITOR,—We hear a great deal about dressing land with nitrate of soda and saltpetre—does it ever occur to our agriculturists, that they possess in the liquid manure of the fold and cattle-yard, these, as well as that other fashionable ingredient, ammonia, in great abundance? all which, however, we witness passing off down the ditches and high roads every rain that falls, without an attempt to put a stop to the ruinous waste; while the owners are toiling perhaps for many miles to the city, to bring back an expensive article in leached ashes—mixed, perhaps, with one-half street-dirt, or burnt horse-dung, white and light, purchased at almost any price! The thing is preposterous, and if a *tradesman* were guilty of anything so perfectly thoughtless and wasteful, his friends would prognosticate his ruin at hand; but agriculture can bear it!

Although I am now in trade, my business lies much abroad; and having once been engaged in husbandry, I can see very clearly, now that I have only to overlook my friends, that some of them go a strange way to work. The last time I called on my old acquaintance, Jacob Solly, I had enough to do to steer clear of a black stream of liquid manure, caused by a couple of days of rain, which I met issuing forth from his cattle-yard on its way to the ditch, which must have robbed his manure-heap of about a tenth of its value; but I could not prevail upon him to sink a cistern to collect it, from whence it might be carried on to his pasture land about his house—no—that was a labour he did not covet, nor did he believe there was much good in it, any how. Now, as I know that he reads the Cabinet, I wish to apply a gentle shove to him on the subject; and if you will give a place to the following extracts from an account of a set of experiments made in England, with the view to test the real value of an article which seems to obtain but little notice in this country, you would oblige me and benefit him, and perhaps many others. The experiments were made by a Mr. Milburn, who says:

“An experiment was made on pasture, soil sandy, subsoil sandy, gravel, and perfectly dry; two-thirds of the field were manured with rotten chaff and horse-manure well rotted, in the month of February; the remaining third being watered with the cistern liquor. The spring appearance of the grass was altogether in favour of the liquid manure, both in the colour, height, and thickness of crop. The field was depastured with cows, who ate up the grass on this part before they touched the other; and it still maintains its preference, is close and even as a lawn, while the other part of the field is quite neglected. From hence

it is inferred that some principle has been supplied to the plants by this liquid manure, much more favourable to the development of their characteristic qualities, than on the remainder of the field; animals always choosing such plants as are in the greatest perfection: and there is no doubt, had the grass been cut for hay, a most decided superiority would have been manifested, on the piece dressed with cistern liquor.

The next experiment was made on a meadow, on which the liquid was applied in February; it had fermented, and a black residuum had formed very liberally. A part of the field was manured with a very rich mixture of ashes and night soil; on the remainder, no manure whatever: soil, a cold, grey sand; subsoil, adhesive silt, rather spongy, and not effectually drained. The precise spot where the liquid manure was applied, could be marked to a yard, up to the time of mowing; and the grass was equally good with that manured with the ashes and night-soil—indeed it had so overgrown as to injure the surface of the meadow very considerably.

The last experiment was on a sandy soil, where potatoes and Swedish turnips or *Ruta Bagas* had been foddered, until the 13th of May—here the grass was eaten very close, and on a light, burning soil, little cut of grass could be expected after that period; but that part which was dressed with the liquid manure from the cistern, soon gave out a rich, luxuriant herbage, and contained three times as much grass as any other part of the field. A friend of the writer spreads the drainage of his yard over a paddock or piece of pasture, which he mows every year for soiling his draught-horses, and finds it gives three times as much grass as any other part of his farm of equal extent, although the soil is a cold, retentive clay.

For very small farms, the writer recommends simply a series of casks to be placed in the ground, well rammed with clay, with a conducting-pipe or drain over the whole; these would form a cistern at a very trifling expense, the advantage resulting therefrom being of incalculable importance. He knows an instance of a small receptacle of this kind, where the owner has but one pig, but by its means, he manages to grow astonishing crops in his garden, his produce being earlier, and far superior to his neighbours.”

Now, I presume there can be no objection to the use of soda, saltpetre, ammonia, and many other far-famed and far-fetched articles of manure, but I can see very clearly that many of my friends are indulging in their “propensities” in this way at great expense and labour, while they are neglecting the means and opportunities which lie within their reach, and often under their *very noses*,

to fabricate a mountain of manure at home, and be doing a service at the same time, in the way of improving their homesteads and increasing their comforts. But I suppose it would be difficult to please one who has an inkling after old pleasures and time on his hands to criticise his neighbours, else I would just intimate that the plan which I see is beginning to be adopted, namely, to plough up a bank or rough fence-row, and carry on it manure from the cattle-yard, all to be turned together to form a compost-heap, might be much improved, by first skim-ploughing the rough surface and burning it; then to spread the ashes and plough as deep as the surface-soil will permit; then harrow and turn up again, by which the ashes will be well mixed; and upon this, place the dung, turning all together as a compost-heap—"a *mountain of labour*," I hear some one exclaim, "and what can ever pay the expense?" I answer, the crops, and let no one hesitate to charge them with it.

J. H.

Philad., March 28, 1842.

Pressure of the Atmosphere.

THE weight of the atmosphere is near fifteen pounds on every square inch, so that if we could entirely squeeze out the air between our two hands, they would cling together with a force equal to the pressure of double this weight, because the air would press upon both hands; and if we could contrive to suck or squeeze out the air between one hand and the wall, the hand would stick fast to the wall, being pressed on it with the weight of above 200 pounds, near fifteen pounds on every square inch of the hand! Now, by a late most curious discovery of Sir Everard Home, the distinguished anatomist, it is found that this is the very process by which flies and other insects of a similar description are enabled to walk upon perpendicular surfaces, however smooth, as the sides of walls and panes of glass in windows, and to walk as easily along the ceilings of rooms with their bodies downwards and their feet overhead. Their feet, when examined by a microscope, are found to have flat skins or flaps, like the feet of web-footed animals, as ducks and geese; and they have, by means of strong folds, the power of drawing the flap close down upon the glass or wall the fly walks on, and thus squeezing out the air completely, so as to make a vacuum between the foot and the glass or wall. The consequence of this is, that the air presses the foot on the wall with a very considerable force compared to the weight of the fly; for if its feet are to its body in the same proportion as ours are to our bodies, since we could support by a single hand on the ceiling of the room (provided it

made a vacuum) more than our whole weight, namely, a weight of over 200 pounds, the fly can easily move on four feet in the same manner by help of the vacuum made under its feet. And it has likewise been found that some of the larger sea animals are, by the same construction, enabled to climb the perpendicular and smooth surfaces of the ice hills among which they live. Some kinds of lizards have the same power of climbing and of creeping with their bodies downward along the ceiling of a room, and the means by which they are enabled to do so, are the same. And in the large feet of those animals the contrivance is easily observed, of the toes and muscles by which the skin of the foot is pinned down and the air excluded in the act of walking or climbing; but it is the very same, only upon a larger scale, with the mechanism of a fly's or a butterfly's foot; and both operations, the climbing of the sea-horse on the ice, and the creeping of the fly on the window or the ceiling, are performed exactly by the same power, *the weight of the atmosphere*, which causes the quicksilver to stand in the weather-glass, the wind to whistle through a key-hole, and the piston to descend in an old steam-engine! — *Brougham*.

Duke of Athol.

THE estate of the present Duke of Athol, "is immense, running in one direction more than seventy miles. On his estate there are thirty-six miles of private road for a carriage, and more than sixty miles of well-made walks, which are being extended every year. These roads and paths being made for pleasure, are laid through the most picturesque and romantic scenery; along the river's bank, up the glen, cut in the steep sides of the mountains and over their tops, and along the margin of the precipitous cliffs—now into the forest gloom—now opening on a boundless prospect, or some sweet vale—now bursting on a waterfall, and next along the side of a murmuring brook. The father of the present duke began in his lifetime one of the most magnificent palaces in the kingdom. It is said that in the estimate of the cost of the edifice, the single item of raising the walls and putting on the roof, together with the materials, would have been one hundred thousand pounds, about five hundred thousand dollars."

Do you envy the possessor of all this wealth!

For more than thirty years he has been in a lunatic asylum of London.

AGRICULTURE, like the leader of Israel, strikes the rock—the waters flow, and the famished people are satisfied—she supplies, she feeds, she quickens all.

For the Farmers' Cabinet.

Yellow Beet.

MR. EDITOR,—After all that has been said and written on the subject, I believe it will be confessed, even by the friends of the sugar-beet culture for the purpose of cattle feed, that that crop has not uniformly proved of the value and importance which was once considered to be its due; it therefore behooves its advocates to examine into the real state of the case, and endeavour to point out the cause of such contradictory statements; for that there is a very wide difference of opinion on the cost and trouble of the culture, as well as the expenditure of the root after it is grown, cannot be denied. And I would farther hint, that as you, Mr. Editor, were instrumental in the introduction of the crop amongst us, it is but reasonable that you should feel much interest in the question. I have sometimes thought it probable that the Silesian or white beet may not be the best for cattle, whatever might be its pretensions for the purpose of making sugar; for I well remember that the seed which was first introduced from France by the Beet-Sugar Society, embraced a yellow variety, which, according to every account, was of peculiar value to the farmer, the roots growing large and globular, of fine flavour, and remaining succulent through the whole winter, and even until very late in the summer, without a particle of that ill flavour which is now so often complained of, and the diuretic effects of which were so vividly portrayed by B in his very interesting account of his last year's trial and exercises in the propagation of that *root of vexation*, at page 59 of the Cabinet for September last. This yellow beet was largely expended for family use during the winter, with a decided preference to the garden beet; and I have therefore been ever since endeavouring to meet with seed of the same sort, but without effect, although I addressed a note to you on the subject, which appeared in the 4th vol. of the Cabinet, p. 235.

These things considered, I thought I would inquire what are now your opinions as to the real value of the beet crop as food for stock, and whether it be not quite probable that the distinction pointed out above has some foundation in truth. It is true, there are still many who adhere to the culture of the sugar-beet; but it is also a fact, that many have abandoned it in despair, and are now contemplating the growth of the potatoe for feeding stock, now that you have shown them the case with which they might be cooked by the ingenious contrivance exhibited at p. 217 of the Cabinet for February last, and which will no doubt be adopted by many on a large scale. And with this view, I would also ask which,

in your opinion, is the best kind of potatoe for stock-feeding? I know that many prefer the Rohan on account of its productiveness; at the same time it is, I believe, admitted that the quality is inferior. I have a neighbour who prefers the yellow-fleshed potatoe, considering the yellow colour of roots indicative of richness—the yellow turnips, the Scotch and ruta-baga, the purple-top variety especially, the parsnep, the beet above-mentioned, as also the potatoe of that colour. And could we but realize one half the crop that General Barnum is said to have raised per acre, the potatoe would cause the beet, as well as all other crops, to “hide their diminished heads.” By the bye, Mr. Editor, how are we to receive that account of the General's “tater patch”—is it to be *cum granum salis*? I wish you could give us his mode of cultivation; it would be exceedingly interesting to us 250-bushel-men.

W. R.

We well remember the very general satisfaction which the seed of the yellow variety of beet, sent from France on the first importation, gave to the agriculturists of this country, and many have since regretted that it could no longer be obtained; the crop being quite as large as that raised from the Silesian variety, while the quality is infinitely superior in the estimation of many who have since abandoned the culture on account of the bad flavour which they communicate to the butter in the spring—a time when their use is most needed: and we are free to confess, that although the Silesian beet has been uniformly preferred for the purpose of making sugar, in all probability the yellow variety will be found of greater utility in the feeding of stock, its saccharine matter being by many considered equal to that of the Silesian, although not so easily extracted, and granulating with more difficulty in the manufacture of sugar; retaining its juices later in the spring, without exhibiting that tendency to fermentation peculiar to the Silesian—its saccharine quality appearing to consist rather of *molasses* than *sugar*. Much, however, of the difference of opinion on the subject arises, it is considered, from a mistake in the proper season for its cultivation; for with those who have sown the seed of the Silesian beet after the growth of a spring crop of peas, they have been found to retain their good qualities till late in the season, and productive of the best results. The supposition seems to be well grounded, that the climate of many portions of this country, as well as the nature of the soil, are too hot and dry for the full development of the Silesian beet, bringing on a too early maturity, with acidity of its juices—just as we witness some fruits, the goose-berry, raspberry, currant and strawberry, which are grown to much greater perfection in the colder and more humid climate of England: indeed, the cultivation of the beet for sugar is confined to the low country of France—the northern part—the more southern having been found inimical to its proper development; but it is believed the yellow globe beet can be raised here with perfect success; and we take the opportunity to say, the seed of that variety, packed in parcels of 1 lb. each, bearing the signature of the French importer, may be

had at Prouty's seed and implement store, 176 Market street, Philadelphia.

There is reason to believe that the cooking of food for stock, by the apparatus mentioned by our correspondent, will become pretty general, and then the potatoe will come into use for that purpose. A yellow variety of that root has been exhibited at our office during the winter, and appears peculiarly well adapted; it is round and rather flat, remarkably vigorous in its growth, continuing green until autumn, and keeping its quality late in the spring. The seed may be obtained of Mr. Philip Reybold, of Delaware city, at the market price of other kinds of good quality. There is also the long red, very famous, and of excellent yield under common treatment: but we fear that our friends must not expect to rival our Eastern neighbours in the growth of this invaluable crop, although much, very much may be done by the use of the subsoil plough, which for this purpose, as well as many others, is destined to become indispensable, certainly. A week's trial with this noble implement, in connexion with the sod C, centre draught plough of Prouty & Mears' patent, has convinced us that nothing more is left to be desired in the construction of these ploughs, whether it be in the cultivation of the soil, or the ease and facility with which their operations are conducted; the subsoil plough by the aid of a pair of small horses stirring the earth to the depth of 8 or 10 inches in the most effectual manner—the soil being a reddish-brick clay—and leaving it in the finest state of pulverization that can be imagined. By the faithful use of these ploughs, the quantity and quality of all our crops must be greatly increased, and the extra labour compensated by a rich return—the only consideration with any one of intelligence and industry in his profession.

General Barnum's peculiar mode of cultivation of the potatoe is as follows; it is extracted from the "New England Farmer;" but it will be perceived at a glance that its adoption on a very large scale is not feasible. —Ed.

From Mr. Barnum's statement.

"*Preparation for Planting.*—What soil may be selected for this purpose to insure a large crop, should be highly manured with compost, decomposed vegetables, or barn-yard manure.

"The first should be deep ploughing, and may be done as early as suits the convenience of the cultivator. If a stiff clay soil, it would be well to have it ploughed late in the fall previous to planting. Where compost or other substances not liable to fermentation, are intended as a manure, it is better the spreading should be omitted until just before the last ploughing, after which it should be thoroughly harrowed, fine and smooth as possible; then take a narrow furrow; with this instrument lay your land in drills, twenty inches asunder and four inches in depth, running north and south, if practicable, to admit the rays of the sun to strike the plant equally on both sides; put into the bottom of the furrows or drills about two inches of well rotted barn-yard manure or its equivalent, then drop your potatoes, if of the common size, or what is more important, that they contain about

the usual quantity of eyes; if more, they should be cut, to prevent too many stalks shooting up together. Put a single potatoe in the drills or trenches, ten inches apart; the first should remain uncovered until the second one is deposited. Place them diagonally in the drills, which will afford more space between the potatoes one way, than if laid at right angles in the rows. The covering may be performed with a hoe, first hauling in the furrow raised on each side the drill, then carefully take from the centre of the space the soil to finish the covering to the depth of $3\frac{1}{2}$ or 4 inches. By taking the earth from the centre of the space on either side to the width of 3 inches, it will leave a drain of 6 inches in the centre of the space, and a hill of 14 inches in width, gently descending from the drill to the drain; the width and depth of the drill will be sufficient to protect the plant against any injurious effects of a scorching sun or drenching rain. The drains in the centre will at all times be found sufficient to admit the surplus water to pass off. I am not at all tenacious about the instrument to be made use of for opening the trenches to receive the manure and potatoes; this work should be well done, and may be performed with the common hoe, with much uniformity and accuracy, by stretching a line to direct the operation: it is true that the labour cannot be performed with the same facility as with a horse, but it can be better done, and I think at less expense, taking into consideration the labour of the man to hold, the boy to ride, and the horse to draw the machine.

"*Dressing, Hoeing, &c.*—When the plant makes its appearance above the surface, the following mixture may be used:—For each acre, take one bushel of *plaster* and two bushels good *ashes*, and sow it broadcast as even as possible. A moist day is preferable for this operation—for want of it, a still evening will do.

"I consider this mixture decidedly more beneficial and much safer than plaster or ashes alone. The alkali and nitre contained in the ashes lose none of their fertilizing qualities in a moist season, and the invaluable properties of the *plaster* are fully developed in a dry one, by decomposing the atmosphere and retaining to a much later period in the morning the moisture of the evening dews. There are but few plants in our country that receive so great a share of their nourishment from the atmosphere as the potatoe. The time for dressing or hoeing will be found difficult to describe, and must be left to the judgment of the cultivator; it should, however, in all climates be done as early as the first buds for blossoms make their appearance.

"The operation of hilling should be performed once, and *once only* during the sea-

son; if repeated after the potatoe is formed, it will cause young shoots to spring up, which retards the growth of the potatoe and diminishes its size. If weeds spring up at any time, they should be kept down by the hand or hoe, which can be done without disturbing the growing stalk.

“My manner of *hoeing* or *hilling*, is not to haul in the earth from the spaces between the hills or rows, but to bring on fresh earth sufficient to raise the hill around the plant $\frac{1}{2}$ or 2 inches. In a wet season the lesser quantity will not be sufficient; in a dry one, the larger quantity will not be found too much. The substance for this purpose may consist of the scrapings of ditches or filthy streets, the earth from a barn-yard that requires levelling; where convenient, it may be taken from swamps, marshes, the beds and banks of rivers, or small sluggish streams at low water. If planted on a clay soil, fresh loam taken at any depth from the surface, even if it partakes largely of fine sand, will be found an excellent top-dressing. If planted on a loamy soil, the earth taken from clay pits, clay or slaty soil, will answer a valuable purpose. In fact, there are but few farms in the country but what may be furnished with some suitable substance for top-dressing if sought for. The hoeing and hilling may be performed with facility by the aid of a horse and cart, the horse travelling in the centre of a space between the drills, the cart-wheels occupying the two adjoining ones, thereby avoiding any disturbance or injury to the growing plants. The time for collecting the top-dressing may be regulated by the farmer's own convenience; the earlier the better. Deposited in large piles in or near the potatoe field, is the most suitable place for distribution.”

Stables.

NOTHING conduces more to the health of a horse than a good and wholesome stable. It should be built upon a high, airy, and firm situation, that the horse, in bad weather, may come in and go out clean. No animal delights more in cleanliness than the horse, or to whom bad smells are more disagreeable and pernicious. Great attention should be paid to the removal of all offensive and putrid matter, to prevent the farcy and other troublesome and distressing diseases, which frequently proceed from such neglect. A log stable is preferable to any other, on account of its admitting a free circulation of air in summer; and by the use of slabs or straw in winter, can be made warm and comfortable. Opposite to each stall there should be a lattice or window, with a shutter; by which means you can, at pleasure, either welcome the cheering breeze, or bar out the threaten-

ing storm. The rack should be smooth, high, and firmly fastened to the wall, which will prevent a horse injuring his eyes, skinning his face, and doing himself other injury when feeding. The upright pieces in a rack should be four, or four and a half inches apart, to prevent long food from being unnecessarily wasted. The halter should never be tied to the rack, (several fine horses having been ruined by such carelessness,) but should be fastened to a ring in the manger, and confined by a log or smooth piece of wood, weighing about a pound. With a halter of this description, there is no danger of a horse's hanging, alarming, or injuring himself. A stall should be four and a half or five feet wide, which will allow him to lie down with comfort. The stable floor should be planked, to make the coat of hair show to advantage, but a dirt floor is far preferable, when a horse is wanted for service; there is a moisture received by the hoof from the earth, which is absolutely necessary to make it tough and serviceable. Either kind of stable floors should be a little raised towards the manger, to turn the urine from the stall, which produces an unpleasant smell, and (when permitted to stand a length of time) very unwholesome vapours. When the size of the stable is calculated for several horses, the partitions between the stalls should be neatly and smoothly planked, low enough to the floor to prevent the horse, when lying down, from getting his legs through, and high enough at top to prevent them from smelling, biting, and molesting each other. A plentiful bed of clean, dry straw, affords to a fatigued or travelling horse, as great a welcome as his food, and is as necessary in the stable as the pitch-fork, curry-comb, and brush.—*Mason's Farrier.*

From the Colonial Farmer.

The Farmer's Song.

In sweet healthy air with a farm of his own,
Secured from tumult and strife,
The farmer, more blest than the king on his throne,
Enjoys all the comforts of life.

When the sweet smiling spring sheds its perfume
around,
And music enchants every tree,
With his glittering ploughshare he furrows his ground,
With mind independent and free.

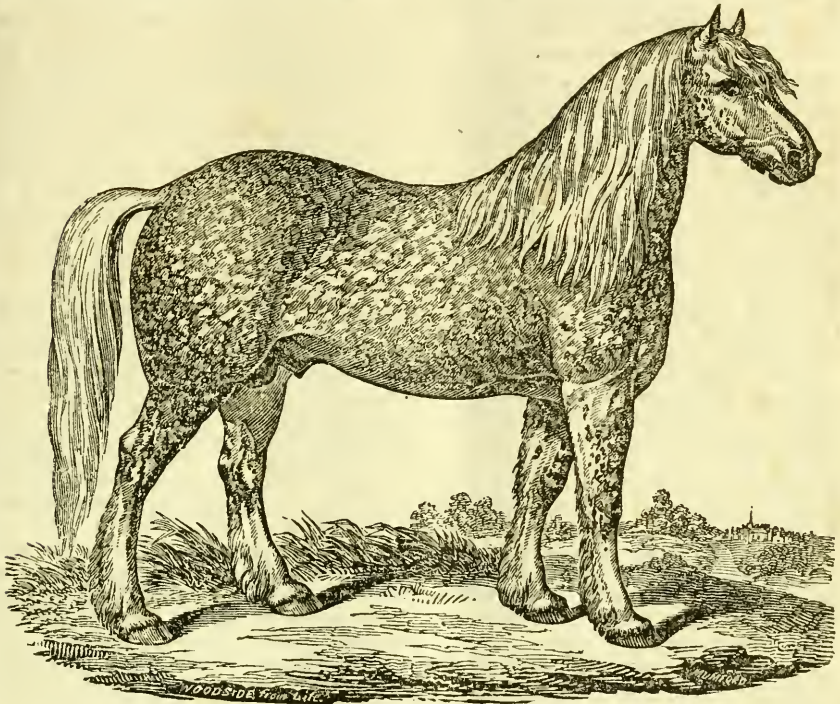
When Summer to fruit the sweet blossoms transforms,
And his harvest fields wave with the breeze,
Sweet anticipation unfolds all her charms,
And points to contentment and ease.

When bountiful autumn her treasure bestows,
And her fruits are all gathered and stored;
His heart to the Giver with gratitude glows,
And plenty presides at his board.

When Winter howls dismally over the earth,
And want tells her tale at his door,
Serenely he sits by his clean blazing hearth,
And dispenses relief to the poor.

Then let idle ambition her haubles pursue,
While wisdom looks down with disdain;
The home of the farmer hath charms ever new,
Where health, peace, and competence reign.

A. W.



DILIGENCE.

The property of Edward Harris, Esq., Moorestown, New Jersey.

THIS splendid portrait, drawn from the life by Woodside, and engraved by Mumford, is a faithful representation of one of the most perfect animals of that distinguished breed of Normandy horses, the PERCHERON. He was imported into this country by his present owner, and retains all the life and vigour which distinguish that peculiar race of horses in their native country, although so different in soil and climate; Normandy partaking, in a great degree, of the climate of England, moist and cool, in contradistinction to the heat and dryness of that of New Jersey; the change, however, appearing to have no influence whatever upon his constitution of iron.

DILIGENCE is of a handsome dapple-grey colour, and measures 15 hands under the standard; he was purchased by his present owner in 1839, at the Fair of Guibray, a small village near Falaise, in Normandy, the birth-place of William the Conqueror. This fair lasts 15 days, and being held in a district the most celebrated in France for the breeding of horses, and the first three days of the fair being devoted to their sale, it is resorted to by dealers from all parts of the country, particularly from Paris, for the supply of the diligences, and for post and carriage-horses. This fair is largely supplied with the English breed raised in Normandy, and with its crosses upon the French stock, as well as with this peculiar race (of which Diligence is a true type) called the PERCHERON, so universally used in the northern half of France, to draw the diligences and for post-horses.

The origin of this race, according to French authorities, dates from the occupation of the Netherlands by the Spaniards, who introduced the Andalusian horse, which soon became the favourite stud horse all over the continent. The Spanish horse is known to spring from the Barb or Arabian, introduced by the Moors, on their conquest of that country. All who are conversant with the history of the horse, know that the Andalusian has always been celebrated for his beauty, and for his great spirit, combined with extraordinary powers of endurance. The French horse, upon which he was crossed, was the old Norman draught-horse, which still exists in the country in all its purity, and is, perhaps, the best of all horses for slow draught.

The average height of these horses is 16 hands, and they may be described as follows: head, short, wide, and hollow between the eyes; jaws, heavy; ears, small and pointed well forwards; neck, very short and thick; mane, heavy; shoulder, well inclined backwards; back, extremely short; rump, steep; quarters, very broad; chest, deep and wide; legs, very short, particularly from the knee and hock to the fetlock, and thence to the coronet, which is covered with long hair, hiding half the hoof; much hair on the legs; tendons, large; and muscles excessively developed.

For the Farmers' Cabinet.

The Norman Horse.

MR. EDITOR,—I promised to give you some account of my horse *DILIGENCE*, and of the race from which he springs, to accompany the engraving from Woodside's portrait of him, which is in preparation for the April number of the Cabinet. In fulfilment of that promise I send you this letter, which you are at liberty to publish as it is, or mould it into such form as may best suit your own views. Notwithstanding the great size and weight of the old draught horses, they are active. I have seen one of them draw sixteen large bales of cotton in the streets of Havre.

If the account—which accompanies the engraving in the present number—of the origin of the *PERCHERON* horse be correct, it would appear that the crossings with the Spanish horse were continued long enough to reduce, very considerably, the size of the old Norman horse; and that when the supply of Andalusian stud horses was cut off by the expulsion of the Spaniards from the low countries, breeding their progeny with one another has produced a distinct race, as well marked by character and qualities peculiar to itself, as any race of horses in Europe.

DILIGENCE was chosen as a full-sized specimen of the breed, possessing all the quick action of the smaller horses, in order that his immediate progeny from our light mares might approach nearer the true type of the race. It must be observed, however, that it is more in breadth and size of bone and muscle that he exceeds the standard, than in his height, which is very little above the average. The portrait, or still better, an inspection of the horse, will convince any one that this race is the origin of the Canadian pony, about whose valuable properties little need be said, as they are well known and highly prized in this section of the country, and still more to the north, where they have, undoubtedly, given that stamina and character to the horses of Vermont, New Hampshire, and the northern section of New York, which makes them so highly valued all over the Union as road horses; while it is a remarkable fact, that in those states where the attention of breeders has been exclusively devoted to the English race-horse, the carriage and the stage-horse is almost universally supplied from the north. It remains, therefore, for breeders to determine, whether it is not better to resort to the full-sized *PERCHERON* to cross upon our light and already too highly bred mares, than to use the degenerated Canadian, (degenerate in size only, through the rigour of the climate—for it must be admitted that the little animal retains all the spirit and nerve of his ancestors, and lacks strength only in proportion

to his size). My own opinion is, that a due portion of the French blood mixed with the English, will produce a stock of horses invaluable, as combining all the properties that are required for quick draught on the road or the farm. I need not assure you who are acquainted with the success of *DILIGENCE* as a stud horse in this place, that such, too, is the opinion of the farmers of New Jersey.

I have frequently been questioned as to my reasons for selecting this horse for farmers' use in preference to the English draught-horse. My reply has always been, that the draught-horse of England, whenever brought to this country, must prove a failure; he wants the go-a-head principle; he cannot move out of a walk; which is saying quite enough of him, without dwelling upon his defects of form, which can only be concealed by loads of fat, and not even then, from the eye of the horseman. The true *PERCHERON*, or Norman Diligence horse, on the contrary, combines more strength with activity than any horse I have ever sat behind. All travellers, on entering France, are struck with the properties of these horses as displayed in drawing the ponderous machine called a Diligence, by which they are conveyed through the kingdom at a rate fully equal to the average of stage travelling in this country. English horsemen confess that their road-horses could not hold out the same pace before the same load. But I will close this letter with an extract or two from an able article on the Norman Horse, in the British Quarterly Journal of Agriculture.

The writer, after giving an account of the origin of the horse, which agrees in tracing it to the Spanish horse (of Arabian ancestry) with the account I have given above, which I procured from French sources, says: "The horses of Normandy are a capital race for *hard work and scanty fare*. I have never seen such horses at the collar, under the diligence, the post-carriage, the cumbrous and heavy voiture or cabriolet for one or two horses, or the farm-cart. They are *enduring and energetic beyond description*; with their necks cut to the bone, they flinch not; they put forth all their efforts at the voice of the brutal driver, or at the dreaded sound of his never-ceasing whip; *they keep their condition when other horses would die of neglect and hard treatment*. A better cross for some of our horses cannot be imagined than those of Normandy, provided they have not the ordinary failing, of too much length from the hock downwards and a heavy head." I think that all who have paid attention to this particular breed of Norman horses (the Percheron which stands A No. 1), will bear me out in the assertion that the latter part of this quotation will not apply to them, and that on

the contrary they are short from the hock downwards; that their heads are short, with the true Arabian face, and not thicker than they should be to correspond with the stoutness of their bodies. At all events, you can witness that DILIGENCE has not these failings, which, when absent, an Englishman (evidently, from his article, a good horseman) thinks, constitutes the Norman horse "the best imaginable horse for a cross upon English horses, of a certain description." This, coming from such a quarter, I look upon as high praise—a golden opinion. I would here observe, that I have seen great numbers of the cross upon the Norman mare by the English thorough-bred, and feel satisfied that they are of superior form and action for road-horses, and that many of them in the hands of our trainers would make fast trotters. Again, he says they are "very gentle and docile; a kicking or vicious horse is almost unknown there; any person may pass in security at a fair at the heels of hundreds."

As I do not feel myself at liberty to bore you or your readers any longer with my *hobby*, I will conclude with the assurance, that it will give me great pleasure to show my horses, mares and colts, of this breed, to any of your friends, particularly those who are desirous of importing the stock, and to give them all the information I am possessed of, in regard to the best means of procuring them.

I remain yours, very sincerely,

EDWARD HARRIS.

Moorestown, Burlington co., N. J.,
March 30, 1842.

For the Farmers' Cabinet.

Birds.

MR. EDITOR.—As the season has again arrived when the feathered tribes begin to make their appearance amongst us, I wish to say a few words on a subject that has received the attention of far abler pens than mine; but a wish to cast my mite into the common treasury on the score of humanity, has induced me also to put pen to paper. We all know that from the time when these little harmless friends of the farmer first arrive in the spring, until the day of their departure in the autumn, they are made the subjects of an unceasing, bitter persecution, merely for the sport and fun of the most worthless part of society! These valuable servants of the farmer, who work for him day after day, and receive nothing for their labour, securing his fruit and crops from destruction, are killed off just for sport; and a reckless spirit of destruction is engendered, which, in the young, is often the fruitful source of crime and punishment in after life. Now, I hold it wrong to take away the life of any of God's creatures for fun or pastime—much more, those that

are of such service to man. Nothing was made in vain; every living thing, from the ephemeral insect up to man, was made for some use: true, there are some of our birds—the crow, the hawk, and the black-bird—that are supposed to do considerable injury at certain seasons of the year, yet it may be fairly presumed that the good they do far overbalances the injury; for observe the immense number of worms and bugs of every description that are destroyed by the black-birds through the summer. It is also true, that they will help themselves to a little corn at harvest, but how infinitely small is the quantity they destroy, when compared with that which is destroyed by the cut-worm! But, those birds which are of the greatest use to the farmer, are they which suffer the most, namely, the robin, the blue-bird, and the tom-tit; and so fast as their numbers decrease, in the same proportion do the tribes of hurtful insects increase; and should this destructive spirit continue for a few years longer, it will be difficult for the farmer to raise any crops at all. Let therefore the farmers rise up as one man, and stop the wanton destruction of the inoffensive creatures: let them teach their children the insanity and cruelty of the practice, and let the public teachers of schools inculcate the blessed doctrines of humanity to brutes and kindness to everything that has life; especially to abstain from destroying birds and robbing their nests. But more particularly, let every farmer do his utmost to keep from off his property those miscreants whose sole business seems to be to prowl about the country with the gun, and waste their time in the unprofitable employment of destroying the lives of animals that, after all the labour, are not worth a tenth part of the cost of powder and shot; and this they will do in their own defence, when they see the importance of the subject, and experience the loss which is yearly accruing from the destruction of these their most valued friends, and witness the injury done to their fences, fruit trees, and crops in general, by the trespass of a company of freebooters, who are generally the off-scouring of society. Let then our farmers look to it, before it be too late.

Please inform me where I can obtain the book entitled Frank, or Dialogues between a Father and Son, on agriculture, &c., and what is the price of it? I am, your subscriber,

E. BIERER, Jr.

Union Town, Fayette co., Pa.

We would inform our correspondent, that the book which he inquires after may be had of the proprietors of the Cabinet, Messrs. Kimber & Sharpless, No. 50, N. 4th street—price 75 cents; where also may be obtained every other agricultural publication of standard merit.—Ed.

For the Farmers' Cabinet.

Bakewell Sheep.

MR. EDITOR.—By the hand of Mr. Aaron Clement, I present you with a piece of my Bakewell mutton; also, the live and dead weight of my thirteen sheep, advertised in the Ledger of the 22d March, slaughtered and sold in the Washington Market, Philadelphia, on the 26th.—Should you think them worthy notice, you will please publish them in your useful "Cabinet."

Live weight.	Dead weight.
231 lbs.	133½ lbs.
188 "	104½ "
198 "	107½ "
195 "	88 "
181 "	81½ "
162 "	100 "
176 "	85½ "
177 "	98 "
183 "	111 "
181 "	94½ "
154 "	84 "
156 "	100½ "
153 "	109½ "
2335	1298

The enterprising purchasers, Messrs. Henry Schaffer and John Youcker, realized all which was stated in the Ledger of the 22d instant. The mutton when on the stalls was decidedly the fattest ever offered for sale in this market, although not as heavy in the carcase as others of a larger breed. The full-blooded Bakewells cannot be excelled for their delicious flavour and taste to the epicure, and appearance of beautiful meat. These sheep were allowed to excel all others for colour and handsome appearance; they were of the pure breed, (one or two excepted,) and were *raised and fed* on my farm, New Castle county, state of Delaware.

A word in season to the stock-breeder may not be amiss on this occasion. My judgment, with many years' experience, corresponds with that of my worthy friend, Gen. Emory, See Cabinet, vol. vi., p. 236:—"Keep your breeds entirely distinct, both cattle, sheep, &c.—Bring in your crosses from distant families of the same race, and do not give them *even one cross* of another breed, unless you have a definite object—some specific point of form or quality which you wish to correct or improve, and then, you must be sure that you do not introduce at the same time another defective point, and pursue the object with undeviating steadiness, &c."—My sheep's ages were from one, to two, and four years, the two year old nearly equalled in weight and quality of meat those of four years old.

It is well known that the great Bakewell's object and aim was to raise a breed of sheep which should come to perfection in the shortest given time; this might well be termed time and money saved, and this is the superior quality of the true-bred Bakewell sheep.

By referring to the weight of Mr. Bakewell's sheep in his day, we find they averaged from 22 to 30 lbs. per quarter at the age of two years; this has frequently been accomplished by myself within the last thirty years, during which I have been paying strict attention to this valuable race of sheep; my object is still to keep them as pure in the blood as possible, being fully convinced there is no advantage to be derived from crossing with other breeds.

JOHN BARNEY.

Port Penn, New Castle county, Del., March 23, 1842.

We are indebted to Mr. Barney for the remarkably fine cut of very fat mutton—we presume from No. 1 of the list of his thirteen sheep of the Bakewell breed, than which a finer race cannot be found. "Little Delaware" takes the lead in fat sheep, and is destined to become *great*, in the best acceptance of the term.—The mutton is to be seen at our office, in *company* with the specimen from Major Reybold's "Clayton," whose portrait will appear in our pages for May. And there also will be found a sample of the very finest improved Mercer potatoes, a present from Mr. Jacob Shalcross, which go to show what might be accomplished by an union of ability and perseverance.—Ed.

For the Farmers' Cabinet.

The Centre-Draught and Subsoil Ploughs.

MR. EDITOR.—Happening on a visit to a friend at New Castle, I accompanied him to Delaware City, on Tuesday last, where, at the post-office, I saw a notice that on the afternoon of that day there would be an exhibition of the Prouty Centre-Draught Plough, accompanied by the Subsoiler, at the farm of Mr. P. Reybold, St. George's; and never having witnessed the performance of either, my friend and I determined to be present on that interesting occasion. In spite, therefore, of the weather, which was so bad as to prevent many from being present, I found some first-rate ploughmen on the ground, and saw what I shall never forget—the working of the most perfect implements that I ever expect to see, although the pleasure of meeting you there was denied me, you having just left the scene of operations. My friend was so struck with the working of these remarkable ploughs, that he has ever since been urging me to say something about it for publication in the Cabinet, considering it worthy record; and as the scene is still fresh in my recollection, I have complied, in the hope that those who were absent might become acquainted with a few particulars relating to a trial at which they might well wish they had been present. By the way, Mr. Editor, that is a capital plan of yours—to visit parts of the country for the purpose of exhibiting improved agricultural machinery—it is legitimate with your editorial duties, bringing you into contact with practical men on the field of their labours, and joining them heart and hand in a business which,

in an especial manner, *comes home to their bosoms*; furnishing them and yourself with much original matter for farther discussion, uniting all in the bonds of friendship, and at the same time doing much for the success of the "Cabinet," which requires only to be better known to be properly appreciated—but to the purpose.

I found the ploughs at work on a piece of clover-lay that had been thickly covered with manure from the barn-yard, for the purpose of ascertaining whether both could be covered by the centre-draught plough, so effectually as to leave nothing in sight, as had been represented to be the fact, by those who had seen its powers; and here we were witnesses of the fact, for after the plough had passed, not a particle of either dung or turf was to be seen, and no one would have known but the field had been a fallow! The plough followed the horses surprisingly easy, which is, I understand, its peculiar quality, but I could perceive that much of its ease of draught, under circumstances where other ploughs would have "risen up and walked off," as some one says, arose from the use of a small wheel—the first I had ever seen attached to a plough—fixed near the end of the beam; the pressure which fell upon it, keeping the plough in its place, even when choked with the long, rolling dung. And this was not the only good effect, for it was as great a cause of ease to the ploughman as to the horses, which stepped off with ease and confidence, being relieved from the checks and snatches which so often take place, by reason of the swing plough sinking occasionally too deep in the soil.

But to the *principle, which has been patented*, is this plough indebted for its great superiority; for, leaning as it does, very much towards the *furrow* whilst going, it is made to undermine the *land side*, taking up a portion of the next furrow in a state of pulverized soil without turf, and throwing it over; causing it to fall exactly in the interstice between that and the last-turned furrow—that particular spot which, with all other ploughs, constitutes the *seam*, from whence the grass turned over, is seen to spring with redoubled vigour, showing very distinctly, long rows of vegetation, from one end of the field to the other. By this undermining operation, a portion of the turf is left attached to the soil, to be turned over with the next furrow-slice to the *bottom of the furrow*; and it is owing to this peculiarity of construction, that the centre-draught plough has taken the premium for the lightest draught, in every trial to which it has been submitted, by the only criterion by which to form a judgment, namely, the dynamometer; and it is plain to see that this must be so, for the next furrow, undermined and deprived of

its support by the cutting away of its lower or *aris edge*, as it might be termed, must, in the nature of things, turn easier and more completely, than if all had remained square and unremoved. But there are other peculiarities still to be noticed; for the plough is longer in the ground than any I had ever before seen, which is the cause of its steadiness, so remarkable in going; this great length might have been in a degree objectionable, had that not been obviated by the proportionate greater length of the handles and beam, which are so mathematically adjusted, that the body of the plough forming a *fulcrum*, the ploughman has the power to poise the machine with the ease of a well-adjusted pair of scales; the weight of a few ounces being sufficient to raise or lower the beam or handles, with the utmost precision.

The construction of the point and share is a new invention, and seems to be about the most perfect that can be devised. In the common cast-iron plough, as soon as the point is worn away from the land-side, it is useless, and requires to be replaced by a new one; but here, the point is movable, and consists of a chisel; the wearing away from the land-side only sharpening it to a narrower point, which can be turned in an instant; and when that also is worn away, then the other end, which forms another chisel, can be brought into operation exactly in the same way; the wing of the share also, admitting of turning; so that every plough has four points and two shares; and as with every new plough an extra set of points and wings are given, every purchaser receives eight points and four shares. These are contrived so as to fix into a socket, where they are confined by a single bolt in the most secure manner. A person present at the trial informed us, that the plough in use had been constructed at the manufactory at Boston, from a pattern for the beam and handles sent from this part of the country—they are certainly the most perfectly adapted of any that I have ever before seen.

So soon as this plough had passed, throwing over a furrow to the depth of the surface-staple of the soil only, the subsoil plough, invented by Messrs. Prouty, followed in the bottom of the furrow, performing its operation to "a charm." It was drawn by a pair of small horses, and seemed to follow with an ease that astonished us all, pulverizing the subsoil to the depth of a foot if put to it, and leaving it in such a state, that the lad who guided it, preferred walking on the land-side of the furrow, rather than to drag his feet ankle-deep in the loosened earth; in every respect this implement is *perfect*, and will be the means of augmenting the crops to a profitable extent; opening the subsoil to a depth sufficient to carry off a superabundance of

moisture in a rainy season, and admitting a full evaporation from below in a time of drought—circumstances, essentially favourable to the growth of corn, which every one knows is accelerated by heat, when accompanied by a proper degree of moisture: I therefore consider the subsoil plough the perfection of improved cultivation; but to be able properly to appreciate its services, it is necessary to witness its operations; and although not so easily worked in some soils as in others, it will be found of the greatest service in all, giving the means of gradually deepening the surface-soil, permitting the washings of the manure to descend into the pulverized subsoil, where it will be retained, instead of being permitted to pass off as heretofore, by the impenetrable hard-pan, whenever the earth is glutted with rain; and hence it is, that the soil might be deepened every time it is turned; the operation of subsoiling, however, not being necessary perhaps, oftener than once in three or four years. To witness the subsoil plough passing up and down the furrows to the depth of about a foot, by the strength of a pair of small, active horses, walking about four miles an hour, with the ease, comparatively, that a man might cut cheese with a knife, was to me a treat that I would not have lost for any sum that could be offered; it has opened the subsoil of my own mind, and I calculate the augmentation of its future crops will be pretty considerable. The lad who guided the subsoil plough, and who was competent to the task, was not, comparatively speaking, much higher than the handles; another boy about the same height took his place in his absence, and by these two lads the ploughs upon the farm of Mr. Reybold are worked, in a manner that would do credit to many full-grown men; they are fine lads, and well deserve this notice, which is only their due. And already do I perceive the effect of that subsoiling which I have said my mind has received, for I can now see, that very much of the labour of a farm, which has heretofore been performed by *men*, might be quite as well executed by lads; and the thought just now strikes me, that a great portion of the difference between the value of agricultural labour in this country and England, might be obviated, by substituting the services of lads for that of men; for there is, comparatively, little of the labour on a farm in ordinary times, that may not be performed by stout lads; and I would, therefore, propose that the youths of that description which are so numerous at the alms-house and other charitable institutions of every town and city, might be put to that purpose, receiving in return their food and clothing; the institution, as well as its inmates being thus relieved, one from *receiving* and the other from *paying*

the wages of idleness—two states of being, between which it would be difficult to know how to choose. Here would be a saving of another “rent” at once, and the thing would be made to work to a “charm;” for by means of the long handles of the Prouty plough, and the wheel to regulate the depth, a lad of 14 or 15 is quite competent to the task of guiding it. I understand that Mr. Reybold has purchased both these ploughs, and means to go thoroughly into a general system of subsoiling, which will be the means, I have no doubt, of augmenting his crops far more than the amount of their cost the present season; his potatoe-crop showing a nearer approximation to a “Vermonter,” than any that has hitherto been grown in this part of the country.

I look forward with anticipation to the “day’s ploughing,” which is to be given under the auspices of the Agricultural Society of Philadelphia, with ploughs of Prouty’s make, as advertised in the pages of the Cabinet; and trust that the committee of arrangement will, in your next number, fix a day for the trial; if it be delayed until the middle of the next month, so that the press of early spring cultivation shall have passed, I shall expect to meet hundreds of my friends upon the joyous occasion. And if such men as he who guided the plough at Mr. Reybold’s be present—I remember his name was Thomas—I shall expect to see first-rate work, I tell you—may I propose to Mr. R. to bring him up?

A SUBSCRIBER.

March 29th, 1842.

Necessity of Light to Vegetation.

ALTHOUGH philosophers are not agreed as to the peculiar action which light exerts upon vegetation, and there is even some doubt respecting the decomposition of air and water, during that process, one thing is undeniable—the necessity of light to the growth and health of plants; for without it, they have neither colour, taste, or smell; and, accordingly, they are for the most part so formed as to receive it at all times when it shines upon them; their cups and the little assemblages of their leaves before they sprout, are found to be more or less affected by the light, so as to open and receive it. In several kinds of plants this is more evident than in others; their flowers close at night and open in the day. Some constantly turned round towards the light, following the sun as it were, while he makes or seems to make his revolution, so that they receive the greatest quantity possible of his rays—thus, clover in a field follows the apparent course of the sun. But all leaves of plants turn towards the sun, place them how you will, light being essential to their well-being.—*Brougham*.

For the Farmers' Cabinet.

Crack Stock.

MR. EDITOR,—A communication under the above caption in your last, signed "Subscriber," surprised me not a little, and doubtless has excited strong feelings in the minds of many others of your readers. I would not unnecessarily impugn the motive of your correspondent, but the tenor of his remarks warrants, I think, the suspicion that he is an enemy to improvement, or is jealous, and hates it in others. To say the least of it, it is ungenerous and unfair.

Is it not ungenerous and unfair that spirited, enterprising agriculturists, who spend their time and money liberally in the production of fine cattle, should not only be derided, but have the character and value of their property depreciated in such envious terms? But what surprised me most was, that such remarks should find place in the columns of a paper devoted to agriculture; for the enemies to Durhams and other imported stock, are to a man, opposed to what they call book-farming. A blow aimed at the one is sure to reach the other. "The improved short-horn Durhams" is the most prominent feature in the agricultural improvements of the day.—The periodicals come next. The spirit and liberality of the importers of fine stock led to the establishment and increase of the agricultural press. So mutually dependent are they, that the one must fall and rise with the ebb and flow of the other. If the wretched cattle that have so long disgraced the fields of Pennsylvania, are to be placed on a level with the distinct breed "Subscriber" sneers at, then may we let well-enough alone—import no more stock, nor subscribe any longer to agricultural papers.

The stock that is now to be found in many places, is the only improvement, I might say, that agriculture can boast of in the present century—cropping and field-labour, with some trifling exceptions, have advanced but little, some hold that they have retrograded; be this as it may, the improved short-horns, with other imported stock, is the most visible, intrinsic improvement that can be referred to in our agricultural history. These splendid cattle, with the sheep and swine we now possess, may be pointed to by every lover of his country with becoming pride, while to their owners they are as oil to the lamp—they brighten their existence, and shed a light around to illumine the path of their neighbours.

No one, Mr. Editor, can rejoice more when any excellence is found in our native breed than I do. Indeed I have done, and am doing my very best to raise them from their original unprofitable condition, to a size and form that

may indicate *easy feeding* and *good milking*, but I confess it is an uphill work—without a cross from a pure-blooded Durham, it is a hopeless task, for though you may sometimes happen on a solitary calf that gives encouragement to hope, and in itself individually may repay for the pains bestowed on its breeding, yet you cannot venture to breed from it, for its calves will be found to take after the degenerate stock of its dam or sire. This is inevitable, but to cross it with the noble and beautiful Durham, would lead to quite a different result.

The cow, "Queen of Chester," alluded to by your correspondent "Subscriber," is, or was the property of A. S. Roberts, Esq., Treasurer of the "Philadelphia Society for promoting Agriculture." This cow is all but full-blooded Durham, I believe three-fourths or seven-eighths, which will at once account for her excellence: if every cow in the state had but half the pure blood Queen of Chester can boast of, it would enhance the value of the whole stock some hundreds of thousands of dollars. As to Mr. Potts's stock I know but little. I do know, however, that some two or three years since he sent cows to one of the best improved short-horn Durham bulls in this country. His "red cows" as they are called, may be very fine, and I hope his efforts, either in distinct or cross-breeding, may be crowned with signal success.

One of the least of "Subscriber's" errors, for in tone and character he is all error, is that because an animal has been adjudged a premium, it is then comparable with other animals which have had premiums. This inference shows "Subscriber" to be ignorant of the practice that obtains in distributing premiums by the Agricultural Society. The premium obtained, is proof only of the excellence of the animal in a relative sense; for instance, if an imported improved short-horn takes the premium, it stands first of all, because it is of the first class. If a mixed breed takes a premium, it does not raise it to the value of the former, but shows that it is the best of its class; so with the native, common breed, its premium may not entitle it to rank with the mixed breed, and shows it was distinguished only among its own family. To be more explicit—there were animals awarded premiums at the late exhibition, which had they had to compete with the worst Durhams on the ground, would certainly have sunk into comparative insignificance; for the truth of this assertion I appeal to the judges who were appointed to award the premiums. It therefore follows, that an animal of an inferior character, though a premium animal, is not from that circumstance raised to an equality with those of higher character and purer blood. I have often been amused to hear

people talk of animals which had taken a first or second premium, as if they were among the best cattle of the land, when in truth I would not own them as a gift, except by way of experimenting with them.

The article appended by "Subscriber" from the "Delaware Republican," is a gross libel on the character and qualities of the cattle that are the pride and boast of the country, and which are owned by the most intelligent and patriotic farmers in almost every state. The writer of that article is either unfortunately ignorant or wilfully malicious—I suspect the latter—his intention cannot be mistaken when he decries the owners of the "high-priced stock," as he has it, by likening them to the Merino speculators, and when he advises farmers to keep themselves clear of cattle that take so long a time "to bring them to an artificial and bloated condition."—Can anything be more false, whether malicious or not, than this? It forms the *very reverse of the character and properties* of the stock he attempts to depreciate, for all who know anything of it, must allow to these cattle two prominent, uniform characteristics—*rapid maturing or growth, and easy fed or fatted.*

All of which, Mr. Editor, with your permission, I will on a future occasion establish, to the entire satisfaction of every honest friend to agriculture. Respectfully,

A PRACTICAL FARMER.

April 2d, 1842.

For the Farmers' Cabinet.

Potatoes.

"Whether your tale be false or true,
Keep probability in view."

WHEN I read the article in relation to Gen. Barnum's crops of potatoes, in the last number of the Cabinet, I was instantly reminded of the above lines. We are left in the dark with respect to the quantity of ground actually in potatoes, or the number of bushels actually raised. If the general or his measurers took but a hill or two, where the produce was extraordinary, and measured around each hill, it is not so wonderful, as to be altogether incredible, if he should make the yield at the rate he mentions. But if we are to understand that 3410 bushels of potatoes were actually grown on an English acre—and that on five acres 10,719 bushels were grown, averaging, by the way, 2144 bushels instead of 1843—as made by his "mathematicians, who cast up the sums,"—then I cry, "spare us,"—and "when he next such a crop doth raise, may I be there to see!"

I hail from the land of water-melons, blowing sands, fat oxen, and oysters. I have, too, in my day, seen Irish potatoes growing—indeed, I have myself raised very nearly 400

bushels on an acre: and really, even they seemed *tolerably thick* on the ground; but only to think—3410 bushels! Why my 400 were but the beginning of a crop!

Well, let us see how close they must have nestled—how many inches thick they must have been, on the ground! 160 square rods make an acre: in these square rods we find 4840 square yards, and this number, multiplied by 9, gives 43,560 square feet in an acre. Now, in 3410 bushels there are 27,280 half-pecks, and if 27,280 half-pecks grow on 43,560 square feet, it will require a piece of ground containing about 230 square inches, to yield half-a-peck; or, in other words, if the hills are a little more than 15 inches apart, each way, all over the acre, and every hill yields half-a-peck, there will be 3410 bushels on the acre; or, if the rows are 2 feet apart, and the sets in the rows about 9½ inches, and every set yields half-a-peck, the acre will turn out about 3400 bushels. Again, as there are about 2150 cubic inches in a bushel, there are about 269 in half-a-peck—and as these 269 cubic inches of potatoes are to grow on 230 square inches of ground, we perceive that the potatoes must lay solid, more than an inch thick!

I am not about to assert the *impossibility* of there having been actually grown 3400 bushels of potatoes on an acre; perhaps, however, I might be allowed to quote an expression I remember to have heard used some years ago, by a venerable and shrewd old gentleman—"if that's so, its true enough." However *improbable* this crop may appear, yet it is perhaps not *impossible*. There are many facts in relation to the growth of plants, as well as ten thousand other things, which would, doubtless, appear incredible to many of us who read the Cabinet, but which it would be very unphilosophical, as well as silly to deny. I recollect hearing the late I. S. of Woodbury, N. J., a man whom his neighbours will allow to have been incapable of misrepresentation or exaggeration, relate, that from a piece of ground of perhaps 4 or 5 square rods, which had for many years been covered by a barn, then recently removed, he had gathered and measured with great care, a yield of rye, at the rate of 115 bushels to the acre! Some ten or twelve years ago I planted my orchard with corn; it was near the house, and the pigs and the chickens, having no fear of trespassing before their eyes, took a good many hills, from time to time, till it was too late to replant the corn. I then told my little boys they might plant the missing corn-hills with potatoes; they did so, putting a whole Mercer potatoe of good size in each destroyed corn-hill. No manure had been used for the corn—none was used for the potatoes, but the ground was good. In

the fall the produce was great: several hills yielded more than half-a-peck each.

I do not introduce these facts with a view to astonish the readers of the Cabinet; though the produce of rye was certainly very extraordinary, and much greater than any crop of the kind I have ever heard of. But I mention them to show my belief in the great power of productiveness possessed by our mother earth. My astonishment at General Barnum's crop would be much diminished should we learn that it was only from a small piece of ground that this wonderful produce was gathered. And yet, I am aware we may be told, if 4 or 5 square rods may so yield, why not a whole acre?

Suffer me to close this article with an endorsement upon the following opinion of a living agricultural lecturer, of great celebrity. "Nothing repays the labours of the husbandman more fully than the willing soil—nothing is more grateful for his attention or offers surer rewards to patient industry, or to renewed attempts at improvement."—*Johnston's Ag. Chem.*, p. 6. Z. Y.

Gloucester co., N. J., 3d mo. 23d, 1842.

For the Farmers' Cabinet.

Soiling of Cattle.

BEING called upon in the last number of the Cabinet by J. Godson, for an account of my experiment in soiling cattle last year, I copy from my memorandum-book as follows. 4th mo. 1st.—Chained up under airy sheds 16 steers, a yoke of working-oxen, and 3 cows—a young man employed whose business is to be exclusively, attention to the cattle and the manure. 5th mo. 1st.—During the past month fed at noons with 4 quarts fine-ground Indian meal, mixed in a bushel of cut hay wet, to each beast, morning and evening with long hay—loosed from their stands once a day, and 3 at a time driven to the water-trough and immediately back to their places—throve well. At this date commenced 4 feeds per day, as near 4 hours between as possible, two with 3 quarts meal to a bushel of cut-hay, and two feeds of long hay. 5th mo. 15th.—Thrive remarkably well—have been regularly bedded with straw twice per day, the manure barrowed away, and cattle curried. 21st.—Several steers contracted the foul-claw, in consequence, as I suppose, of walking through some wet manure in going to water; turned all out on a grass lot the last four days—much improved—slacked two bushels lime near the water-trough and drove them through it previous to being turned out, which appears to have cured them. This day commenced cutting grass (orchard and clover well mixed), two feeds of grass, one of long hay, and one of the cut-feed daily. 26th.—The cut-feed discontinued, eating the long

hay in preference. 28th.—One of the day feeds left off, substituted by grass, which is and has been eaten voraciously, but producing a lank appearance and loose bowels. 30th.—Eat the dry feed with increased appetite. 31st.—Increase of grass seems to have given a desire for more dry feed; again thrive and improve in appearance. 6th mo. 3d.—Left off the dry feed altogether. 15th.—Removed the cutting to timothy and clover. 16th.—The best of the steers thrive tolerably well, but not so fast I think as my tenant's cattle on good old green grass pasture. 20th.—Cows have milked well until within the last week, now fail in milk considerably from some cause unknown, although eating voraciously—the stale urine running back and softening the earth, the hind feet work it into holes—a pavement wide enough to catch the urine and convey it into the gutter behind would be better. It is estimated that $2\frac{1}{2}$ acres have been cut over once, for the whole herd, up to this time. 26th.—Wet, warm, muggy weather, cattle difficult to keep clean and free from smell of the manure, look worse—concluded to turn out the cows and seven of the roughest steers to make more room for the remainder, consisting of 12 steers and the yoke of large oxen, and that they should have all the attention of the feeder, allowing new room for a steer to swing himself around at his pleasure, the stands being widened from 5 to 10 feet. 7th mo. 1st.—Under this management again improve. 10th.—Feeding on old timothy, green oats, and occasionally green grass; appetites good, eat all the kinds well with gradual improvement in flesh; but it having been 100 days since they were tied up, the grass become too old for further cutting, which is the point at which I had originally contemplated terminating the experiment—and the cattle not sufficiently fat for market, as I had hoped they would be, turned them all out on good meadow-pasture. 18th.—No apparent improvement in the condition of the cattle since turned on pasture. 25th.—Very little if any perceptible improvement in flesh since turned on pasture, with an abundance before them in the said meadow. 10th mo.—These cattle are fit for market, but not remarkably fat.

Above, I have given the history of my experiment in soiling, at least in the management of the cattle, which so far as they were concerned did not, as will be perceived, result to my satisfaction; but there are other circumstances yet to be brought into view; these cattle were young and rough, being the *refuse* of a drove purchased the previous autumn; and therefore not a fair comparison with my tenant's cattle on pasture, which were *choice animals*. I obtained as an extra contribution, 50 cart-loads of the best manure I ever had; it was covered with

a little good mould as soon as the cattle were turned out, and a little had been spread over it every few days during the greater part of the time of its accumulation; was hauled out the latter end of 7th month, in the best possible condition as I believed.

The ground mowed over for the cattle averaged by estimate one acre to three steers or beasts — they were fed from racks and pulled an abundance under their feet, which, however, as it went among the manure, I regarded the less. On the whole, it convinced me that “Vanthace” is right in stating that a piece of grass requisite for pasturing one animal, is by soiling capable of sustaining four, if economy be used in feeding. Although my cattle did not get completely fat in their stands, they appeared to me in general to be more comfortable than afterwards on pasture — always shaded from the hot suns and unannoyed by flies, fed at regular intervals to the full, just room enough between for rumination and digestion; they would testify their satisfaction by chewing the cud, lying on their full stomachs, while the sun beamed or the rains descended without, and by returning mostly from the water-trough direct to their stands without coercion or invitation. I calculated that the manure at \$1 per load paid for the labour of attendance, and as an offset against the prolongation of fattening, if indeed they could have been finished earlier on pasture alone, which the quality of the cattle and their age leads me to doubt, I mowed and put away in my barn at least 15 tons of good hay more than could have been done had they been all the time on pasture.

Although convinced of the superior economy of this mode of feeding, I have not ascertained whether cows will milk as well, or beef cattle feed as fast by it, as on pasture — where cattle are to be kept rather than *fatted hastily*, I have no doubt of its superiority.

J. JENKINS.

West Whiteland, 3d mo. 25th, 1842.

For the Farmers' Cabinet.

Magnesian Lime.

AFTER noticing the tenor and bearing of the articles published in the last Cabinet, hostile to magnesian lime, I should greatly prefer the course which prudence dictates, and with due deference to your three several correspondents, respectfully decline taking any notice of a controversy from which no good can come and no truth be elicited, much less established.

With all due courtesy, therefore, for your anti-magnesian correspondents, I must decline taking any further notice of their articles, unless they can bring or draw out some one, who can combat the whole array of scientific

testimony, already produced in the columns of the Cabinet, from the most celebrated and eminent chemists who have ever applied science to agriculture. In the meantime, we shall be prepared to furnish line upon line to prove from foreign authors and journals, the fertilizing character of magnesian lime in Great Britain and France at the *present day*, eschewing all the past. You will perceive, that the numerous professors and eminent chemists, quoted in the April No. for 1841, who give the why and wherefore, are not noticed by the anti-magnesian writers, nor do they attempt to give any rational, any philosophical explanation, or cause, for their unfounded prejudice.

Having already defined my position in this controversy, I would add, I am opposed to *war*, under any circumstances. I will not, therefore, pretend *myself* to argue the theory of a question so essentially philosophic as the one in controversy, and consequently would not give the rationale of a farmer who shares no better opportunity than myself, the weight of a straw, but yield the matter up to those distinguished and eminent philosophers and chemists of the past and present age, with whom this subject is a settled and decided matter beyond any cavil. With them, I shall stand or fall, adopting their views, the more particularly on account of squaring or corresponding with my own experience in practice. I shall have little to lose in the good opinion of those who think fit to spread a counter-doctrine or system of their own.

I proceed, however, to take a *hasty* review of the several opinions expressed by the anti-magnesian writers in the last Cabinet. C. Taylor, of London-Grove, asserts, his friend near him put on 75 bushels lime, containing only 15 per cent. of magnesia, to the acre, and the consequence was, his land was injured for several years. Well, what are we to infer from this, other than that his friend's lime was very active, and of course injudiciously applied. I presume, in this case, the land was thin, and in some degree destitute of vegetable substance for the lime to act upon. It must be remembered, in all cases where magnesian lime is applied *in large quantity*, a light dressing of stable manure serves to furnish carbon, for which magnesia has not so great an affinity as lime; on account of magnesian lime being longer carbonating, it is more durable than common lime. Had his friend, on that kind of land, applied half the quantity, the effect would probably have been as great as *his own* extravagant dressing of 300 bushels to the acre of Pyle's lime, which he states also contains *some* magnesia. Hence the vast superiority of magnesian over common lime, where it must be hauled a great distance, or under any circumstances, in point

of economy. Next, B. Webb, of Wilmington, Delaware, states, "as far as his knowledge extends, lime is congenial to the growth of plants, and magnesia is not." If friend Webb will push his knowledge to a greater extent in vegetable physiology, he will find that lime and magnesia *both* exist in the formation or constitution of plants, and both form necessary constituents as well as agents in preparing the food of plants. He states further, "in soils where magnesia predominates, the land is always barren." Suppose lime in its purest state should *predominate* in a soil, need I say it would be barren? Monsieur Abbene, a French chemist, fully and satisfactorily explains *this* matter.

Lastly, I come to S, of Luzerne county: although I do not hold myself answerable to anonymous writers, yet, as he puts questions direct to me, it would be ungenerous, after noticing the above articles aimed at S. Lewis—who is abundantly qualified to defend *himself*—not to say a word in reply to S, of Luzerne. He will concede, I think, that his statement in regard to Potts & Dager's lime, "on a heap, not preventing grass from growing through it and spreading over its surface or over the heap," is unanswerable; it would certainly be an anomaly or freak of nature, to say the least, since it is well known, that a pile or heap of straw or hay, and especially stable manure, will not only destroy vegetation, but leave the spot bald long after the heap is removed: the reason is plain, on account of the absence of the primary agents of vegetable growth, the sun, light, and air. But it is certainly admitted on all hands, that a quantity of magnesian lime on a heap, or even spread in too large quantity on the land, will do temporary mischief, for reasons which S, will find anticipated in my article in the last Cabinet. The remedy is obvious: apply it on the land *judiciously*, and to prevent bald spots where the heaps lie, remove some of the surface-soil, or make heaps on the roadside, or where vegetation is not wanted. Of course, about half the quantity of magnesian lime would be, or is, as efficient as common lime; hence the economy of its application. S, is more liberal, and acknowledges magnesian lime is useful; so all the remarks in this article cannot apply to him. In the same article from S, near its conclusion, I notice an insinuation unworthy of him: "Why do these gentlemen use such strong language, if they are not in some way interested in the matter?" I would here just say, that I have limed my farm all over, at a rate exceeding 100 bushels to the acre, and did not, during the whole period, sell one wagon load of lime, preferring, of course, the lime to the money: so I practise what I preach. My farm had previously, at regular intervals, received two

coats of lime, at about the same rate above stated. It having been ascertained that nearly *all* the limestones of the United States are more or less impregnated with magnesia, the limestones of Pequea partake of that character. Would it not appear singular, then, leaving theory out of the question, that the strong case in point quoted by S, (I allude to the statement of Mahlon Kirkbride,) wherein a light coat of magnesian lime was supposed to produce disastrous consequences. I could not reconcile this statement with my experience on any other ground, than that Mr. Kirkbride's land was not strong enough for the dose; perhaps a less quantity would have been profitable. Leaving theory, I would ask Mr. S. how he can reconcile the productive quality of the land in this valley, which, he will not doubt, overlays the magnesian limestones, *magnesia forming a component part of the soil*, and they are more or less denuded throughout this valley. While our best farms receive heavy dressings of magnesian lime, it would not be vaunting to say, the land in Pequea in point of productive power, will compare with any in this country or Europe. How, I repeat, are these facts to be reconciled, if magnesian lime were what the anti-magnesian writers represent it to be. The virtues of magnesian lime here, are too well appreciated to require to be "cracked up" by any scribbling from me; and if I have not satisfied S that the "strong language" used is amply justified by the facts, then I can only add, that I am an enthusiast on the subject of improved agriculture, and, of course, can use nothing short of strong language in furtherance of an object so desirable and momentous. Why then, I ask, in view of my own personal knowledge and experience in practice on the one hand, with all the weight of philosophic evidence extant on the other, in support of my theory, should I yield or testify in any but the most favourable manner in support of magnesian lime? It is on this account I propose to take no further notice of the subject, until its advocates can discover some tenable philosophic ground to stand upon. If strong practical instances can be related in opposition to the use of magnesian lime, certainly *more* extensive, strong, conclusive and irresistible evidence, can be furnished *vice versa*. The subject requires more scientific research than farmers generally are possessed of; they can more easily accuse than substantiate and explain facts. It must be observed, too, that certain soils are unfriendly to lime of any kind, and are not easily improved. As the time has not come to settle this question to the satisfaction of every mind, let the lucid ray of science first dispel the darkness which has ever enveloped this subject, and leave the anti-magnesian advo-

cates to their own ideas, undisturbed, among themselves. I submit, to those who have kept pace with the subject in a practical and scientific point of view, both in this country and Europe, up to the present day, to say, whether the anti-magnesian prejudice, in its general application, is not amply furnished with the elements of its own explosion.

W. PENN KINZER.

Springlawn Farm, Pequea,
March 21, 1842.

For the Farmers' Cabinet.

Gardening of the Germans.

On a careful re-perusal of the past volumes of the Cabinet—a retrospect to which I, too, am addicted—one is struck with the variety as well as the real practical information which lies treasured up in that small space! At any time and in a few minutes I can reap *a dollar's worth*, and in putting it to interest by transplantation, I am sure to reap a profit of about 50 per cent. at the year's end;—indeed the past volumes of the Cabinet are a never-ending source of pleasure and profit, and I know of no publication which contains in so small and convenient a compass, so large a fund of collected wisdom; for within it, it seems as though you could find about all you seek after, from grave to gay, from playful to severe.

On my return, for the tenth time, to the re-perusal of the first volume—I love to begin at the beginning—I was again exceedingly interested by the article at page 52 on the "Gardening of the Germans;" and it occurred to me, that as many of the present subscribers to the Cabinet do not possess that volume, I might do them service by copying for re-insertion a few of the very judicious remarks of that very talented and indefatigable observer, the late Samuel Preston; while those who have preserved the work from the commencement will thank me for bringing the subject again before them, and all may derive much benefit from the repeated perusal of an article which is so peculiarly interesting and instructive, and from whence all may derive matter for reflection—for comfort, or for reproof.

T. W.

"The Germans had come from a country where necessity had obliged them to raise all they could from a little land; everything they did, therefore, was done well and in the best manner, for they would not undertake more than they could accomplish in due season. They always washed their seed wheat in a tub of water, carefully skimming off all that would swim; and I have known them pick out by hand the largest and best wheat heads and sow it on new land well prepared, to raise the best and cleanest seed, and then,

after the wheat came off, put the stubble in with turnips. They generally cleared a piece of land every year for the purpose of raising seed wheat, turnips, and good flax, Dutch wheat commanding an extra price for superfine flour. For seed *corn*, it would be the first they took out of the field, always selecting the largest and most forward ears from stalks bearing three, leaving two or three thicknesses of husks on them, and hanging them up in some building until they shelled it to plant, and then only take about one-third of the ear out of the middle, and never plant any, where the rows on the ears were crooked, steeping the seed in a strong decoction of hellebore roots, to prevent the ravages of birds and squirrels.

"After the oats were up six or eight inches in height, they would roll them down flat, saying, it kept them from lodging, and they headed better; and they certainly raised far better and heavier crops than farmers originally from any other parts of Europe.* As to meadows, they were the people that first introduced IRRIGATION into Pennsylvania; if they had a stream of water that could be led over its bank, it was a primary object to do it. They kept their meadows dressed smooth and fine, and destroyed all bad weeds, so that their hay was clean and sweet; and they were famous for large barns to contain all their produce, and to house all their stock of creatures in bad weather—very careful of their manure, and when snow is on the ground carting the dung out of their stables *direct on their wheat*, spreading it very evenly, saying, it prevented its heaving out with the frost; and then they also seeded the fields for pasture. Living more on vegetables than any other people, they made gardens accord-

* It is the universal practice to roll oats in England, either at the time of sowing or after the crop is up a few inches in height, the former period being better if the soil is dry and not adhesive: the rolling of barley is always done at the time of sowing—but rolling at some period or other is indispensable to the future well-being of the crops. Indeed, the roller is in request at almost all seasons of the year—in early spring on meadows and clover, on spring crops and winter-sown wheat; and at midsummer, on turnips, &c. Few, who are not acquainted with its operation, can estimate its great utility. On meadows and pasture especially, it is necessary, to the cleanliness of the crop and the destruction of the thistle and other pernicious weeds. It is said, a person having occasion to manure a portion of meadow land, it was observed that where the wheels of the cart which bore the manure passed through a bed of thistles, they were entirely destroyed. He therefore rolled the field heavily and repeatedly with a cast-iron roller during the summer, and ever since it has been perfectly free from thistles. Fern, coltsfoot, and other strong pernicious weeds, have been most completely exterminated by the same means.—Ed.

ingly, raising beans in abundance, of which they had better kinds than I have lately seen; and to save seed, they would pick by hand the earliest pods, hang them in a bag, and not shell them until wanted to plant: the same also with their peas, amongst which I never saw a bug. Of cabbage for early kinds, they sowed the seed on a scaffold five or six feet high, to prevent the small fly from eating the plants; and after this fly was done, then they would sow their winter and sour-kout cabbage broadcast.

"To save cucumber seed, they took those that grew nearest the root, puncture the blossom end, and lay that downward on a slanting board, sticking the butt-end full of oats, which on growing would extract the moisture, never taking out the seed until required for planting. The seed from the melon was scraped out and dried without washing, on coarse paper in the shade, never using it after two years old, convinced that the glutinous liquid was essential to vigour of growth and fruitfulness. Description cannot convey a correct idea of the elegance of the management of these good, honest people; but let the best farmers of the Eastern states at the proper season take a tour to Bethlehem, Nazareth, Greatendall, and Christian Spring, in Northampton county, where all the estates belong to the society of the Moravian brethren, and they must admit them to be amongst the best farms in the United States, and that the emigration from Germany has been the making of Pennsylvania."

For the Farmers' Cabinet.

Magnesian Lime, &c.

MR. EDITOR,—Allow me, through the columns of the Cabinet, to say a few words, by way of making some brief inquiries. I have been reading with great interest, the conflicting views lately presented in it, upon the subject of magnesian lime. With us of Chester, nothing has been more common than for our farmers to notice and remark upon the different *effects* produced upon the soil by lime, obtained almost in the same vicinity, without being aware of the chemical properties that gave rise to it. The lime of Coatesville, for instance, is very different from some not more than half a mile distant further west, though all in the valley.

That of the village is very white—excellent for whitewash and plastering—maintains its stone form a considerable time after being burnt; and destroys vegetation when put on heavily, or where it has lain in heaps upon the ground. Other lime, farther up, is of a darker colour (called with us "the black lime"), falls much sooner, swells more when slaked, and does not destroy vegetation under

the circumstances that the other would. Will some one inform us whether these manifestations attending the "black lime" are those which denote the *absence* of magnesia; and whether the former manifestations denote its *presence*?—and if these are not the criterions to judge by, what are? If the one is more valuable to the farmer than the other, then it is very important that we should have a mode of judging, and discriminating between the two, that would be accessible to all—for all cannot, or at least will not, attain such a knowledge of chemistry, as will enable them to judge of the relative merits of the two qualities of lime by chemical analysis.

Some of our farmers here have favoured the one quality and some the other. Some have supposed that the effect upon vegetation produced by the former, was an evidence of its superior strength; and that therefore, if it did seem to be injurious at first, it would afterwards do much more good, as its effects would be more lasting. But if the injurious effect is produced by being in combination with a foreign substance, and not by its superior strength as lime, then it is very important for our farmers to know the fact. We say, then, "let there be light."

Without knowing any of the authors that have taken a part in the discussion of the subject through the medium of the Cabinet, I could not however but "wonder" whether some of them were not *sellors* of lime and limestone, particularly the friends of the superior efficacy of magnesian lime; otherwise I should be at a loss to discover a sufficient motive for the use of some very unnecessary epithets in their communications,—and even then, I doubt whether such reasoning will be taken for argument.

Again, I notice some writers advocating carting the manure from the yard through the winter into the fields, preparatory to ploughing in, or spreading upon the surface in the spring. Now, our best farmers here think it a great object to keep their manure in the dry as much as possible; and to this end, many of them have very extensive shedding, covering as much of the yard as practicable. Is not the latter plan preferable, and does it not greatly increase the value of the manure? Is long undecomposed manure, as we generally find it in our yards in the spring, in a suitable state to spread upon the surface, either of mowing or pasture fields; or even for ploughing under? If it is, would it not be the interest of the farmer to spread it upon the field intended for corn the next year, preparatory to ploughing down the ensuing fall, or next spring? In that case, the corn-crop would be benefited, and the following one also, whether of wheat or oats. Is the fall the proper time to plough for corn, whether

with manure, as suggested, or without? Some men of great experience are of the opinion, that we ought always to avoid having the surface of the fields bare during the winter season, and therefore oppose the system of fall ploughing; and for the same reason, favour sowing clover among the corn, as a protection to the fields during the winter, after the corn-crop is removed.

Will some of the numerous and able correspondents of the Cabinet make such replies to the above interrogatories, as their importance may seem to deserve? PUBLICOLA.

Chester Co., 3d mo., 1842.

The Gastric Juice.

It is found by chemical experiments that the juice which is in the stomach of animals (called the gastric juice) has very peculiar properties. Although it is for the most part a tasteless, clear, and seemingly a very simple liquor, it nevertheless possesses extraordinary powers of dissolving substances which it touches or mixes with, and it varies in different classes of animals. It will not attack living matter, but dead matter only; the consequence of which is, that its powers of eating away and dissolving, are perfectly safe to the animals themselves, in whose stomachs it remains, without ever injuring them. This juice differs in different animals according to the food on which they subsist—thus, in birds of prey, as kites, hawks, owls, &c., it will only act upon animal matter, and does not dissolve vegetables; while in other birds, and in all animals feeding on plants, as oxen, sheep, rabbits, &c., it dissolves vegetable matter, as grass, but will not touch flesh of any kind. This has been ascertained by making them swallow balls with meat enclosed, with several holes drilled through to let the gastric juice reach the meat; no effect was produced upon it. The use of this juice is to convert what they eat into a fluid, from which, by various other processes, all their parts, blood, bones, muscles, &c., are afterwards formed; but the food is first of all to be obtained, and then prepared by bruising for the action of the juice. Now birds of prey have instruments, their claws and beaks, for tearing and devouring their food; but these instruments are useless for picking up and crushing seeds; accordingly, they have a gastric juice which dissolves the animals they devour, while birds which have only a beak fit for picking and eating seeds, have a juice that dissolves *seeds* and not *flesh*: and it is found that the seeds must be bruised before the juice will dissolve them, and accordingly these birds have a gizzard, and animals which graze have flat teeth, which grind and bruise their food before the gastric juice is to act upon it.—*Brougham.*

For the Farmers' Cabinet.

Philadelphia Society for Promoting Agriculture.

THE committee of arrangements give notice that the trial of the Prouty centre draught and subsoil ploughs, will take place at the Lamb Tavern, on the Lancaster turnpike, one mile from the Permanent Bridge, on Thursday the 21st day of April. And as it is the wish of the Society to give every one an opportunity to judge of the merits of these ploughs by actual experiment, the business will commence at 10 o'clock in the morning, and be continued through the greater part of the day.

By order.

Philad., April 8, 1842.

Germinating Seeds under coloured Glass.

THE following remarks by Mr. Hunt, the Secretary of the Royal Polytechnic Society, in England, relate to a most curious discovery; and one which may prove very useful to the cultivators of rare exotics. We hope some of our readers will be stimulated to repeat the experiments, and to send us the results.

"It is scarcely necessary to explain that every beam of light proceeding from its solar source, is a bundle of different coloured rays, to the absorption or reflection of which we owe all that infinite diversity of colour which is one of the greatest charms of creation. These rays have been long known to possess different functions.

"The light which permeates coloured glass, partakes to some considerable extent of the character of the ray which corresponds with the glass in colour; thus blue glass admits the blue or *chemical* rays, to the exclusion, or nearly so, of all the others; yellow glass admits only the permeation of the *luminous* rays; while red glass cuts off all but the heating rays, which pass it freely. This affords us a very easy method of growing plants under the influence of any particular light which may be desired.

"The fact to which I would particularly call attention is, that *the yellow and red rays are destructive to germination*, whereas *under the influence of violet, indigo, or blue light, the process is quickened in a most extraordinary manner.*

"The plants will grow most luxuriantly beneath glass of a blue character; but beneath the yellow and red glasses the natural process is entirely checked. Indeed, it will be found that at any period during the early life of a plant, its growth may be checked by exposing it to the action of red or yellow light.

"It is with much satisfaction that I find the results to which I have arrived, corroborated by Dr. F. R. Horner, of Hull."

Blue glass for hot-beds could be very conveniently employed.—*New Genesee Farmer.*

To the Editor of the Farmers' Cabinet.

Centre Draught and Subsoil Ploughs.

DEAR SIR,—I owe a duty to you and the Prouty centre draught and subsoil ploughs: it is, to thank you for their introduction into this part of the country, and to say I have them both running every day, and the more I use them the more I like them. My father requests you to select a subsoil plough for him, and forward it immediately by the "Burlington" steamboat; Captain Maxwell is very desirous to obtain the centre draught plough which he requested you to select for him. I need not add, they are quite superior to any that I have ever before seen. Yours,

PHILIP REYBOLD, Jr.

Fair Mount Farm, St. George's, Del.,
April 4, 1842.

"The Farmers' Land-Measurer, or Pocket Companion,"

Showing at one view the content of any piece of land from dimensions taken in yards; with a set of useful tables. By James Pedder, Editor of the Farmers' Cabinet. Philada.: Thomas, Cowperthwait & Co., 1842.

This little manual has long been a desideratum with the agricultural community, and its real value can only be known by constant use in the every-day business of husbandry; its principles are so simple and easy to be understood, that no one will find difficulty in the way of computation, either of land or crops; for in no case of laying off the one or calculating the quantity of the other, can a difficulty arise, but a solution will immediately present itself.

The measurement of land by *yards* instead of *chains*, will be preferred for general use by the practical man, for where is the farmer who cannot *step* a yard about as exactly as it can be measured? As proof, six men undertook, a short time since, to step off half a mile on the King's road in Delaware, and it is a fact that they all came out within half a yard of the same spot! The difficulty is, to know how to square the land after having stepped off the length and breadth, especially if its form be any but right angled; but this is done by reference to the many hundred ready worked tables contained in the work in an instant of time, and with perfect correctness. To the want of such a book of reference on the spot, is to be attributed the strange and incredible accounts which we sometimes hear, of large crops grown on small quantities of land; and without the use of such a ready, simple, and correct mode of computation at hand, it is not possible but that enormous and conflicting statements must be for ever occurring. In manuring, too, how often does it happen that the farmer would be glad to know how many loads at so many heaps to a load would be required to spread over a certain field! Here he will find the question immediately answered, be the size and form of the land what it might. Again, he may wish to plant a *portion* of a large field with potatoes, cabbages, turnips, or other crops, confining himself to a given quantity of land—his "pocket companion" will show him how many yards long and wide that must be, of whatever shape, to give him that quantity; but without its aid, he may *step off* nine acres instead of six, and his neighbour may sell an acre and three-quarters of grass for an

acre, as was lately done in a certain part of the country. Here also he will find how *wide* must be the land—the *length* being given—to form an acre, computed by yards, feet and inches; applicable to ploughing, planting, mowing, &c. Thus, too, in planting trees and computing crops of roots—the plants or rows standing at given distances—the required information is afforded at a glance. In short, this little volume will prove a valuable "companion" to the pocket of the practical farmer in all his walks through life, and enable him to "shorten distances" astonishingly.

The imperial bushel table will form a most valuable page in the book, when an assimilation of weights and measures between this country and England shall have taken place—a circumstance devoutly wished by every one at all interested in the subject, and which has repeatedly engaged the attention of the legislature.

This truly valuable book is sold at 50 cents per copy, and may be obtained from Thomas, Cowperthwait & Co., 253 Market street; at Prouty's agricultural warehouse, 176 Market street; of Kimber & Sharpless, 50 N. 4th street; and at the office of the Cabinet, No. 50, N. 4th street, Philadelphia.—Ed.

Field Notes, or Opening of Summer.

"WHEN spring-time came, I was in my old haunts on the cliffs, observing nature as she proceeded to dress up her fair scenes for the gay season, and greeting the leaves and flowers as they came laughing to their places. I watched the arrivals by every soft south wind. I thought I recognized many a constant pair of old birds who had been to me like fellow-lodgers the previous summer; and I detected the loud, gay, carousal song of many a riotous new-comer. These were stirring times in the woods! The robin was already hard at work on his mud foundations, while many of his neighbours were yet looking about, and bothering their heads among the inconvenient forks or crotches. The sagacious old woodpecker was going round, visiting the hollow trees, peeping into knot-holes, dropping in to inspect the accommodations, and then putting his head out to consider the prospect; and all the while, perhaps, not a word was said to a modest little blue-bird that stood by, and had been expecting to take the premises. I observed, too, a pair of sweet little yellow-birds, that appeared like a young married couple just setting up housekeeping. They fixed upon a bough near me, and I soon became interested in their plans; and, indeed, felt quite melancholy as I beheld the troubles they encountered occasionally, when, for whole days, they seemed to be at a stand-still. At last, when their little honey-moon cottage was fairly finished, and softly lined, they both got into it, by way of trial; and when I saw their little heads and bright eyes just rising over the top, I could not help thinking that they really had little hearts of flesh, that were absolutely beating in their downy bosoms."—*Knickerbocker*.

Notices.

HAVING transferred our interest in the Farmers' Cabinet to JOSIAH TATUM, who has, for some time past, been our principal agent in the management of its concerns, and who is personally well known to a large number of our subscribers, we may be allowed to commend the publication to the continued favour of all who are interested in the vastly important operations of agriculture, and in the dissemination of the numerous agricultural improvements of the day.

It appears to us a question of grave import, whether a work of this character shall be well sustained by the public. To the practical agriculturist, who plants, and nurses, and gathers his crops with his own hand, literally eating his bread in the sweat of his face, it is obviously important that he should keep pace with others of his craft, in the amount and variety of his information. To the citizen also, who, for amusement or profit, gives a portion of his time and his care to his small lot, or his more extended farm, it is of consequence that he should be able to avail himself of the experience of others, and thus avoid the disappointments attendant on the prosecution of visionary theories; as well as the losses consequent on injudicious expenditures. To persons thus engaged, the several volumes of the Cabinet afford an amount of practical information, which we believe is not to be met with elsewhere, at the same price.

In retiring from the proprietorship of the Farmers' Cabinet, we flatter ourselves that we shall not be charged with viewing our own labours with undue complacency, if we express the hope that our subscribers are prepared to acknowledge the pledge given two years ago, "that no reasonable exertions should be wanting on our part, to render the work worthy of the notice and support of the agricultural community," has been amply redeemed. We pass it into the hands of one, who, we believe, will do for it all that ourselves could do, and whose exertions will be untiring to make it creditable to himself, and useful to those for whom its pages are more particularly designed.

JOSIAH TATUM will collect the arrearages from subscribers, who will bear in mind, that though the sums due from them individually are small, the aggregate is of very considerable amount. We invite them to remit the small sums due by mail. We owe much to the

kindness of postmasters, in franking such remittances, and we have pleasure in making the acknowledgment.

KIMBER & SHARPLESS,

Philad., 4th mo. 15, 1842.

WE acknowledge the receipt of an elegantly-framed lithograph print of Mr. Gowen's "Dairy-Maid," the bull "Leander," and calf "Allan a Dale;" the two latter the progeny of the former, of noble descent and remarkable milking properties. The portraits of these splendid specimens of pure-blooded Durhams are from the pencil of Woodside, from life. An excellent engraving of the cow "Dairy Maid" may be found at p. 57 of the 5th vol. of the Cabinet. An examination of this fine print will amply repay a visit to our office.

To Mr. Daniel Bixley, of Lowell, the publisher of Dr. Dana's very interesting work on the formation of composts, are we indebted for a copy of that book, entitled the MUCK MANUAL, which will be read by thousands, and be the means of improving the condition of the agricultural community throughout the Union. It is on a subject that has not hitherto commanded the attention that is its due; but its novelty and importance will render it a valuable addition to the farmer's library.

A patent bee-hive of novel construction has been deposited at our office for inspection and examination. It is the invention of Mr. Joseph Sholl, Burlington, New Jersey, and professes to be miller-proof and non-swarming. A description will be given in our next, and in the meantime we shall feel pleasure in introducing it to the notice of our subscribers.

As Mr. Tonkin has not yet favoured us with particulars relating to his unrivalled herd of fat cattle, we are reluctantly compelled to forego the gratification promised to our readers in the last number, in the hope that it will be forthcoming in our next. The portraits of the whole of these splendid animals are in the hands of the painter, Mr. Woodside.

The quantity of rain which fell during the 3d month (March), 1842, was 2.84 inches.
Pennsylvania Hospital, 4th mo. 1, 1842.

THE FARMERS' CABINET,

IS PUBLISHED BY

KIMBER & SHARPLESS, No. 50 NORTH FOURTH STREET, PHILADELPHIA.

It is edited by JAMES PEDDER, and is issued on the fifteenth of every month, in numbers of 32 octavo pages each. The subjects will be illustrated by engravings, whenever they can be appropriately introduced.

TERMS.—One dollar per annum, or five dollars for seven copies—payable in advance.

All subscriptions must commence at the beginning of a volume. Having lately struck off a new edition of one or two of the former numbers, which had become exhausted, we are now able to supply, to a limited extent, any of the back volumes. They may be had at one dollar each, in numbers, or one dollar twenty-five cents half-bound and lettered.

For six dollars paid in advance, a complete set of the

work will be furnished; including the first five volumes half bound, and the sixth volume in numbers. Copies returned to the office of publication will be neatly half bound and lettered at twenty-five cents per volume.

By the decision of the Post Master General, the "Cabinet," is subject only to newspaper postage; that is, one cent on each number within the state, or within one hundred miles of the place of publication out of the state,—and one cent and a half to any other part of the United States—and Post Masters are at liberty to receive subscriptions, and forward them to the Publishers under their frank—thus affording an opportunity to all who wish it, to order the work, and pay for it without expense of postage.

From the Steam-Press of the Proprietors and Publishers.

THE FARMERS' CABINET, AND AMERICAN HERD-BOOK,

DEVOTED TO

AGRICULTURE, HORTICULTURE, AND RURAL AND DOMESTIC AFFAIRS.

"The Productions of the Earth will always be in proportion to the culture bestowed upon it."

Vol. VI.—No. 10.]

5th mo. (May,) 15th, 1842.

[Whole No. 88.]

JOSIAH TATUM,

PROPRIETOR AND PUBLISHER,

No. 50 North Fourth Street,
PHILADELPHIA.

Price one dollar per year.—For conditions see last page.

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It appears to us a question of grave import, whether a work of this character shall be well sustained by the public. To the practical agriculturist, who plants, and nurses, and gathers his crops with his own hand, literally eating his bread in the sweat of his face, it is obviously important that he should keep pace with others of his craft, in the amount and variety of his information. To the citizen also, who, for amusement or profit, gives a portion of his time and his care to his small lot, or his more extended farm, it is of consequence that he should be able to avail himself of the experience of others, and thus avoid the disappointments attendant on the prosecution of visionary theories; as well as the losses consequent on injudicious expenditures. To persons thus engaged, the several volumes of the Cabinet afford an amount of practical information, which we believe is not to be met with elsewhere, at the same price.

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KIMBER & SHARPLESS.

4th mo. 15, 1842.

THIS being the first number of the Farmers' Cabinet, issued since it came into the hands of the present proprietor, it would seem proper that he should give an assurance to the subscribers, that no exertions on his part will be wanting, to make the work "creditable to himself, and useful to those for whom its pages are more particularly designed." Regularity in its appearance from the press, and promptness in its distribution, may also be relied upon.

The proprietor is entirely impressed with the belief, that in the publication of an agricultural journal like the Cabinet, he is spreading among his fellow-citizens a work, that may challenge comparison with those of the most useful class that issue from the periodical press.

The whole population of the world — "a thousand millions of men, are dependent for their very sustenance," upon the productions of the earth. Two hundred millions, probably, expend their daily toil in pursuits closely connected with the operations of agriculture, — the parent, and precursor, and most important, of all other arts.* Nine-tenths, perhaps, of the fixed capital of all civilized nations, is embarked in this one great pursuit. The proprietor of the Cabinet would perhaps, then, be excused, if he should hope he was not altogether undeserving of public regard, while giving his feeble aid to the multiplication of these productions, so essential to the subsistence of man. That in making two blades of

* See Johnston's Lectures on Agricultural Chemistry, Lect. 1.

grass to grow where only one had grown before—and in disseminating among those with whom he lives, and moves, and acts, a knowledge of the continually increasing facilities for satisfying the perpetual round of daily wants, the substantial welfare of his fellows was not less really promoted, than if his path had been with the conqueror—or his name blazoned to the world, as the inventor of a new mode for the destruction of his species. His, are *humble* duties, it is true—but their immediate bearing is upon the every-day comforts of every man. “Human science is progressive in all its branches.” And to throw broadcast the “indications of existing knowledge,” when upon that knowledge, or upon the results of it, the general comforts of life have their broad foundation, would seem particularly gratifying to one, who, while honestly endeavouring to promote his individual interest, was also willing to be found useful to others.

The proprietor would feel no ordinary gratification, if, previously to commencing the 7th volume, in the 8th month next, he should find his subscription list materially increased. Should each subscriber think so well of the Cabinet as to obtain another, the compliment inferred from it would indeed be of a *substantial* character; and would, on all hands, be accepted as a decided manifestation of an increasing and wholesome interest in the progress of agriculture. JOSIAH TATUM.

Philad., 5th mo. 15, 1842.

For the Farmers' Cabinet.

Hessian Fly.

MR. EDITOR,—A writer in the Cabinet for December last remarks, at that time there were no Hessian flies in existence, although the seed-wheat that had been sown was as fully charged with their eggs as the firmest friend of the Morris school could desire. It is now the 9th day of May, and still the learned advocates of that system are without a single *subject* for anatomical purposes! The present spring has been healthy and favourable to the growth of wheat, and *therefore* there are no Hessian flies; what need is there of farther testimony to prove that the fly is the *effect* of disease and not the *cause*. As the writer very judiciously observes, “Is it not curious to observe that no complaint is now made of the Hessian fly, although the crops were sown as usual, at all times of the moon and at all seasons, whether early, late, or middling—before, as well as after the frosts that fell out; and without the least regard to all this, all is now as it should be!” What then becomes of the proposal, “to discontinue in toto, the cultivation of wheat throughout the country for several years, to starve out the fly!” So true is it that “man appoints,

but God disappoints.” To every one who keeps potted plants in their windows, this theory must be self-evident, for a cold wind will fill them with animalculæ in comparatively a very few hours; but before that time, the perspiration of the juices by the pores of the leaves—the real honey-dew, which is generally mistaken for the excrements of these minute parasites—will teach them that the disease arises from *impeded circulation*, which is *followed*, not *preceded by*, animal existence. But the thing is too plain not to be perceived with half an eye, while the simplicity of the system is the perfection of NATURE, who never works but by the plainest and shortest rules, which “he that runs may read.” We have, then, only mistaken the *effect* for the *cause*—a very common error throughout the chapter of life. P.

For the Farmers' Cabinet.

A Farmer in Distress.

A FARMER in a neighbouring county, who had been *dozing* for twenty or thirty years, and had made no improvement by fertilizing his fields, but had gone on the old-fashioned plan of reducing the staple of his soil, *waked up* a few years since, and limed the whole of his farm thoroughly, and that with magnesian lime too. Now, what do you think has been the consequence of this proceeding? A few days since, with a sorrowful countenance he informed the writer of this, that he had no pasture for his cows, and should not have till after harvest. The reason of so extraordinary a circumstance was asked; when he stated, that the field which, according to his usual rotation of crops would have been devoted to pasture, was so thickly set with grass, of such a luxuriant growth, that he had determined to keep it for mowing, in addition to his other mowing grounds. He, of course, has to feed on hay, and soil his cattle till after harvest; and this disaster has befallen him in consequence of liming his land and sowing grass seed much thicker than formerly! The plain fact is, that he has grown so much grass by his improved system, that he has no pasture; his fields are all mowing ground.

If the writers on the deleterious effects of magnesian lime would travel through Bucks, Montgomery, Delaware, Chester, and Lancaster counties, they would witness effects of a similar kind with the above, on thousands of acres of land; land which, before the application of lime, produced but very scanty pasturage, but now is first-rate mowing ground. A.

A YOUNG beast may eat well when half fat, but an old cow half fat is not eatable, for the whole body of such an animal ought to be filled with new juices.

For the Farmers' Cabinet.

Lime as a Manure.

"Let honour be given to whom honour is due."

IN the 61st number of the American Journal of Science, is a review of Ruffin's Essay on calcareous manures, in which the writer, after complimenting the policy of the founder of Pennsylvania in fixing the agriculturist in the neighbourhood of the merchant and manufacturer — one consequence of which he asserts is, that the farmers in the neighbourhood of Philadelphia are the only settlers of the English blood who have resisted the migratory habits of other parts of the country — goes on to state, that "a similar dread of change influenced the Germans who followed the Quakers, in the occupation of the more remote districts of Pennsylvania; and while bread stuffs naturally became the only profitable objects of culture, they avoided the exhaustion which their growth produced in other districts, by a *valuable secret they brought with them from Europe*. We call it a secret, for those of other blood *who see it* used in their presence, *do not discover its value*. By this simple but efficient aid the farms of Pennsylvania have generally maintained their original character for fertility, and in some places have increased in products beyond the early crops that are given by the proverbial energy of a virgin soil." And "in the United States the use of lime is limited to the districts in which the descendants of the Germans who settled in Pennsylvania, have introduced the method they brought from their native country."

These sweeping declarations as to who was entitled to the honour of first introducing the use of lime as a manure in the United States, and particularly in Pennsylvania, were so contrary to all my impressions and previously formed opinions on the subject, that they strongly arrested my attention on first reading them, and induced a more particular inquiry, which has resulted in the conviction that their correctness is very doubtful, or at least that they are stated in a much too loose and unqualified manner. By the more remote districts of Pennsylvania, we are to understand, I presume, those districts within an hundred miles of Philadelphia; because it is a well-known fact that the rest of the state, with the exception, perhaps, of some districts in the vicinity of Pittsburg, was either in a wilderness state or in that incipient stage of backwoods cultivation, in which the use of dung, much less of lime, was scarcely known, until the use of lime as a manure had spread to a great extent in the south-eastern part of the state. The parts of the state, then, in which the German population so far abounded at that epoch, as to

give a tone to society, or a direction to agricultural management, and to which the remarks of the writer are at all applicable, must be confined to parts of the counties of York, Lancaster, Berks, Northampton, Bucks, Montgomery, and Chester. In all these the Germans have, or have had, considerable settlements; yet large districts in them are settled, and always have been, by people of other blood. The Germans are a people little given to innovation, but remarkably tenacious of old and long established habits and customs. No people follow in the footsteps of their forefathers more implicitly than they do. Hence, if they had once experienced the value of lime as a manure in this country, they would never have abandoned its use. If they really brought the secret of the use of lime as a manure to this from their native country—a fact of which I am somewhat doubtful, as I have never seen any evidence of it—it was most probably lost, as most systems of European management, brought with the first settlers, were—in the new positions they found themselves in; cultivating a virgin soil teeming with exuberant fertility, where the difficulty was not so much to raise a crop as to dispose of it afterwards: and hence the knowledge of the first settlers was lost to their descendants when the proper time arrived for its application, and all was to learn over again. Can any one trace the first regular use of lime to them? I confess I have not been able to do so. I was many years engaged to some extent in burning and selling lime for agricultural and other purposes in the county of Chester, and so far as my knowledge extends, the use of it among them was much less general than with others: they seemed to view it rather with indifference. Among the Germans of Lancaster county the use of lime was by no means general thirty years ago, whatever it may be now, as I know by personal observation; yet there are the descendants of the very Palatines who brought the secret of its use to this country, according to the statements of the author above quoted.

In the limestone valley of Kishaquobillas, in Mifflin county, a considerable portion of the farmers are of German descent, many of them emigrants from the counties of Chester and Lancaster; yet so little had they done either by precept or example in introducing lime as a manure, that when on a visit there some years ago, many of their neighbours applied to me with eagerness for information on the subject, and evinced by the minuteness of their inquiries a total ignorance of the practical part of the business, which could not, or at least need not, have been the case if their German neighbours had fully understood the matter and applied their knowledge to practice. The county of Berks is, and always has

been, inhabited principally by the German race. Its first settlement commenced more than an hundred years ago, yet the gentleman is still alive who was mainly instrumental in introducing the use of lime as a manure among them. I had the facts from his own lips. He was an emigrant from Chester county near fifty years ago, where he had witnessed the agricultural value of the article. He found its use practically unknown among the (then) present generation of German farmers, and they received his accounts of its powerful effects in improving soils with the utmost incredulity; and nothing but the actual proof he exhibited to them by his practice could induce them to adopt its use. A considerable portion of the farmers of the upper parts of Montgomery county are of the German race. A gentleman, a native of it, now holding an office in the custom-house of Philadelphia, informed me that when he commenced farming in that district some years ago, lime was but very sparingly used as a manure, and that he was among the first to introduce its systematic use as a part of regular husbandry.

I have thus thrown loosely together such facts and observations, derived from personal knowledge, or sources on which I can rely, as have led me to the conclusion that the author is incorrect in the assertions quoted in the beginning of this article. I have no wish to detract anything from the well-earned fame of our German farmers, neither am I willing to award them honours to which they are not entitled. I believe the first use of lime as a manure in Pennsylvania, was on the soils covering, and partly derived from, the primary rocks lying south-east of the great limestone valley of Chester county, a district in which the Germans were always but a small part of the population. But this is rather a conjecture than anything else, at present. Can any of your readers in that part of the state furnish information on the subject? I am well aware that this is more a matter of curiosity than practical utility; but still its discussion may serve to give variety to the pages of the Cabinet, or fill up a corner when you are hard pushed by the printer for copy.

S. LEWIS.

Mechanism of the Eye.

BIRDS flying in the air, and meeting with many obstacles, as branches and leaves of trees, require to have their eyes sometimes as flat as possible for protection, but sometimes as round as possible, that they may see the small objects, flies and other insects, which they are chasing through the air, and which they pursue with the most unerring certainty; and this could only be accomplished by giving them a power of suddenly changing the form

of their eyes. Accordingly, there is a set of hard scales placed on the outer coat of their eye, round the place where the light enters, and over these scales are drawn the muscles or fibres by which motion is communicated; so that by acting with these muscles the bird can press the scales and squeeze the natural magnifier of the eye into a round shape when it wishes to follow an insect through the air, and can relax the scales in order to flatten the eye again when it would see a distant object, or move safely through leaves and twigs. This power of altering the shape of the eye is possessed by birds of prey in a very remarkable degree. They can thus see the smallest objects close to them, and can yet discern large bodies at vast distances, as a carcass stretched upon the plain, or a dying fish afloat on the water: and a singular provision is made for keeping the surface of the bird's eye clean—for wiping the glass of the instrument as it were—and also for protecting it while rapidly flying through the air without hindering the sight. Birds are, for these purposes, furnished with a third eyelid, a fine membrane or skin, which is constantly moved very rapidly over the eyeball by two muscles placed in the back of the eye; one of these muscles ending in a loop, the other in a string which goes through the loop, and is fixed in the corner of the membrane, to pull it backward and forward.

And a third eyelid of the same kind is found in the horse, and is called the *haw*; it is moistened with a pulpy substance or mucilage to take hold of the dust on the eyeball and wipe it clear off, so that the eye is hardly ever seen with anything upon it, though greatly exposed from its size and posture. The swift motion of the haw is given to it by a gristly, elastic substance, placed between the eyeball and socket, and striking obliquely, so as to drive the haw with great velocity over the eye, and then let it come back as quickly. Ignorant persons, when this haw is inflamed from cold, and swells so as to *appear*—which it never does in a healthy state—often mistake it for an imperfection, and cut it off; so nearly do ignorance and cruelty produce the same mischief.—*Brougham*.

“THE man that misses sunrise loses the sweetest part of his existence. I love to watch the first tear that glistens in the opening eye of morning—the silent song the flowers breathe—the thrilling choir of the woodland minstrels—TO WHICH THE MODEST BROOK TRICKLES APPLAUSE—these, swelling out the sweetest chord of sweet creation's matins, seem to pour some soft and merry tale into the daylight's ear, as if the world had dreamed a happy thing, and now smiled o'er the telling of it!”

For the Farmers' Cabinet.

Granary—Preservation of Life.

MR. EDITOR,—On a late visit to a branch of the Cooper family, New Jersey, I observed that the granary, or place for stowing away grain of different descriptions, was fitted up with bins in the shape of very large and strong iron-bound casks of the usual shape; and in these the wheat, &c., was preserved for any period, no matter how long, without fear of weevil, grain-worm, or any other species of vermin, or damp and mouldiness; the grain being introduced by means of a funnel through the bung-hole, which, when the cask is full, is very carefully closed and made air-tight; the casks also being kept in repair and perfectly air-tight, the hoops being driven occasionally to cause them to become so. Now by this very simple arrangement, the whole crop of grain on a farm may be preserved for years, as perfectly free from dampness or disease of any kind, as though it had been kiln-dried; the convenience of stowage being as great as in open bins; the casks standing on low tressels or sleepers, admitting a bushel measure under, they can be rolled on to the bung; or the grain might be drawn off by a large tap made for the purpose.

By these means, we see how perfectly free from injury of any description could grain and seeds of every kind be brought by shipping from any part of the world: it is but to enclose them in stout air-tight casks instead of boxes, bags, or loose barrels, and no injury need be apprehended from the heat of the hold or the leakage of the vessel. I declare it seems wonderful that this mode of packing has not been universally adopted; the simplicity of the arrangement must be the cause of its having been overlooked. And this mode of packing would be efficient in the preservation of many other articles, which, if too bulky for admission through the bung-hole, could be performed by removing one of the heads and replacing it when the cask was full, seeing that the hoops were driven so as to insure perfect closeness. Thus might fruit-trees, flowers, and fruit itself, be preserved during long voyages, and we could be supplied with the choicest specimens of either, from the most distant parts of the globe. I very well remember that when Mr. Zollikofer received his remarkably fine sample of seed cone-wheat from England the last year, that it smelt very musty, and handled wet and clammy in the bags in which it had been shipped; exhibiting every sign of having undergone fermentation during the passage: and I find, upon inquiry, that a large portion of the seed did not vegetate when sown in the autumn, the failure arising, no doubt, from this cause. And this leads to the question,

is not the almost proverbial ill success attending the growing crops of beets, &c., from imported seed, to be thus accounted for, the general mode of packing for ship-board being in loose barrels or bags, exposed to the damp and putrid atmosphere of the hold of the vessel—which is often leaky—during a passage of sometimes 80 or 90 days? All which evil could be prevented by merely packing in perfectly air-tight casks—a consideration of very great moment, but one that by its simplicity will be very apt to be disregarded, like many other things of the greatest and most vital importance, one of which I will just mention. It is the *snagging of steamboats on the western rivers*, which could be prevented merely by plating their bows with sheets of boiler-iron, sufficiently strong to withstand the force with which the boat is propelled, and which would in almost every instance be comparatively slight; for, as it would not happen, perhaps, once in a thousand times, that the blow or collision would take place *point-blank*, the boat would be merely driven out of her course, the snag gliding along the iron plates; and thus she would be made to escape a *consequence*, by which millions of dollars and thousands of lives are sent to destruction; or she might be brought up without injury, provided the plates were strong enough to withstand the shock: at all events, the saving of life and property would be almost incalculable, at a charge of—comparatively nothing! Now, I would just ask, is it possible that those who are continually exposed to such frightful accidents and losses—of whom there are many thousands—can have been *sleeping* over so simple a contrivance to insure their safety, for such a number of years?

There is just one other evil—an evil which is peculiarly the besetting sin of our country—I mean, the shedding of blood in duels—which might, I think, be prevented, by as simple and *natural* a contrivance. Now, I dare say there will always be duelling, for it seems to be the only safety-valve with which some honourable gentlemen are furnished for the purpose of *letting off steam*. Well, let them indulge their propensity to their heart's-blood content; my object is, merely to prevent any injury that might arise to either party, the *satisfaction* sought being amply sufficient to cure the largest wound in any man's honour. My proposal is simply this—on coming to the ground, let each *principal*—not *second*—load his own weapon, and magnanimously exchange with his antagonist: think you that either would be so great a fool as not to be careful to slip the ball on one side, when he knew that, else, the very next moment it would be hurled at his own head? It might, in this arrangement, be necessary to restrict the belligerents

to—say half-a-dozen shots each—else they might choose to keep the seconds all day on the ground, and serious injury might arise from taking cold.

HUMANITAS.

4th mo. 15, 1842.

For the Farmers' Cabinet.

Ignorance and Prejudice.

IGNORANCE and prejudice are twin brothers. Ignorance is often stimulated to a desire for knowledge, but prejudice takes him by the hand, and if his physical constitution should happen to be the stronger (which is often the case) he leads his companion from his purpose. If he desires to become acquainted with the physical laws that govern the animal and vegetable world, prejudice tells him that this is searching into the works of Providence, and "his ways are past finding out." If he lift his eyes to the starry firmament, and feel an emotion within himself, a desire for an acquaintance with astronomy—prejudice comes forward and gravely asserts, that the study of the stars, and the pretended calculations of their distances, is all presumption, and a perplexing of the mind with things that it has pleased Providence to exclude from man's understanding; that we are not benefited by these researches of visionary men; they neither feed or clothe us, nor do they dispense comforts to the poor; and therefore, it is not our proper business. If ignorance takes up history, and is in a fair way of extracting a moral from its pages, prejudice tells him it is folly to record the deeds of men, for "they are prone to evil as the sparks fly upward."

It is the same Ignorance governed by prejudice, that checks the agricultural advancement of our country; he is horror-stricken at scientific pursuits; and looks upon "book farming" as the bane of practical knowledge, because he essayed to cultivate his corn according to certain rules laid down in the Farmers' Cabinet, but failed for the want of a little scientific knowledge; therefore he denounces the whole system of recorded experience, when he would not hesitate to *ask* of his neighbour the cause of the superior growth of his fruit-tree and vine. Thus we find prejudice besetting the ignorant man on every side, and he resolves to grope in the shade of his own limited experience, spurning to be guided by the light of the agricultural science of the day.

The light of *science* to the mind, is like the light of the sun to our visual organ, the eye; by the aid of the latter, we are enabled, through analogy, to judge of the form and properties of distant objects, without bringing them to the test of all our senses. So with

the light of science, we are enabled to judge, through analogy, of the properties of untried things, or things viewed only in the distance.

Now, from the advantage that herd's-grass possesses over many others, it should be brought into more general use; but *prejudice* has arisen against it, on account of a reputed inferiority as hay for stock. This must have arisen wholly from its use, when mown from its native bottom or sedimentary deposit, where it is generally left to ripen its seed before cut; but who thinks of making use of clover or timothy hay under the same circumstances? It is generally thrown into the barn-yard as useless. Herd's-grass, when grown on a high, dry soil, under culture of the plough, and cut in the proper season, or just after the pollen has fallen from the head, makes a sweet and nutritious hay, not in the least inferior to the best clover or timothy. I have known horses, with moderate working, to be kept in good plight through the winter on herd's-grass alone: when properly cured (and few of the grasses are so readily preserved), it makes a cleaner and softer hay than either timothy or clover. It has a decided advantage in sustaining close cropping and pasturing. Mowing in dry weather is almost certain death to a timothy sward, but herd's-grass is tenacious of the soil, producing a thick after-math, highly beneficial in protecting the soil through the winter; and in the spring, turns in to great advantage for the growth of corn. I am acquainted with a district where it has got into general use on upland sown to clover simply, or clover and timothy; on heavy lands, the dry weather and frosts will have destroyed nearly all but the herd's-grass the second year, but it has got firm hold, and will produce an excellent crop. One of the first persons to make use of it in this way, was in the habit of raising an extra crop of corn to the accustomed routine, without any additional dressing with manure: his neighbours long eyed him, with the prospect of an impoverished soil; but from his continued success, they were led to inquire into the cause, and attributed it to the heavy herd's-grass sward, which protected and decomposed in his soil, and from this conviction fell into the practice.

I have regretted to see our native productions, those furnishing our home markets, give way to foreign importations. Silk has latterly almost wholly taken place of the durable fur hat recently worn, and chiefly manufactured from the muskrat. This is to be lamented for two reasons—first, it makes a demand for an article which we largely import at a heavy cost; and secondly, it taxes our farmers with the continuance of a nuisance, particularly destructive to dikes and embanked meadows. The skins of these ani-

mals, which a few years since commanded from 25 to 31 cents each, in market, will now scarce sell at ten cents apiece; thus depriving home industry of a profitable employment during the winter season, and paying the cash to foreign traders. As the fashions govern in these respects, and our fashions are governed by our enterprising mechanics and tradesmen, it is to these that we must look for a reform in this matter; and he who would again show this invaluable article before the public, in agreeable and serviceable forms and shapes as clothing, would deserve a medal for his public service, and the good wishes and patronage of all those who own "musk-rats or embanked meadows."

TARIFF.

Third mo. 23d, 1842.

Rotation in Forests.

EVERY man who has seen half a century or more, and has spent all or a part of his days in the country, in the neighbourhood of forests, and has been a careful observer of the progress and productions of nature, has seen a succession of the different species of forest trees, or varieties of the same species succeed each other on the same tract of land without man's aid or interference.

When the first settlers took possession of the soil which we now occupy, they found it, in some places, covered with the different kinds of oak and other hard wood, and in other places with the pine varieties and other evergreens. After the removal of the original growth of hard wood, we have found it succeeded by evergreens, if evergreens composed the original growth, succeeded by some of the varieties of hard wood, or of a different variety of the evergreen from the original growth. In the state of Maine, I have seen, on the removal of a heavy growth of beech, birch and maple, immense crops of hemlocks springing up; and in my own neighbourhood, on chopping off an oak growth, a pitchpine one has succeeded, and on cutting that off, white pines have sprung up in multitudes.

Every kind of soil has a constant tendency at production, even our most grain-worn fields, on suffering them to lie without cropping, are soon filled with young pines, which spring up in such numbers as to surprise us. The Almighty formed the soil for activity, as well as the animals which inhabit it, and it being destitute of the fertilizing power which produces grain, is no hindrance to the growth of the pine varieties. The above remarks suggest that every vegetable and every distinct species of tree, with all their varieties, flourish in consequence of a specific fertilizing principle imbibed from the earth by a peculiar set of absorbent vessels adapted to the nature and

wants of each, which cause their gradual growth and ultimate maturity; and that on the exhaustion of the nutriment which produces one distinct species of vegetable or tree, the nutritive principle which is required for the growth of other species is left unimpaired in the soil to be applied when called for by others, and that the earth, while in the progress of exhaustion by the production of one species of trees or vegetables, is accumulating a supply of nutrition which will be required by trees and vegetables of other species to promote their growth. The nourishing principle which produces the varieties of hard wood has no affinity for the evergreens, and therefore the evergreens will flourish after the hard wood growth has done growing, in consequence of the soil being exhausted of that nourishment which produced it, and so one variety of the evergreen will succeed another for the same cause. I have known a field completely exhausted of its power to produce corn by a repetition of that crop in succession, and the same field being laid down to grass has produced fine crops of hay.

We frequently hear complaints of the "running out," as it is called, of many kinds of vegetables, and the deterioration is supposed to be owing to a degeneracy of the seeds sown, when in fact it is caused by a want of the knowledge of rotation, and putting this knowledge into practice. We are taught the doctrine of rotation by nature herself in the arrangement which she makes in the natural forests, if we would but observe her laws.

All vegetables exhaust the soil in proportion to the nourishment which they afford: oats, which are so nourishing to horses, exhaust the soil more than any root crop with which I am acquainted. I have seen four or five good crops of corn and rye grow upon pine plains in succession, without manure, when a heavy growth had lately been taken off, and but little brush left on the ground to make ashes, which is evidence sufficient to convince any one that the same kind of food which feeds the forest is not the favourite of the different kinds of grain.

Thus it seems that every kind of vegetable extracts some peculiar principle of nutrition from the earth congenial to its own wants, and differing from that required by others, and this accounts for the necessity of rotation in raising our crops, if we would wish to realize the greatest profit from our labour.—*Cult.*

THERE is no quality which commands more respect than *integrity*—none, more freedom and independence than *economy*: these, with *industry*, are all that a man needs to depend upon.

For the Farmers' Cabinet.

Milk-Houses.

MR. EDITOR, — I am induced to make the following communication in the hope of being able to obtain from some of your numerous readers who are *practical men*, information on a subject of which I am in practice entirely ignorant—a subject, however, which is certainly of great importance to every farmer; and I therefore believe the information, if communicated, would be very acceptable to all.

The information which I desire is, the best plan for a milk-house, which has been reduced to practice. Having myself no convenient spring, I wish to be informed by those who have tried it, whether such a house can be built under ground to advantage? If so, how it is to be done? Whether it ought to be made so as to have a communication with the well? Whether it will require air, and if so, how it is to be aired? I have been informed that in a milk-house built under ground, no water ought ever to be admitted, except what is scalding hot, and then everything should be rubbed till perfectly dry. If this were done, would not a communication with the external air be unnecessary? In other words, is it not the evaporation from the water which makes airing necessary? Any communication with the external air would have a tendency to destroy the otherwise equable temperature of such a house entirely under ground, and would be better to be dispensed with, if the milk and butter could be kept sweet without it. Of this I wish to be informed.

I have in my mind a plan for such a house, which I wish to submit for the purpose of obtaining information as to its practicability. My plan is, to build a milk-house, an out-house for servants, and a smoke-house, all under one roof. Let the building be about 22 by 14 feet, all of stone; the basement story to be all under ground, and to be divided into two apartments, by a stone wall in the middle, one of which is to be the milk-house, the entrance to which to be through the other apartment; this apartment to be for salting meat; in and from it a chimney is to go up to the third story, in which the meat is to be hung for smoking; the fire to be kindled in the fire-place in the basement. The room between these two to be for servants, or for members of the family, as occasion may require. There can be no doubt this plan would answer well for a smoke-house, the fire being so far from the meat: and the only doubt is, would the lower story make a good milk-house? There would be no admission of air, except by the door, unless the story were extended a foot or 18 inches above the level of

the ground, so that a window could be made on each side, which would also admit light, otherwise a candle would have to be taken in.

Will some of your readers who have had experience on this subject, inform the writer whether this plan will answer; and if not, what plan will answer? You will see I have asked many questions, but if you will look at my signature, you will perceive I have heretofore sent you some communications for the Cabinet of which you were pleased to think well. I therefore have some claim upon the readers of the Cabinet. B.

March 23, 1842.

Pig Oil versus Whale Oil.

RECENT applications of the knowledge which chemistry has given in regard to the constituent principles of fats and oils, will prove to be of advantage to the pig breeders of the far west. Mr. Ellsworth, in his report, says: "The use of lard instead of oil, for lamps of a peculiar construction, has been heretofore attempted with good success, as an article of economy. It has even been adopted in the light-houses in Canada on the lakes, and is said to burn longer and free from smoke, while the cost of the article is stated to be but about one-third the cost of sperm oil. But it has now been discovered that oil equal to sperm can be easily extracted from lard, at great advantage, and that it is superior to lard for burning, without the necessity of a copper-tubed lamp: eight pounds of lard equal in weight to one gallon of sperm oil. The whole of this is converted into oil, and stearine, an article of which candles that are a good substitute for spermaceti can be made; allowing, then, for the value of the stearine above the oil; and it may be surely calculated that when lard is six cents per pound, as it now is but four or five cents at the west, a gallon of oil can be afforded there for fifty cents, since the candles from the stearine will sell for from twenty-five to thirty cents per pound."

We do not as yet know exactly the latest improved mode of separating the oil and stearine from lard, but even if we have to give twelve cents per pound for lard, and it will uniformly yield the amount of oil and stearine as above, it will bring the oil to \$1 a gallon. This is much less than the best sperm costs us, and it would be good economy to fat a porker for the special purpose of trimming the lamps with. As soon as we learn more of this thing, we will lay it before our readers; for the more *light* we can give them at the cheapest rate, the better for all concerned. —*Maine Farmer.*

MAN proposes, but God disposes.



THE OLD CRAVEN BULL.

IN the district of Craven, a fertile corner of the West Riding of Yorkshire, bordering on Lancashire, there has been, from the earliest records of British agriculture, a peculiar and valuable breed of cattle. They were distinguished from the home-breeds of other counties by a disproportionate length of horn, and in the old breed this horn frequently projected nearly horizontally on either side; but as the cattle were improved, the horn assumed other directions. The cut of the Irish Cattle, p. 113 of the present volume of the Cabinet, gives no unfaithful representation of their general appearance and form, and the breed became distinguished by the name of "The Long-horns;" but whence they were derived was, and still is, a disputed point, although they seem to have first appeared in Craven, and gradually to have spread along the western coast, until they occupied, almost exclusively, the midland counties. There are two distinct breeds of these cattle; the smaller, inhabiting the mountains, hardy, useful, valued by the cottager and small farmer on account of the ease with which they are kept, the superior quantity and excellent quality of their milk, and the aptitude with which they fatten when removed to better pasture: the larger, occupying a more level and richer pasture, are very fair milkers, although, in proportion to their size, not equal to the others; but they possess a tendency to fatten, and acquire extraordinary bulk, scarcely inferior to that of the Short-horns of the present day.

The foregoing cut exhibits the portrait of a Craven Bull of the present day, but supposed to bear about him many of the characteristics of the old breed: he was drawn as he stood in Smithfield market. Here were evident materials for a skilful breeder to work upon—a connexion of excellencies and defects by no means inseparable; that which was good might easily be rendered more valuable, and the alloy be thrown off. A blacksmith and farrier of Linton, in Derbyshire, whose name was WELBY, has the honour of undertaking the task: he prided himself much in them, and they deserved the care which he took in improving them. After him appeared the master-improver of the Long-horns, BAKEWELL, to whom contemporaries and posterity have adjudged the merit of creating, as it were, a new breed of cattle, unrivalled for roundness of form, smallness of bone, and aptitude to acquire external fat, although the dairyman and small farmer still clung to the old breed, as most useful for their purpose.

For the Farmers' Cabinet.

Maize or Corn-Sugar.

MR. EDITOR,—In justice to myself, I hope I may be permitted to draw the attention of the readers of the Cabinet to my late articles on the manufacture of corn-sugar, pp. 142, 218, and Mr. Webb's reply, p. 195, of the present volume. I there stated, that although much merit was due to Mr. Webb for his prosecution of that very interesting subject to a conviction of the feasibility with which the end might be accomplished, yet, there was no *discovery*, properly speaking; no new adaptation of any known principle of operation developed, either chemically or mechanically, in what has been termed the new process, for which it was said at the time, Mr. Webb had secured a patent. And although Mr. Webb has satisfied every one of the fact that he never had, or even intended to apply for a patent for his process, still, I confess I was not prepared to grant him all the credit which some of his friends demanded for him, seeing, as I said, that the thing had long before been done, and on the principle which he had adopted. This feeling was considered by some, and I fear by Mr. Webb himself, uncharitable: how far the charge is just, I need only point to Mr. Webb's lecture on the subject, delivered at Washington, and published by the "National Agricultural Society," and ask, if in any part of it there is the least pretension to discovery of any sort, or even of improvement in any of the processes, whether of growing the corn or extracting and concentrating its juices; nay, I would add, whether the processes he details, and those which he cites from a "manual on the subject of *cane-sugar* prepared some years since," are not known and admitted to be very defective, when compared with late improvements—which might well be termed *discoveries*—in the art of sugar-making; coming properly under the head of *REFINING*—"Defecation being," as the author of the manual expresses it, "the great problem of sugar-making;" but of which I confess I do not see anything, in the processes that Mr. Webb describes in his lecture or essay.

His descriptions relating to the growing of the crop, with the machinery in common use for crushing and pressing the stalks, are plain enough; so also is the account of the common mode of defecation, filtration, and concentration, by means of the *bascule*—better known by the term *till-pan*—which is in very general use where evaporation by steam is not practised; but there is nothing *new* in all this; nay, the whole of these processes have been of late so much improved, in every sense of the word, that what is here detailed, may

very properly be termed *antiquated*, without the least disparagement to Mr. Webb or any one concerned in the matter—witness, in particular, the want of all judgment in apportioning the necessary quantity of lime in the process of defecation, where Mr. Webb says, "I have never failed in making sugar from employing too much or too little lime; a *certain* portion of this substance is undoubtedly necessary, and *more* or *less* than this will be *injurious*, but no precise directions can be given about it;" the *latitude* which he admits being a difference of exactly 100 per cent.: as also the loose mode of judging the proper point of concentration, to insure speedy and perfect granulation; by which he is brought to the confession, that why so great a length of time is required for the drainage of the sugar from the time of boiling—in no case less than three weeks—he has not yet been able to discover. From Mr. Webb's own showing, then, "the precise point of concentration had not been either understood or practised," any more than the principle and practice of defecation. But in all this I by no means wish to detract "an iota" from Mr. Webb's fame; I most willingly accord to him the portion of merit which is so justly his due; nor should I again have taken up the subject had not his lecture at Washington given ample proof of the want of originality in all that has been claimed as a new mode of fabricating sugar from the corn-stalk. And to show this, I enclose for publication in the Cabinet, extracts from the essay, as published by the "National Agricultural Society;" drawing particular attention to the appended "Extracts from *Annales de la Société Polytechnic Pratique*, No. 22, for October, 1839; translated at the patent office, Washington;" in which is stated the fact, that the precise operation of extracting the ear from the corn for the purpose of furnishing a greater quantity of sugar, had already been practised in France, although I had been led to believe that *this* operation was claimed by Mr. Webb as original; who, indeed, expressed a degree of mortification on being told that "no doubt he knew such a mode had long been practised on the Palm for the same purpose;" for he says, "I certainly did not know that this plan had been applied to the cocoa or any other *tree*; and notwithstanding the quotation, I am still very far from being convinced of the fact." Now, are we to understand that Mr. Webb did, or did *not* know that the plan had already been applied to the corn-stalk itself, and exactly in the way that he directs? But this question I by no means ask invidiously.

J. M. C.

Eastern Shore, Maryland,
April 14, 1842.

Extracts from Mr. Webb's Essay.

"It is a part of the system of cane planting in Louisiana, to raise as full a stand of cane upon the ground as possible; experience having proved that the most sugar is obtained from land in this way." As far as my experience has gone, the same thing is true of corn. This point must therefore be attended to, and the deficiencies, if any occur, made up by timely replanting.

The next operation is taking off the ears. Many stalks will not produce any, but wherever they appear, they must be removed. It is not best to undertake this work too early; as when the ears first appear, they are tender, and cannot be taken off without breaking, which increases the trouble. Any time before the formation of grain upon them, will be soon enough. Nothing farther is necessary to be done until the crop is ready to cut for grinding. In our latitude, the cutting may commence, with the earlier varieties, about the middle of August. The later kinds will be ripe in September, and continue in season until cut off by frost. The stalks should be topped and bladed while standing in the field. They are then cut, tied in bundles, and taken to the mill. The top blades, when properly cured, make excellent fodder, rather better, it is believed, than any hitherto used; and the residuum, after passing the rollers, may easily be dried and used in the same way; another advantage over the cane, which, after the juice is expressed, is usually burned. The mills should be made on the same general principle employed in constructing those intended for grinding cane. An important difference, however, will be found, both in the original cost and in the expense of working them. Judging from the comparative hardness of cane and corn-stalk, it is believed that one-fourth part of the strength necessary in the construction of a cane-mill, will be amply sufficient for corn; and less than one-fourth part of the power will move it with the same velocity. It may be made with three upright wooden rollers, from twenty to forty inches in length, turned so as to run true, and fitted into a strong frame-work, consisting of two horizontal pieces sustained by uprights. These pieces are mortised to admit wedges on each side the pivots of the two outside rollers, by which their distances from the middle one may be regulated. The power is applied to the middle roller, and the others are moved from it by means of cogs. In grinding, the stalks pass through on the right side of the middle cylinder, and come in contact with a piece of frame-work called the dumb returner, which directs them backwards, so that they pass through the rollers again on the opposite side of the middle one. The modern improved machine is made entirely

of iron; three horizontal rollers arranged in a triangular form, one above and two below, the cane or stalk passes directly through, receiving two pressures before it escapes. The lower cylinders are contained in a small cistern which receives the juice. The latter machine is the most complete, the former the least expensive. These mills may be moved by cattle, but for large operations, steam or water power is preferable. When the vertical cylinders are turned by cattle, the axis of the middle one has long levers fixed across it, extending from ten to fifteen feet from the centre. To render the arms firm, the axis of this roller is carried up to a considerable height, and oblique braces of wood by which the oxen or horses draw, are extended from the top of the vertical axis, to the extremities of each of the arms. When horizontal cylinders are propelled by animal power, the upper roller is turned by cogs at one end, which are caught by cogs on a vertical shaft. It is said that in the West Indies, the purest cane-juice will ferment in twenty minutes after it enters the receiver; corn juice has been kept for one hour before boiling, without any apparent injury resulting; but so much delay is not desirable, as it may be attended with bad effects. The process which has been employed in the manufacture of maize sugar, is as follows:—The juice, after coming from the mill, stood for a short time to deposit some of its coarser impurities; it was then poured off, and passed through a flannel strainer, in order to get rid of such matters as could be thus separated; lime water, called milk of lime, was then added in the proportion of one or two table spoonfuls to the gallon. It is said by sugar manufacturers, that knowledge on this point can only be acquired by experience; but I have never failed in making sugar from employing too much or too little of the lime. A certain portion of this substance, however, is undoubtedly necessary, and more or less than this will be injurious; but no precise directions can be given about it. The juice was then placed over the fire, and brought nearly to the boiling point, when it was carefully skimmed, taking care to complete this operation before ebullition commenced. It was then boiled down rapidly, removing the scum as it rose. The juice was examined from time to time, and if there was an appearance of feculent particles which would not rise to the surface, it was again passed through a flannel strainer. In judging when the syrup was sufficiently boiled, a portion was taken between the thumb and finger, and if, when moderately cool, a thread half an inch long could be drawn, it was considered to be done, and was poured into broad shallow vessels to crystalize. In some cases crystallization commenced in twelve hours; in others, not till

after several days; and in no case was this process so far completed as to allow the sugar to be drained in less than three weeks from the time of boiling. The reason why so great a length of time was required, I have not yet been able to discover. There is no doubt but that an improved process of manufacture will cause it to granulate as quickly as any other.

For evaporation, flat-bottomed pans are recommended, made either of copper or boiler sheet-iron. If the situation will admit, they should be so arranged, that the juice will run from one to the other, and thus save the trouble of lading. The lower pan should be furnished with a spout at the bottom, (not less than four inches in diameter,) by which its contents can be drawn off. The shape of these vessels should be oblong, their sides and ends sloping at angles somewhat different in each. In the upper pan where the juice first enters, the sides form an angle with a line perpendicular from the bottom of about 30° . In the lowest pan, this angle should not be less than 45° . Skimmers with rectangular, instead of circular edges, must be employed for removing scum. The syrup is brought, in the latter vessel, to about 25° by the saccharometer, when it is withdrawn into a large wooden reservoir, whose depth should be at least three feet. To finish the evaporation the Bascule pan is recommended; this is extensively used in Louisiana, and has over the kettles the advantages of completing the operation with greater rapidity and safety—of enabling the operator to carry the boiling completely to the point of granulation, and to decant the whole charge instantaneously into the cooler; also of giving to the syrup time for depositing a heavy sediment of impurities, not otherwise separable from it, but which, on the old plan, goes forward to impair the granulation, and to discolour the sugar; and, finally, of allowing the proprietor to superintend in person the concluding and most delicate part of the manufacture: one Bascule pan being sufficient to evaporate to the granulating point, in twelve or fifteen hours, all the juice which two sets of kettles can evaporate in twenty-four hours, to the point of concentration mentioned above. This pan is of a circular form, made of copper, fourteen inches deep, five and a half feet in diameter, and sixteen inches deep near the lip, or in these proportions. It is mounted over a separate furnace, is moveable upon its axis, and is furnished with a large lip, over which the whole contents may be poured into a receiver. On the side of the vessel opposite the lip is a rope or chain attached to a pulley over head, by means of which it is quickly emptied. “In using this pan, the juice is evaporated in the kettles as before, but is struck, between 25° and 28° of the hydrome-

ter of Baume, into a large cistern capable of containing at least four or five hogsheads, where it cools, and deposits a thick sediment. From this reservoir, it is pumped up, from time to time, into a smaller one situated just above the Bascule pan. The operation with this apparatus is as follows:—The gate attached to the reservoir of syrup is raised, and the bottom of the pan covered to the depth of four inches. A brisk fire being kindled under it, boiling soon commences; a slight scum rises, which flows down into the lip, whence it is removed by means of a hand skimmer. The striking point is ascertained as in the kettles, except that a thermometer is often made use of to learn its approach. When struck, the thermometer stands from 236° to 238° .

“To assuage excessive ebullition, it is customary to throw in a small piece of lard or of butter just previous to the completion of the cooking; and at the moment of decanting the charge, notice is given to the fireman, who closes the ash-pit door to prevent the flames from rushing up into the boiling apartment, to the inconvenience of the operator, who is stationed upon the rim of the furnace by the side of the pan. Immediately on its being discharged, it is suffered to fall back to its place, and the gate of the reservoir is lifted as soon as possible, in order to cover the bottom of the pan before it becomes too hot from the action of the flame. The time required to perform the operation varies from twenty to thirty minutes, and the result is a highly improved sugar, with the estimated gain of one hoghead in fourteen over the old method.”

Enough has been said to enable any one so disposed to manufacture sugar from maize, either on a large or a small scale. As to the profits of the business, I shall make no positive assertions; experience on the subject is yet too limited to warrant them; and as all the facts in relation to it are now before the public, every one interested can draw his own conclusions. It is said by those acquainted with the cultivation of the cane, that the business cannot be carried on profitably on less than one hundred acres in crop, and that attempts on a small scale will be certain to fail with a great loss of time and labour. How far this may be applicable to corn, remains to be seen. Some comparison between the cultivation of cane and that of corn, may perhaps be interesting.

The cane-lands in Louisiana are redeemed to agriculture, by strong embankments along the river, and by numerous ditches, which extend back into the swamp to a considerable distance beyond the line of cultivation. The ground is still further divided by smaller ditches into lots of from one to two acres in ex-

tent. It is extremely rich and productive; but the expense of draining, and keeping up the embankments, must be very considerable; this forms the first difference to be noted in the culture of the two plants under consideration. The best season for planting cane in Louisiana, is in the fall, which is also the time of harvest, when labour is most valuable, and the greatest exertions are required to secure the crop before it is destroyed by frost. But the most striking difference will be found in the cost of seed, and in the labour of planting. The cane is propagated by layers; these are partly furnished from the tops of the plant, when cut for grinding, but are principally ratoons. Of the latter, it requires the produce of one acre to plant three. The grain from one acre of corn will be sufficient for planting forty acres. Therefore the difference in expense for seed, will be as one to thirteen. In planting cane, furrows are made with the plough from two and a half to three feet apart; in those the layers are placed in a double row, and the earth drawn over them with hoes to the depth of three or four inches. In the spring, before the plants are up, this covering is partly scraped off, so as to leave them buried from one to two inches.

From this account, it is evident that no more manual labour will be required to drill fifty acres in corn, than to plant one acre in cane. The labour of cultivating the latter plant during its growth, is also greater; but this may be balanced by the extra work required to take off the embryo ears from the corn. When cultivated in the mode recommended, the stalk of corn is soft, remarkably heavy, and full of juice from bottom to top. The amount of power required for grinding them, must be much less than is necessary for cane—or, what is the same thing, an equal power will do it with greater rapidity. The average yield of cane in Louisiana, is one thousand pounds of sugar, and forty-five gallons of molasses, per acre. From the above comparative statement, it would appear that one half this amount of crop from corn would be equally, if not more profitable.

I will only add in conclusion, that whether or not sugar from the corn-stalk may soon become an article of profitable export, its manufacture in the simplest form will enable every family to supply themselves with this article for common use, now become so much a necessary of life, and thus save a considerable bill of expense, yearly paid for foreign sugars.

W. WEBB.

Extract from *Annales de la Société Polytechnique Pratique*, No. 22, for October, 1839. Translated at the patent office, Washington.

Sugar of Corn.—There is no plant of greater general interest or utility than Indian

corn. It can serve, under a great variety of different forms, for the nourishment of man and the domestic animals, and above all, the application of industrious science.

In reference to its saccharine qualities, maize has not been sufficiently appreciated. Travellers report, that under the tropics the stalk of this plant is so very saccharine, that the Indians suck it as in other places they do the sugar-cane.

M. Pallas, who has made a great many researches on this application of maize, has arrived at a remarkable result; he has found by many experiments, both in France, and more recently in Africa, that this vegetable, by a simple modification applied to its culture, is able to furnish a much more considerable quantity of sugar, than by the ordinary method.

This method consists in detaching from the plant, immediately after the fecundation of the ovaries (after the plant has tasselled) the young ear, and to leave it to develop itself thus deprived of its fruit. Arrived at maturity, the stalk of the Indian-corn contains crystallizable sugar in quantity very often double that obtained when the plant is left to mature with the grain. In fact, by the ordinary mode of culture, the grain is nourished at the expense of the sugar in the stalk, as it absorbs a great quantity of this immediate principle, which, by the process of nutrition, is converted into starch. On the other hand, if the young ears are immediately destroyed, the sugar intended to nourish them remains in them where it accumulates, and the maize plant is thus converted into a true sugar-cane, while the fibrous part can be manufactured into paper.

The quantity of sugar is so very great in the stalk of the maize deprived of the ear, that the pith of this vegetable retains a sensible flavour of sugar even after it has been dried, as is easily proved by examining the specimens deposited by M. Pallas in the Bureau of the Academy of Sciences. These results are so important as to merit experiments on a grander scale, which may obtain thus for France a source of new industry in the manufacture of sugar.

MILDEW ON GOOSEBERRIES.—“To keep off mildew, train your bushes so as to admit a free circulation of air through them; manure about the roots, and forget not to sprinkle them freely with soap-suds before blossoming. This is known by several years' experience.”

A THOROUGH-SHAPED beast will always come well to the scale, whereas an ill-formed one will seldom reach the weight at which he is estimated.

To the Editor of the Farmers' Cabinet.

Practical Farming.

UNDER a conviction that much of the benefit that might otherwise have been derived by individuals from statements published in the Cabinet and other very valuable publications devoted to agriculture, has been lessened, by holding up farming as the most profitable business a man could embark in—more especially when something new is brought forward—I am induced to offer some views thereon; as I have known instances in which individuals have suffered loss and disappointment therefrom. This must eventually prove an injury to the good cause which it was intended to promote. One person plants a few rods of land with ruta-baga, another with beets, another with lucerne, &c., and if *very successful*, publishes the result; and the inference is drawn, that if so many rods will produce so much an acre, ten acres will produce in the same proportion; and so with the value annexed; which goes to show, what a large sum might be realized from a farm of one hundred acres or more! Hence, many persons, who are prone to unsettlement in business (and there are quite too many of that description amongst us), determine to try their fortune at farming; but soon become convinced that, however A may have succeeded under favourable circumstances with a few rods of ruta-baga, or B with the like quantity of beets, with them upon a large scale it has sometimes proved a failure. This, I think, generally proves to be the case; but if, perchance, successful in *quantity*, the price will not defray the expense their inexperience has subjected them to. Some, perhaps, may suppose the writer to be one of those who have been thus disappointed; but such is not the fact: he has followed the occupation of a farmer for many years, and expects to continue in that calling so long as it shall please an allwise Providence to favour him with the ability to do so; believing it to be the most useful business that can be followed, although not the most lucrative; yet, when conducted on proper principles, it may be made sufficiently so for all the necessary enjoyments of life. But in order to make it so, farmers must start fair, be willing to live in a plain, frugal (I do not mean parsimonious) manner, which is the alone safe way for all. If he must have a large and costly-furnished house, fine carriage and many dependants—making what is termed a splendid establishment to start upon—he may rest assured, that unless he has other resources than his farm, although it may be a good one and paid for, he will find himself dependent ere long.

I would by no means discourage any one from publishing the result of his experience and

observation; nay, I think it almost a duty which we owe each other; and that, too, after his own manner, seeing there is such a laudable desire for information abroad, and so many channels through which it can be made public. And when comments are made upon it, let it be done in a proper spirit, having reference to the *matter*, not the *manner*—considering, that many of us who are pretty well advanced in life, had but very limited opportunities to acquire learning, as compared to later and present times; yet our *experience* and *observation* may have taught us some things, which it would not harm those of more learning to know. In the last Cabinet but one, there was an article on the comparative merits of ruta-baga, corn, hay and oats, as feed for horses, in which the saving by the use of ruta-baga and straw, is made to appear very great. I have never tried that plan, but if horses will keep well for a length of time, and perform daily hard work on ruta-baga, it is of vast importance that it should be generally known. I am well assured, that mine would not so keep and perform the work they do, “on the value of a bushel of corn or straw and meal for a week.” His estimate of hay is higher than I find mine to eat, although kept up (when not in service) all the year, and allowed as much good hay as they will eat. If, on further experiments by the writer of the article and others, it should be fully established, it will prove an incalculable benefit to agriculturists, and eventually, the public at large: for if by it half an acre will sustain a horse as well as six acres by the present generally adopted practice, the saving throughout the state would be immense; sufficient, I should suppose, to pay all our taxes, if not, eventually, the debt of the state.

In the last Cabinet, which is, I think, the most valuable one I have read for a considerable time, there is much said, and profitably so, I think, on lime, its qualities and properties. Can any of the correspondents of the Cabinet inform what proportion of magnesia there is in the lime known as Sandy-Run lime, in the neighbourhood of Fitzwater-town, Upper Dublin, Montgomery County; and which of the quarries in that neighbourhood contains the least of that article? If they can, I think they would confer an obligation on many farmers who use much of said lime on their land; for one, I should esteem it a great favour. Is there no simple method by which farmers might test its properties for themselves? As it regards the quantity to be used per acre, I think it must ever be left to the judgment and experience of the farmer, he being acquainted with the qualities of the lime and of his soil. On part of my farm, I think twenty-five bushels of the lime aforementioned would be quite as much as it

would be prudent to apply at one dressing; other parts would bear forty, fifty, or sixty to advantage. By not attending to this, many people have become discouraged in the use of lime, thinking it did more harm than good. In the last Cabinet, AGRICOLA gives us his views on a rotation of crops, which I approve, as being well calculated to improve the land and crops of grain; but on my farm and those of my neighbourhood, I have doubts of its success with grass, which we think an important crop. I am aware that to plough down a crop of clover, or even clover-stubble, would be a good fallow for wheat; but as far as my observation goes, the crops of grass—timothy and clover, especially the former—will be much inferior to that of the customary mode, that of oats or potatoes after corn, then ploughed twice or thrice, so as to have it quite clean before sowing; the cleaner the ground, the better and more enduring the succeeding crops of grass will prove. I have long believed that the practice, which has so long been in use, of rotting our manure and ploughing it under in the fall for wheat, was attended with much loss. I have invariably had the best grass (but not so of wheat) where I have top-dressed the wheat, if the fallow was well cleaned before sowing. After all, the advantages or disadvantages of any system of farming, will much depend on the quality of the land, and the purpose to which its owner wishes to apply it; some lands and locations being more favourable for grain, some for the dairy, others for grazing, &c.

A MONTGOMERY CO. FARMER.

P. S. How fares the sugar-beet? Is its use progressing or otherwise, and what would be a proper quantity to give a milch cow daily? I have not had much experience, but so far as I have, it appears that if they had more than a given quantity, its tendency is to create such a looseness in the bowels, as counteracts much of the benefit they would otherwise receive from their use. Just a sufficient quantity with their dry food, to keep the bowels in a proper state, I think is useful, both to the dairy and manure-yard. I should be pleased to hear from those of much more experience herein than I have had.

Love of the Country and its Occupations.

To the traveller, what can be more interesting than to observe the industrious and enterprising farmer building neat, comfortable houses, and preparing his lands to bring forth an abundant crop!—or, on the other hand, what more discouraging and disagreeable than to see everything on the decline—houses rotting down for want of care, fences levelled, and the fields grown up with briars

and bushes! We easily form a correct idea of a man's pride, judgment or industry, by observing the construction and order of his farm; for we find at every step something that excites our admiration in the pursuit of the delightful employment, or we meet with something so disagreeable, that, for a moment we feel inclined to abandon altogether a business that seems so ill calculated to enlist our energies either of body or mind. That farm in the distance! it presents an appearance of total ruin, and we might think it deserted, were it not for the smoke arising from its wooden chimney, which reaches but half way to the top of the house—no—*cabin*, not house! It is covered with boards, carelessly put on, and held to their places by weight-poles. We must climb the fence to get into the yard, and stumble over a pile of boards and rails, which lie rotting, before we can reach the house—stoop down as we enter the door, or our hat is taken off by the top of it; then stumble over the open, loose floor, and make our way to the fire-place, which is built of clay, and has no hearth, for it has all been swept away; then look around and see a hundred cracks, and here sit, on a wet and cold day, and shiver over a hot fire! In putting up our horse, we must navigate first around this pen and then that, before we reach the lot, and pull down the bars, when out jumps the farmer's mule; we then steer through the mud to the stable, but the door is so low that we can hardly squeeze the poor animal through—not strange either, for the mud inside is no inducement for them to seek shelter there. For the feed, we must pass clear beyond the stable, encountering starving cows who attack us for the fodder, and squalling land-pikes for the corn!—and then, to fasten up the horse, we have to lay hold of muddy rails that have been trodden into the dirt for a week, and fix them into holes in the posts, which are then to perform the office of a door by keeping in the horse, but not by keeping out the wind and rain. Here are the ploughs and harrows exposed to the weather, and the wagon without a shelter, and forming the only cover for the half-starved and drowning hogs! Such being the confusion of the whole place, we should look in vain were we to endeavour to discover its comforts.

Now, are such things as these calculated to allure us to the "tranquil shades of the country, where we may spend our days in heavenly musings?"—or rather, do not these scenes lead us to form, even while looking upon them, a distaste for an occupation which, if correctly followed, affords sweeter enjoyments than any other? By good management, every man can wield a mighty influence, by making valuable and convenient improvements upon his farm: he thus makes his

land more productive, he saves labour and time, and excites his neighbour to order and industry; cultivates his own taste; sets a noble example to his children; secures to his family a thousand blessings; and prepares himself to enjoy the sweetest pleasures in this life, and a glorious reward in that which is to come.—*Agriculturist.*

For the Farmers' Cabinet.

Culture of Mustard.

MR. EDITOR,—In addition to several excellent papers in former numbers of the Cabinet, recommending the cultivation of articles for which we are at present mainly indebted to foreign countries, I would advocate in this the growth of **MUSTARD**, a crop requiring neither skill in the management or additional outlay of capital, either for labour or machinery; a small amount of practical experience being all-sufficient to the supply of the article to any extent, and at a fair remuneration for labour, which, by-the-by, would be found of the lightest and most pleasant kind, quite within the power of lads to perform, from the time of sowing the seed to the harvesting of the crop, both included. And I have a strong presentiment, that the seed raised amongst us would prove of very superior quality, our "light and heat" being friendly to the development of the essential oil or *empyreuma*, which constitutes the value of this peculiar crop, as also of others, which might be named on some future occasion. I find an interesting article on this subject in the *Cultivator*, for which I ask space in the pages of the Cabinet, and am

A SUBSCRIBER.

"It is not generally known how large a quantity of the seed of the mustard-plant is annually consumed in this country; it is imported from Holland and the more southern parts of Europe, and sold in our Atlantic markets at from three to four dollars a bushel. It is also raised in England, and there manufactured for the table, in which state it is exported to this country in large quantities as 'real Durham mustard!' I believe that those who have soils suited to the growth of this crop, will find it more profitable than almost any other they can raise; it requires a rich, clean, moist soil, the seeds to be sown about the time of other spring grains, four quarts being sufficient for an acre, sown broadcast; it is, however, often drilled and hand-hoed. It usually ripens unequally, and should be cut while rather green, to prevent waste by shelling; stacking upon canvas, and the top well secured from rain; and here it must remain until properly cured. By this treatment, the unripe seeds will be nourished by the stalk until they become plump and sound.

If threshed abroad in the fields, it must be done on canvass, to prevent waste; and this mode is to be preferred to removing it to the barn, as it is very apt to shell while removing to the threshing floor. Particular pains must be taken in the process of cleaning, which could, however, be extremely well performed by the improved winnowing machine in use amongst us. The ordinary yield will be from ten to twenty bushels of seed per acre. The firm of French & Davis, mustard manufacturers, Albany, offer to contract with farmers for what they can raise, at \$3 50 per bushel for brown seed; the yellow seed is less valuable for manufacturing purposes.

Cultivation of Flowers.

WE are happy to perceive that more attention is being paid to the cultivation of flowers, and that the views of our ancestors, so singularly and strangely utilitarian in this respect, are rapidly giving way to sentiments more liberal and refined. The generous and moralizing influence which it is calculated to operate upon the mind and its affections, cannot, in our opinion, be too highly appreciated. Flowers are alike the preaching emblems of transient beauty and taintless innocence, and breathe in the chaste language of their eloquent loveliness, a moral that is forcibly felt and acknowledged even by the most depraved.

What object in nature is more touching to the contemplative mind, than a withered flower? What an inimitable picture does it present of the brevity and short-lived glory of human life!

The mind that can pass from the contemplation of such an object with no sense of an uplifted spirit—of passions chastened and affections purified, must be cold indeed.

In the language of the German bard —

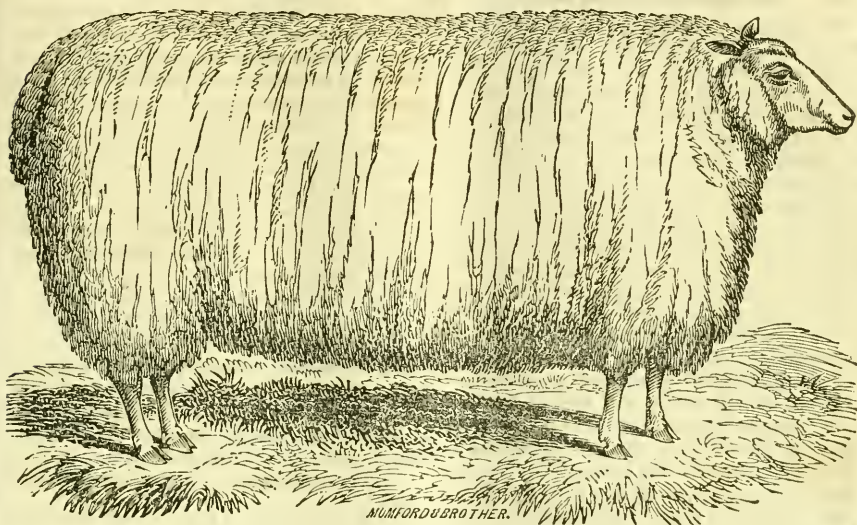
A flower do but place near thy window glass,
And through it no image of evil shall pass.
Abroad must thou go? on thy white bosom wear
A nosegay, and doubt not an angel is there;
Forget not to water at break of the day
The lilies, and thou shalt be fairer than they;
Place a rose near thy bed nightly sentry to keep,
And angels shall rock thee on roses to sleep.

We have no sympathy with those who would desecrate and pare down the loveliness of earth to the grade of mere utility; who can discover no beauty in the opening bud and blushing flower, and whose exertions are limited on all occasions, by a parsimonious idolatry, and a worse than idiotic privation of sensibility to the

"Maddening love of GOLD."

[*Me. Cult.*]

A YOUNG cow will often be fat on the back, but seldom well tallowed within; an old cow seldom handles so well, but carries most of her fat within.



CLAYTON.

Bred and fed by Major Philip Reybold, Delaware.

Live weight, 227 lbs.—dead weight, the four quarters, 130.

THE two-years old wether portrayed above, was the most beautiful of those which were exhibited and slaughtered on the 3d of March, by Schneck & Brothers; and, it may perhaps be added, the most perfect of his class that was ever exhibited in the United States by any breeder. The size of the head and the bones of the legs was remarkably small—to appearance almost unnaturally so, but by no means larger than are made to appear in our engraving, the shape of the former being of that snake-like figure as there exhibited. A portion of this splendid animal is still at the office of the Cabinet, the thickness of the top of the rib and the plate, astonishing every one.

The new Leicester sheep, although smaller in bulk of body than the long-wooled races which they supplanted—namely, the old Lincoln, Teeswater, and Cotswold—are yet of the larger class of sheep with respect to weight; their limbs being shorter and their bodies more round, compact and deep than those, they are of greater weight in proportion to their apparent bulk; at the same time, their actual size is various, depending much on the wish of the breeder to possess larger or smaller animals, and on the fertility, natural or acquired, of the districts in which they are reared. In general, it may be said that the wethers weigh from 25 lb. to 35 lbs. per quarter when fattened in their second year, the wool being of medium length, having a staple of six or eight inches. But it is not in the size or weight of body, nor in the productiveness or quality of wool, that the real value of the new Leicester breed consists; its superiority is to be found in its more perfect form and aptitude to fatten at an early age, in which respects it surpasses all the other varieties of long-wooled sheep which have been cultivated in England, or naturalized in any part of Europe; for they can readily be fattened for human food at the age of 15 months, or when they are called *shearlings*; and in no case do they need to exceed the age of two years. The hind and fore-quarters more nearly approximate in this, than in any other breed; the fatty tissue being more equally spread over the external muscles, tending to accumulate less about the kidneys and internal parts; and hence the breed has never been so great a favourite with the butcher as some others; but the mutton is not surpassed by any of the other long-wooled breeds whatever.

Architecture of the Bee.

If you have a certain space, as a room, to fill up with closets or little cells, all of the same size and shape, there are only three figures which will answer, and enable you to fill the room without losing any space between the cells; they must be either squares, or figures of three equal sides, or figures of six equal sides: with any other figures whatever, space would be lost between the cells. This is evident upon considering the matter, and it is proved by mathematical reasoning. The six-sided figure is by far the most convenient of those three shapes, because its corners are flatter; and any round body placed in it has, therefore, more space, less room being lost in the corners: this figure, too, is the strongest of the three; any pressure from without or from within will hurt it least, as it has something of the strength of the arch. A round figure would be still stronger, but then room would be lost between the circles, whereas, with the six-sided figure nothing is lost. Now, it is a most remarkable fact, that *bees* build their cells exactly in this shape, and thereby save both room and materials, beyond what they could save if they built in any other shape whatever! They build in the very best possible shape for their purpose, which is, to save all the room and all the wax they can.

So far as to the shape of the walls of each cell; but the roof and floor, or top and bottom, are built upon equally true principles. It is proved by mathematicians, that to give the greatest strength and save the most room, the roof and floor must be made of three square planes meeting in a point; and they have further proved, by a demonstration belonging to the highest parts of algebra, that there is one particular angle or inclination of those planes to each other where they meet, which makes a greater saving of materials and of work than any other inclination whatever could possibly do. Now, the bees actually make the tops and bottoms of their cells of three planes meeting in a point; and the inclinations or angles at which they meet are precisely those found out by the mathematician to be the best possible for saving wax and work.* Who would dream of the bee knowing the highest branch of the mathematics—the fruit of Newton's most wonderful discovery!—a result, too, of which he was him-

* Koenig, pupil of Bernonilli and Maclaurin, proved by very refined investigations, carried on with the aid of the fluxional calculus, that the obtuse angle must be $109^{\circ} 28'$, and the acute $70^{\circ} 32'$, to save the most wax and work possible. Maraldi found, by actual measurement, that the angles are about 110° and 70° . These angles never vary in any place; and it is scarcely less singular, that the breadths of all bees' cells are everywhere precisely the same, the drone or male cells being $5\frac{1}{16}$ ths, and the worker or female cells $13\text{--}60$ ths of an inch in breadth, and this in all countries and times.

self ignorant, of one of his most celebrated followers having found it out in a later age! This little insect works with a truth and correctness which are perfect, and according to principles at which man has arrived only after ages of slow improvement in the most difficult branch of the most difficult science. But to the mighty and allwise Creator, who made the insect and the philosopher, bestowing reason on the latter, and giving the former to work without it—to Him all truths are known to all eternity, with an intuition that mocks even the conceptions of the sagest of human kind.—*Brougham*.

For the Farmers' Cabinet.

Dialogue founded in Fact.

D. Well, Mr. Cabinet, you seem to find it easy to teach us how to increase the quantity of our crops, but that is of little use. If you could find us a market for what we have, you would be doing something, I guess.

C. Is it a market for your produce that you want?

D. It is, just that. I can grow much more than I do, if I could dispose of it.

C. Then I will procure you a ready market for all you have, and without difficulty, if the quality be good.

D. The quality of my articles is as good as my neighbours'.

C. Then go into the market and offer your corn, wheat, oats, potatoes, &c., 2 or 3 cents per bushel below the regular price.

D. I thank you! And what should I get by that?

C. A ready market—which you just now said you wanted.

D. Do you take me for a fool?

C. By no means; but it would appear that it is not simply a market that you want, after all; if it is, the reading of the Cabinet and other works on agriculture, will teach you the way to increase your crops, so that you shall afford the sacrifice, and come off a gainer by the transaction.

The best merchant in the city used to say, "I can always *command* a market, if in buying I consent to give a little more, and in selling I am willing to accept a little less than the market price. By these means I am often enabled to turn my capital, while others are waiting for a market; remembering always, and never losing sight of the *axiom*, it matters not what I *give* for an article—the only question is, what can I *sell* it for?" Ed.

THE ancients were accustomed to prepare their straw for feeding stock by keeping it for a considerable time sprinkled with brine; it was then dried, tied in bundles, and given to oxen instead of hay.

For the Farmers' Cabinet.

Merino Sheep.

MR. EDITOR, — I see, with pleasure, that the premium list of the Philadelphia Society for promoting Agriculture, for the present year, is made to embrace the Merino breed of sheep: this is well, for it is high time that the invaluable race should be again brought into notice; it is but for their friends to permit them to make their own way and not unite their efforts to kill them with kindness, and they will do all that was ever promised for them by those who were best acquainted with their real qualities, which were neither few nor small. I hope to see specimens of the pure breed at the Society's exhibition in the autumn, trusting that some few amongst their ten thousand former admirers have had the *constancy* to preserve them uncontaminated, were it only on the score of old attachments, for surely there must have been something real in their professions, which were so long, loud, and deep; but this hope I indulge, rather for the sake of instituting a trial between a cross with the Merino buck and the pure-bred Leicester or Bakewell ewe, of the most perfect form that can be selected, but not of very great size; for from such an union I have long been of the opinion that by far the most valuable wool is to be obtained, rather than from the cross with the Southdown; the staple of the wool between the former being more likely to give a combing wool of superior quality, which is much wanted amongst us; while the perfect form of the thorough-bred Bakewell ewe would not be likely to suffer much deterioration from the cross—taking for granted it will be admitted that the form of the Merino is by no means what might be desired by the admirers of symmetry and proportion. And this cross between the smaller male and the larger female, would be in accordance with the present enlightened theory, by which a race of improved animals may be obtained in a quarter part of the time that was once deemed necessary for the full development of the experiment. It is much to be desired that some of our friends who are favourably situated, would take the subject *soberty* in hand, and see what could be done in the way of raising amongst ourselves a wool whose peculiar character would be of paramount importance to our domestic manufactures, in the event of a war with England.

The following is an extract from a treatise on this peculiar breed of sheep, the pure Merinos, by Mr. George Flower, of Albion, Illinois: it will be read with great interest at this time; and it may be hoped that some spirited friends of the cause will take measures to introduce specimens of his flock—the pur-

est, in all probability, to be obtained at the present day—into this part of the country, in time for the Philadelphia Society's Exhibition in the autumn. J. T.

"The history of my own flock, kept in the southern part of Illinois, is favourable to the fine-wooled breed. They are from the merinoes of Spain, procured just before the French overran the country. Sir Charles Stewart, the English ambassador, purchased the royal flock. He shipped them, after a hurried drive, scarcely out of the reach of the pursuing enemy, some hundred miles. Six thousand only reached the shores of England; and, after a lapse of a year, two thousand sheep survived. These were purchased by my father. The first year's clip sold readily for \$1 per pound in the grease, amounting to \$10,000. This was then thought to be a very low price; wool once, during the war, about three years previous, having attained the enormous price of \$5 per pound. Some additions were afterwards made from the Paular and Escorial flocks. When I emigrated to this country, in 1817, I brought with me six of the finest animals of the wool-bearing species ever brought to this country. This is the origin of my flock; they have been kept in the same district, and on the same farm where I now reside, ever since.

"No deterioration in wool has taken place; on the contrary, the wool fibre of them is somewhat finer. Eighty ewes, purchased of Mr. Beecher, of Lancaster, Ohio, from the Steubenville stock, has been the only addition to the pure-bred stock. The excellence of my wool is not only to be attributed to the fineness of the original stock, but to the continued selection of males with the finest wool. This flock has never been pampered, but has been kept hardily, in a way that any farmer may keep them. They go out on the prairie in April, and live upon the prairie-grass till October, or until it is too dry and harsh. They are then brought into the inclosed pastures; and, as winter advances, they are fed night and morning with hay and a few sheaf oats, or a small portion of shelled corn, say half a pint to each sheep. The flock is now completely acclimated, and may be said, after a twenty years' domicile, to be a native Illinois breed. Since I have owned them, there is a change for the better in the constitution and fatting qualities of these sheep. When they first came from Spain, the ewes were accounted bad mothers; and many were of tender constitutions. Now, from attention to these points in so long a course of breeding, the ewes are excellent mothers, and the fattest sheep is found to have the finest fleece. They are decidedly hardier than the common sheep. These facts show that the fine-wooled

sheep are adapted to the soil and climate of Illinois, and that they may be kept without any fear of degeneracy in wool or carcase.

"Of the large-framed, long-wooled sheep of England, we have less decided experience; yet some may be gathered (imperfect as it is) useful and important. I brought from England, with the merinoes, two Lincolnshire rams and four ewes; but all died but one ewe of the Bakewell breed. From this one ewe, with my fine-wooled bucks, a strain of sheep are yet observable, with deep chests, short legs, and broad backs, with great aptitude to fatten. From the same cross, upon common sheep, many of the progeny are defective in shape, though with a fleece of equal fineness."

To the Editor of the Farmers' Cabinet.

Compost.

SIR,—I have been much instructed, interested and amused, by the many excellent articles which have of late appeared in the pages of the Cabinet, both for and against the use of magnesian lime, and consider it only a duty to acknowledge that to you, Mr. Editor, are we indebted for all; for had you not introduced the short article, an extract from the "General Report of Scotland," at page 276 of the 5th volume, concerning Mr. Tenant's set of experiments on the magnesian limestone, in the neighbourhood of Doncaster, England, we should have been deprived of a series of the most valuable essays that have yet appeared in your very useful miscellany. And although the question has not been decided to the satisfaction of all, still I am convinced that every one feels himself more competent to form an opinion on the subject than he could have done had the question never been agitated; and this is the main object which the conductors of the agricultural periodical press ought always to keep in view, namely, to set people thinking—then they might be left to their own guidance with safety, for it is natural to a man, *when awake*, to be "aye making the experiment;" and as has been said, nothing but good can come of it, if our differences be confined to our opinions. Continue, therefore, to foster such differences, and depend upon the support and countenance of your subscribers, of whom I believe I may rank myself nearly, if not quite the first, acknowledging at the same time that I read your pages with increased interest.

But my present object is not to notice farther the well-written essays on this important subject which have enriched your pages, but to turn them to practical account. Now, the friends of magnesian lime advise that it shall first be rendered "mild," as it has very properly been termed, by slaking and exposure to the atmosphere, by which it becomes per-

fectly carbonized, and is no longer of that caustic nature to do injury to the crops in any stage of their growth. I therefore meet them on this ground, and propose, that the operation of slaking shall be performed by mixing it, in the state that it comes from the kiln, with fresh-dug muck or earth, peat, turf, &c., layer by layer, finishing the heap by a covering of the earth to keep in the heat that will be engendered; by which the very nature of the ingredients will be changed; the earth from a state of acidity and sterility, and the lime from a pernicious state of corrosiveness, to the nature of leached ashes; the alkali of the lime operating upon what were once termed the "fatty substances" of the muck, &c., producing a saponaceous compound, far superior to much that is brought at great expense from the cities, under the very appropriate name of *dirt*—which consists in a great measure of what is worthless, and injurious to the land on which it is applied. Now, I scarcely know a farm where a mine of this description might not be worked to much more profit than the best gold mine in Virginia, and all above ground, too: indeed, the time ought soon to arrive, when our chief attention shall be turned to the *formation of compost*; an art hitherto quite unknown in this country, but which is found indispensable in every country where taxation abounds; affording a fair criterion by which to form a just estimate of our own resources, and giving ample employment to all our "help" during winter, a time, of all others, most suitable for the preparation of large quantities of composted manures, for the purpose of top-dressing our mowing lands in the spring—by far the best mode of increasing the dung-hill the next winter. I have, then, the greatest confidence in recommending the above-mentioned mode of managing lime, whether it be magnesian or otherwise, but particularly if it be the former, as I feel satisfied that its union with fresh earth, muck, &c., would have a tendency to correct the evil so much complained of, from whatever cause that might arise. I had once an opportunity to test the value of the course recommended, and should be glad of the chance to repeat it. Near my house was a large bank of earth of very tenacious quality, covered by a thick turf, the growth of ages; I commenced ploughing very deep a portion of it, say 40 feet long and 12 feet wide, and upon this I spread a coat of lime, fresh from the kiln, four inches in thickness, throwing upon it thick spits of earth, taking up the whole substance of the soil; upon this again was spread another coat of lime, and then a covering of turfs; then more lime, and the heap was finished by a close covering of earth and sods carefully beaten down. In a short time the whole heap was

smoking like a volcano, and cracking open all around; requiring the constant addition of earth to keep in the heat, which was excessive, destroying all vegetation, with the larva of insects, bugs, grubs, &c., at a blow. At the end of a month the whole was turned up and well pulverized, which brought on another fermentation; and in about six weeks it was carried abroad on the meadows during a time of frost, a top-dressing as fine as ashes. The corrosive nature of the lime, corrected by "the salts of the earth," its acidity and sterility neutralized by the lime, the effects of the compound at the passing away of the frost were truly astonishing; *seen* in the immediate growth of the grass, and *felt* at the time of hay-harvest in a double crop of the most luxuriant growth of herbage, of a quality quite different in its nature; with white clover so thick as to induce persons to suppose that the seeds of that plant had been sown.

I have seen Dr. Dana's muck manual, and am much pleased with it. I have often been surprised to find persons bringing dung from the city at the cost of \$70 per acre, and to hear them complain that their crops would not afford the expense of weeding; if these persons will just peruse the doctor's book, and go into the business of compost-making with good will, they may soon put their teams to other purposes and their men to *mucking*, and save time and money—two valuable ingredients; while an extra ploughing of their land will be found to save two extra weedings, besides improving their crops, and consequently, their own circumstances.

April 25, 1842.

VIR.

Natural Science.

THE mere gratification to be derived from learning some of the wonders with which we are surrounded, is surely a great satisfaction; for instance, to know that the same *thing*, or *motion*, or whatever it is which causes the sensation of heat, causes also fluidity, and expands bodies in all directions; that electricity, the light which is seen on the back of a cat, when slightly rubbed on a frosty evening, is the very same matter with the lightning of the clouds; that plants breathe like ourselves, but differently by day and by night; that the air which burns in our lamps enables a balloon to mount, and causes the globules of the dust of plants to rise, float through the air, and continue their race; in a word, is the immediate cause of vegetation. Nothing can at first view appear less like, or less likely to be caused by the same thing, than the process of burning and breathing—the rust of metals and burning—an acid and rust—the influ-

ence of a plant on the air it grows in by night, and of an animal on the same air at any time—nay, of a body burning in that air; and yet, all these are the same operation. It is an undeniable fact, that the very same thing which makes the fire burn, makes metals rust, forms acids, and enables plants and animals to breathe; that these operations, so unlike to common eyes, when examined by the light of science, are the same. And to know this must be a positive gratification, to find the same substances in various situations extremely unlike each other—to meet with fixed air as the produce of burning, of breathing, and of vegetation—to find that it is the choke-damp of mines, the bad air in the Grotto of Naples, the cause of death in neglected brewers' vats, and of the brisk and acid flavour of seltzer and other mineral waters and springs? Now nothing can be less like than the working of a vast steam-engine of the old construction and the crawling of a fly on the window, yet we find that these two operations are performed by the same means, the weight or pressure of the atmosphere—and that the sea-horse climbs the icebergs by no other power! Can any thing be more strange to contemplate, and is there in all the fairy tales that were ever fancied, any thing better calculated to arrest the attention and to occupy and gratify the mind, than this most unexpected resemblance between things so unlike to the eyes of ordinary beholders! And what more pleasing occupation than to see uncovered and bared before our eyes the very instruments and the process by which all-perfect Nature works? Then, when we raise our views to the structure of the heavens, and are gratified with tracing accurate but most unexpected resemblances, is it not in the highest degree interesting to find that the power which keeps this earth in its shape and in its path, wheeling upon its axis round the sun extends over all the other worlds that compose the universe and gives to each its proper place and motion; that this same power keeps the moon in her path round our earth, and our earth in its path round the sun, and each planet in its course; that the same power causes the tides upon our globe and the peculiar form of the globe itself!—and that, after all, it is precisely the same power which makes a stone fall to the ground. To learn all these things and to reflect upon them, occupies the faculties, fills the mind, and produces certain, as well as the purest gratification.—*Brougham.*

THE great mischief is, that we farmers are in too great a hurry to get rich: we forget that the golden age has passed away, and that we are living under the hard influence of the iron ages.

For the Farmers' Cabinet.

Cheap Labour.

MR. EDITOR,—The observation of "A Subscriber," page 286 of the last No. of the Cabinet, that very much of the labour of a farm that has heretofore been performed by men, might be quite as well executed by lads—suggesting that our almshouses and other charitable institutions might be made to furnish a considerable portion of such material, to the mutual advantage of the institution and its inmates—was fresh upon my mind, when, upon passing a very respectable country-looking young woman, evidently an emigrant, I was accosted with the inquiry, if I knew any farmer who wanted a female help? I found she had just arrived from one of the midland counties of England, and was very desirous of obtaining a situation on a farm, that she might once more feel *at home*. I supposed her wish was, to procure a situation as dairy-maid, but no—her desire was, to do once more what she had been accustomed to do all her life, to labour in the fields and to take her share of the customary work on the farm, not only at hay-time and harvest, but in spring-time and autumn, in weeding, stone-gathering, muck-spreading, turnip-hoeing, cattle-feeding, milking, and about half-a-dozen *et ceteras*, in all which she assured me she had ever been at the top of the profession; adding, she should never be quite right and happy until she could be doing the same thing again.

Now, I am curious to learn what are the objections which can be brought by our friends against this very rational request? Will it be said, such work is degrading to the female character? I would say, read Burns, and Bloomfield, and Thomson, and a dozen others, the best poets and writers both of modern and ancient times, and cull from them those exquisite scenes, which they have peopled with the most lovely objects of creation in the form of rustic female life! and where will you meet with such an assemblage of Loves and Graces? Or, is it feared that their strength is not equal to the task? The question could be solved in a single day to perfect satisfaction, without the necessity of considering them in the light of Amazons. Or is it, that the intermingling of the sexes in the lighter business of the farm would tend to blunt that sense of native modesty which is the glory of the female sex? This has not been found to be the case in countries where the system of out-door female labour has been pursued for ages. But there is one thing that it is adapted to encourage, namely, *early marriages*—which have always been found to form the greatest safeguard to the morals of any people, and to insure strength of character, both bodily and

mental, to all generations. And in no country under the canopy of heaven can this doctrine be preached and practised with so pure and perfect a prospect of fulfilling the great law of nature as in this, the land of freedom, of peace and plenty; where the children of such parents would indeed grow up like olive branches round about their table, and be such as would be able to *replenish* the earth; their fathers the "sturdy oaks," and their mothers "the fruitful vines of God's heritage."

By the aid, then, of children and women, we might perform the labours of the farm at an expense by no means greater than that which is incurred in England, where they are both employed very extensively, with much advantage and to profit; not an objection being raised against the system. I am continually being told, the weeding of a crop, or this or that necessary operation will not pay the expense, namely, a dollar a day—true, but a quarter part of that sum would often be found sufficient to do it, and as efficiently as it could be performed by any one at any price, were it the custom to employ women and children; while the men might be engaged at a labour which would amply repay their dollar a day, namely, in throwing up compost-heaps, with lime and earth, &c., and turning and mixing, and pulverizing them until their contents had become as rich as so much leached ashes, and not unlike in smell and appearance; their value being in proportion to the labour and expense bestowed in forming them, be that what it might; every extra turning being accompanied by an extra accession of the fructifying principle, communicated at every fresh exposure to the atmosphere, by an union of the different gases liberated by fermentation, which is sure to be engendered at every turning of the mass. And on every farm will then be seen a compost-heap the size of a *house*—larger or smaller, in proportion to the quantity of land in occupation, but sufficient to top-dress completely the greatest portion of the meadow land every spring.

And now, by means of these auxiliaries, I would venture to ask, whether it be not quite within the range of possibility, that much of our hoeing could be done as cheaply and far more perfectly by hand-hoeing as by horse-hoeing?—which we know is often a very ineffectual and deceptive business, appearing at the time to have done much, but often proving to have been little better than a transplantation of the weeds, especially in a wet season. And this is not always the worst, for I have known the necessary after hand-weeding of the rows to be delayed, seeing that the intervals had been done—a business that might rather have been postponed than it. Indeed, I believe that many of us *transpose* the

proper order in the process of hoeing, which ought, I think, to be, first, the hand and hoe-weeding of the rows, and then the intervals; else, the treading of the intervals while cleaning the rows, must have the effect of re-planting the weeds that have been brought to the surface by the cultivator; whilst the cultivator itself should be *reversed*, the double row of teeth being made to *precede*—then the small furrows, which are now left near the rows of plants (by the cultivator proceeding point-forwards) will be reduced to one furrow only, that being in the centre of the interval—an arrangement of very great importance; and for the knowledge of which I am indebted to a most intelligent reader of the Cabinet—a real “book-farmer!” who not only practises, but *teaches* the best way of cultivating the mind and heart, as well as the soil.

Our late accounts from England inform us that the farmer is still further to be burdened in the shape of an income tax! Does it not strike the American farmer that there must be a monstrous difference somewhere between the two countries, to account for which, the difference in the rate of wages is by no means sufficient? Would our friends think seriously of these things, and read, mark, and inwardly digest them; then I should not fear that in summing up, the advantages in favour of this country will be exhibited as clearly as figures—“which cannot lie”—can make them.

VIR.

April 20, 1842.

For the Farmers' Cabinet.

Bee-Breeding.

MR. EDITOR,—I have, for a considerable time past, been a constant reader of the Cabinet, and have been much gratified by perusing some of the articles which it contains on that interesting subject, the culture and management of the bee. I unite with the writer in a late number, who observes, “there is nothing better calculated to strengthen our local and home attachments than a proper attention to those little matters which evince a correctness of taste, and impart a neatness to the grounds around our dwellings;” and I am convinced that one of the most interesting and profitable appendages to a dwelling, either in town or country, is a well-constructed beehive with a thrifty colony of bees. When I consider the vast amount of sweets that are so lavishly scattered over the face of nature, it has often been cause of surprise that there are not more of these wise and industrious insects kept by all classes of society, as they might be made the instruments for collecting a rich luxury for the wealthy, as also to add

to the comforts of the poor, out of that which always has, and still is allowed to continue, to “waste its fragrance on the desert air.” The principal cause why few keep bees is, that their colonies are so often destroyed by that formidable foe, the worm or larva of the wax-moth. I have studied the nature of the bee, and have had an extensive apiary for many years, and confess it has ever been a source of great discouragement to me; and after having seen a great variety of patent hives, some of them well adapted for letting the enemy *out*, after they have become fat and full by feasting on the rich treasures of the hive, and in some unguarded moment lost their hold on the comb and rolled to the bottom of the box, which consists of a slanting or swinging board, and an aperture sufficiently large to allow of their egress; and because many of those over-fed robbers are found under the hive, the principle of its construction is oftentimes admired and approved! But the main objection to these hives is, that where so great facility is given for the worms to roll out, great opportunity is afforded for the moth to get in; and although some of them might offer a *remedy* for the disease, it will readily be admitted that a preventive is better than a cure. I have therefore been induced to bend my mind to the subject, and flatter myself that I have invented a hive or palace, which will prove the title which I give it, namely, the miller-proof, non-swarming, life-preserving, ventilating bee-hive, the construction and advantages of which require only to be seen and examined to command the approbation of those who are interested in the subject. Persons wishing to purchase hives, individual, county, or state rights, will please address Joseph Sholl, near Burlington, New Jersey.

Here follows a very elaborate description of the hive, which for brevity's sake we are compelled to decline publishing; the hive itself may be seen and examined at our office, and we will take pleasure in describing its properties and advantages.—Ed.

CHANGE OF CROPS.—Virgil, who was a philosopher as well as a poet, observes: “The true repose of the earth is a change of its productions.” It is a curious fact, that a plant may be killed by the poison which has itself secreted, as a viper may be stung to death by its own venom. Hence it has been very generally noticed, that the soil in which some particular vegetables have grown, and into which they have discharged the excretions of their roots, is rendered noxious to the prosperity of the plants of the same or allied species, though it be quite adapted to the growth and support of other distinct species of vegetables.—*Bridgman*.

For the Farmers' Cabinet.

A Fallacy.

THE popular idea of modern times, and of which our agricultural periodicals are constantly reminding the farmer, is, to cultivate no more ground than can be well manured. *Make your fields small, say they, that you may accomplish this end.*

That cultivated grounds should be well manured, at least in our older settlements, perhaps no good husbandman will deny; but while this is laid down as an axiom, it seems to be assumed as nearly equally true, that it cannot be done within the means of the farm, unless the portion of it cultivated be exceedingly circumscribed. That this assumption is entitled to the credit to which it pretends, the subscriber's experience has led him more than to doubt. He tried its blandishing promises for a few years on a large farm, to his disappointment; having soon found, after working small fields, that the amount of his manure was reduced in proportion to the size of his tillage; and then it was difficult to get back to a field of respectable size for the want of manure enough to cover it. But he has been more successful since, in practising upon the *converse* theory, viz. extended cultivation on a small farm. Five years since he confined his operations to a small farm of little more than fifty acres of arable and meadow; the land was chiefly rough, and in a very moderate state of productiveness—soil loamy, with a good healthy clay subsoil. At present the face of it is pleasing to the eye, and in point of productiveness nearly double that of the former period; only about thirty-five acres of it have been cultivated in grain and artificial grasses—the remainder in meadow, and lawn about the dwelling. Of the cultivated portion, the grasses are never suffered to lie longer than three years, frequently but two, and occasionally but one. The basis of this improvement has been, moderate attention to raising and applying manures, all within the farm, excepting lime (magnesian) and one experiment of ground bones. He manures double the space usual among creditable farmers, and last year, by the help of an extra supply of fifty loads obtained by soiling cattle before harvest, was enabled to manure one-fourth of the *whole* farm. If it be asked how so much manure is obtained, the answer is, chiefly by using *straw* for no other purpose than bedding for animals; feeding them on hay and the better portions of corn-fodder; winter-feeding a few cattle on meal and some roots; hauling most of the manure in the spring, and protecting the portion left for autumn-use under cover, or thrown into shallow banks with earth over the top; by confining the cattle in their yard altogether, until

the 15th or 20th of the 4th month; afterward, during a month, let out an hour or two every day; then, and not until that period, when the grass is strong, and operating as *feed* rather than *physic*, they go upon their permanent pasture.

It will be observed, that this practice has resulted from a belief that the offal of crops is an ample basis for the manure which they require; and that, if only tolerably well managed, is capable, not only of supplying the annual exhaustion, but also of carrying on a progressive improvement. Consequently, extended cultivation, provided there be a just relation of the requisite number of animals for manufacturing the offal into manure, is believed to be advantageous to improvement of the soil, to the pocket of the husbandman, and to the country—rather than a stinted cultivation, which provides manure only in proportion to its limited extent, and looks to extensive grazing, or a disproportion of meat to the bread which is to accompany it. This just relation of tillage and of stock is supposed to be exactly that number of the latter which can be kept without eating up the source of manure-offal of the crops; and in summer without pasturing very close, animal manure being looked upon only as a small ingredient to ferment the mass of vegetable matter—and all the better for that object, when the beasts are kept in good plight, which feeding on *hay* instead of *straw* supposes—to say nothing of the superior profit of cattle so kept, and the humanity of it.

Frequent tillage, if supplied with its rights in manures, keeps the ground loose and lively for the largest product of grasses, supplying exactly what is wanted, in an abundant hay-crop for winter: and for pasturage has the utmost value, when combined with a portion of perennial or green-grass meadow, where the cattle can roam from one to the other at their pleasure.

The foregoing is contributed as matter for reflection, and not controversy. What is here considered a fallacy, viz. that a small portion of a farm cultivated, can be better manured from means within the farm than a larger portion so cultivated, being a moot point, facts on both sides is but fair play for the question. He who concentrates the manure derived from large fields upon an acre or a few acres, and thereby succeeds in producing an enormous crop, does, indeed, illustrate the kindness of our common mother in yielding a return proportionable to the food bestowed; but let him remember, that his capital or this liberal supply of food, was obtained by robbery, and by no means infers, that *space is all useless*.

J. JENKINS.

West Whiteland, 4th mo. 9th, 1842.

For the Farmers' Cabinet.

Dairy Cows.

MR. EDITOR,—Having broken up my sod-ground, and believing that the corn would be better for a delay of a few days in planting, to allow the earth to become dry and warm, I thought I could not do better than take the opportunity to cross the hill and see what my Chester-county friends were doing, thinking that I should be a gainer by the journey, whether the consequences proved agreeable or otherwise—whether the lesson operated “for reproof or for comfort;” and my absence of a few days will be repaid by months of advantageous observation and years of experience. I found them on the alert, as I expected, and determined not to allow the *grass* to grow under their feet, even in those meadows which our friend Solon Robinson has immortalized by his happy remark—“If, Nebuchadnezzar-like, it should ever be my lot to be turned out to graze, may it be on such meadows as these!”—In fact, the corn had been sown in some places, and was absolutely up in others—I confess, a little to my astonishment, but not to my chagrin, as I prefer waiting a little, which I can well afford to do.

It is but reasonable to expect that the occupiers of such pastures should be good dairymen, and when I say they are, first rate, I know I shall be readily believed. I saw also several cows that would tempt some men to break the tenth commandment; amongst the rest “Bessie,” the property of Paschall Morris, whose portrait you must not forget you promised to give us in the Cabinet, with an account of her great milking properties; and whose present appearance is such as to recommend her strongly to that distinction: and with her is a young progeny which bid fair to eclipse their ancestors, whether for beef or butter. I saw also very many splendid specimens of half-breds, a single cross with the Durham bull, that are real *cream-pots* in embryo, the only fear being, that in such pastures they will grow unnecessarily large for the purpose of the pail—a thing by no means desirable. Indeed, I believe that much of the complaint, so common, that the improved stock has baffled the attempts of their owners to render them regular breeders, has arisen from the circumstance of their having been kept too high in their youth; many accidents also happening at the time of calving, proceeding from the same cause. My object would be to breed them *neat* rather than *gaudy*, as there will be no fear of their laying on fat, at the time when that alone would be desirable. At some farms in these rich districts it is customary to purchase cows with their calves from Eastern droves, milk them for a season, and then turn them off to

feed in the winter—an excellent practice in these Nebuchadnezzar pastures. Amongst some of them are to be found kickers of every degree, but here I learnt a cure for the disorder, when in its most inveterate state; it is, merely to place the *patient* in a stall with a beam over head, and fixing a running noose over her horns, throw the end of the rope over the beam and pull away, so as to raise her head pretty high in the air, but not so as to lift her legs from the ground: in this position she will not only be disabled from kicking, but will give down her milk without the least hesitation. These cows are also liable to the hoof-ail, as well as sore teats, both which are easily cured by the application of white paint laid on with a small brush; the body of the paint acting mechanically in preventing the action of the air on the sores, and the lead operating chemically or medicinally in drying and healing them. Care must however be taken not to apply the lead to the teats while they are suckling calves; and afterwards, caution must be used at the time of milking, but no danger need be apprehended in the hands of careful persons. In inveterate hoof-ail it might first be necessary, either to cauterize the sore, or dress with blue-stone, after which, and in all slight affections, white-lead dressing—in other words painting the sores, will be found sufficient to effect a cure.

Now here are two recipes for the cure of some of the most troublesome diseases with which dairymen have to contend. In the first place, many first-rate milking cows have been sent to the butcher as the only cure for the disease of kicking and withholding their milk; while the hoof-ail, when once become inveterate, is almost perpetual in some dairies. The knowledge, how to cure these disorders, has cost me only a dollar and twenty-five cents in travelling expenses; but if, as I conscientiously believe, “it is more blessed to give than to receive,” I shall become a gainer by the transaction—perhaps to the amount of a couple of dollars—in transmitting the recipes for publication to the pages of the Cabinet.

Your subscriber,

JAMES JONES.

Obstacles to Improvement.

Extract from an Address by J. Garnett, Esq., before the Agricultural Society of Fredericksburg.

I HAVE reserved until the last, the notice of an obstacle to our improvement in husbandry, which I might, perhaps, as well have omitted, since there seems to be hardly a hope, either of removing it, or of diminishing its power. The cause is, the conversion of a large portion of our female population from *stay-at-home-atives* into a tribe of wanderers.

Once, they constituted the life and soul of every domestic establishment which had any reputation for the abundance of its comforts, for the cordial hospitality with which they were administered, and for everything which made home delightful; but since their change, go where you will, you meet them, even with infants in their arms, flying to and fro over the face of the earth, or the great waters thereof, in search of something, they often know not what, unless it be to kill time and to see sights. The mighty agent of this fearful revolution is that gigantic power—steam—a power which has nearly annihilated both time and space; the instruments used, being steamboats and railroad locomotives; and so constantly are they engaged in the service, that should you wish to find any of these new converts from the stay-at-home class, the particular spot which they honour with the name of *home*, is one of the very last places on earth in which you should look for them, unless it be in the depth of winter, when ice and snow preclude all travelling, either by land or water. The inevitable consequence is, that when the females of the household are no longer found at home, their fathers and husbands, sons and brothers, must run with them, either from affectionate regard for their safety, or because they too have become infected with the wandering fever; and then what follows? Why the females abandon their domestic duties, and the men give up their farms during the busiest seasons of the year, to those whose interest it is to use them for their own special benefit. And when the want of funds compels the proprietors to a reluctant return, they find that everything has gone wrong—their orders having been totally neglected, or executed in a way so as to be productive of more harm than good. This state of things creates disappointment, which suffices to beget lukewarmness, and at length aversion to agricultural occupations; and under such circumstances, improvements in agriculture are things nearly as impracticable as the extraction of *blood from turnips* or *sunbeams from cucumbers*!—and it is almost folly to hope for any, unless they and their wandering families can learn once more to resume the thrifty domestic habits of their ancestors—a state of things scarcely to be expected, in these times of general suspension.

“AGRICULTURE demands the aid of every other department of science; and from its being the source of encouragement to every other art, and the foundation of the whole structure of national greatness, it becomes the duty of every member of the profession to adopt whatever may seem fitted for extending its capabilities.”

For the Farmers' Cabinet.

Permanence of Blood.

MR. EDITOR,—At page 379 of the 5th vol. of the Cabinet, is an article by J. R. C., which details several very remarkable instances of what is called *breeding back*. Amongst the rest, mention is made of Mr. Gowen's famous cow Dairy-Maid, who the last year brought a white calf by a roan bull—her colour also being dark roan; and the writer adds, “it is probable that her next year's calf will be white also, unless a bull of a more decided colour shall be used.” Now what will J. R. C. say, when he is informed that Dairy-Maid's calf of the present year, by “Prince of Wales,” is as white as milk! Here are two white calves since the cow was put to white Colostra, showing most clearly the strength of *sympathy*, and the danger of ever using a white bull, unless the wish be, to obtain a whole dairy of white cattle. And at page 222 of the same volume, we find an account of the breeding back of that other remarkable cow, “Blossom,” whose progenitor was “Comet,” of white colour, and who had already brought two white calves. And then follow two remarkable instances of the same propensity in the feathered creation.

In addition to the above very curious collection of facts on this highly interesting subject, I find another, which seems to be well authenticated, and is worth preserving: it is taken from the *Maine Farmer*. “Forty-two years ago, a Mr. Wingate removed into Hallowell, and brought with him a polled or hornless bull and cow. The bull was sold and driven away, but a bull-calf was raised from the cow, which at two years old was shot for a bear, he being without horns and of black colour. This was some 35 or 36 years ago, and since that time no hornless bull has been with his stock, yet they have always had animals of the polled breed. Mr. Wingate has a cow that has raised two calves with horns by a horned bull, but last spring the same cow brought a fine polled bull-calf by a horned bull also! In this instance, none of the polled breed, as sires, have been with Mr. Wingate's stock for nearly 40 years, and yet the polled blood continues to show itself amongst the calves.” How careful, then, ought breeders to be in their selections and crossings; relying upon it that a bad point also will lurk in the blood and make its appearance after years shall have passed away, and the circumstance be forgotten.

W. C.

ONE man considers himself rich, because he has money to lend at usurious interest; another, because he owns a large amount of stocks in some moneyed institution; but the farmer's wealth consists in his *rich lands*.

For the Farmers' Cabinet.

Summer Soiling.

MR. EDITOR,—The readers of the Cabinet are much indebted to Mr. Jenkins for the very particular account of his interesting experiment in soiling cattle during the last summer; see page 289 of last number. The final result does, indeed, appear to have been highly satisfactory, although the way in which it was attained was both long and troublesome. With a less candid narrator, it might have puzzled us considerably to account for this, but your valued correspondent has had the magnanimity to confess that this was owing, in a great measure, to an error in judgment on his part, in selecting for the experiment a lot of cattle peculiarly unsuitable to the process of *feeding*, "being young and rough, the refuse of a drove purchased the previous autumn, and therefore not a fair comparison with my tenant's cattle on pasture, which were *choice animals*." Now, if experimenters generally would be honest enough to "speak out," as Mr. Jenkins has done, we should be relieved from the task which we are often subjected to, namely, that of reconciling discrepancies which otherwise are quite unaccountable; but it is not every one who can *afford* to take so lofty a stand, too many having an *end* to obtain, which is incompatible with such a line of conduct: it has been observed, "the best riders are to be found amongst gentlemen." Indeed we are much indebted to him for this impartial and important narrative, and presume there is no doubt of his continuing the plan the present year; with his acquired experience he will be "fore-armed," and in such hands, the advocates of the system need not fear, I conceive, for the result; a system which has been denominated "a carrying the crops to the cattle, and not they to the crops."

On perusing his statement, I find that "on the 30th and 31st of May, the cattle ate dry food with increased appetite, the increase of grass seeming to have given a desire for more dry food; that they again thrive and improved in appearance, the first feeding with grass having produced a lank appearance and loose bowels." Now, here is revealed a secret worth knowing, and shows most clearly the advantages of a system, which gives the means of apportioning green and dry food exactly in the way best suited to their need, by which their health and well-being may be secured, and their wants correctly judged of and provided for. We know the effects of early grass on cattle while at pasture, and often witness the extreme laxity of their bowels, as well as their lank appearance, at a time when we had expected a very sudden improvement in their condition, namely, on

first turning out from winter straw-yard, all which would, no doubt, be relieved by an allowance of dry food given in their stalls; and this mode of management would be peculiarly suitable for dairy cows, which, since I have read the account of the effects of limed land upon their health and condition in the paper of VIR, at p. 229 of the Farmers' Cabinet for February, I am quite prepared to consider of the highest importance to the butter, whether as it concerns its quantity or quality; a too great laxity of the bowels being, no doubt, inimical to both. The remark, that the milk cows fell off while feeding on timothy and clover, is not so easily accounted for; it might arise from the grossness and too great succulence of the crop; such food ought to be exposed for a time after cutting, to become partially wilted before feeding. It would, however, appear that the experiment was brought to a close just as the feeding of the green oats had commenced—a food of all others, it is considered, the best calculated for the purpose; and Mr. Jenkins admits that at the time of turning out, they were eating these, with timothy and clover, with gradual improvement, but that after eight days feeding at liberty on good pasture, no apparent improvement in their condition was perceptible: nay, after five days more, he adds, "very little, if any perceptible improvement in flesh since turned on pasture, with abundance before them;" all which goes to prove that these cattle were not, indeed, "a fair comparison with his tenant's choice animals, and that their want of thrift was occasioned by being young and rough, and the refuse of a drove." His remarks at conclusion speak volumes for the practice of stall-feeding; the conviction that one acre soiled is equal to four acres fed; that the cattle are more comfortable than while at pasture, shaded from hot sun and protected from heavy rains, returning without invitation or coercion to their stalls; that the dung paid all expenses of attendance, and by it he was enabled to put away into the barn 15 tons of good hay, more than could have been done, had the cattle been kept all the time on pasture, is indeed proof positive of the superiority of soiling over pasturing, and leaving no doubt at all, where cattle are to be *kept* rather than *fatted*.

Did your correspondent ever grow green corn for soiling?—the seed sown broad-cast on a well dunged soil, and the crop mown close while young, and fed in racks with the staves placed *horizontally*, not *vertically*, else the cattle could not pull the stalks out after they had grown long? It would appear that this crop must prove not only the cheapest but the best food that could be raised for the purpose, and we hear of the most decided success attending it from all quarters: it is

thus raised and expended in England, and immediately, on the crop being cleared, the land is manured and sown with turnips for winter food; an excellent plan, certainly, and likely to do much for the *quality* of a root which, with us, has often proved of little value, from its watery and meagre consistence. Indeed, I have heard of an experiment on soiling with corn which appears quite extravagant, for it is said, an acre of land sown in three divisions and at intervals of ten days each, kept 18 milk cows for three months!—the land being re-sown with corn so soon as cleared, a good allowance of dung being given at the time; the food proving most excellent for the production of the sweetest milk, and the animals keeping in superior condition. Can any of your readers inform us more particularly concerning this *universal crop*?

Mr. Jenkins has been in Europe; perhaps he could also inform us of the value of the tare for the purpose of cattle-soiling; if it could be made to succeed in this country, it would, by every account, furnish an admirable change in the diet of stalled animals; an important consideration, and one on which much of the success of such an undertaking would seem to depend. If, as is said, no plant begins to draw its sustenance from the earth until its blossoming commences—the blossoms not being furnished with returning sap-vessels (a doctrine as old as Tull), the soiling system might be pursued without exhaustion of the land—a circumstance of the greatest moment.

J. GODSON.

May 3, 1842.

For the Farmers' Cabinet.

Hours of Farm-Work.

IF an Englishman, an emigrant of one year's standing, could be permitted to give an opinion on a subject which all his life long has engrossed his attention, namely, the cultivation of the earth, he would say, nothing that he has witnessed in this country strikes him as more remarkable than the many hours which the labourers in husbandry, with their teams, continue their operations through the day, in a climate confessedly unsuitable to the full development of the European constitution, and under circumstances peculiarly unfriendly to that degree of stimulus so necessary for the prosecution of an employment that requires the concentration of all their powers, oftentimes confined to one particular object, and admitting of no variation or change. He would observe, the custom in that part of England from whence he hails, is, to get early to work, and continue until one o'clock; return at that hour to dinner, and devote the remainder of the day to other services not less necessary, but which are apt to be delayed, and even to remain undone, if

the whole of the day is spent in the labours of the field—what these services are, may easily be learnt, by an inspection of the condition of many of the homesteads in the country. Besides which, there is the work of *draining*—which ought to form a sort of “*ne plus ultra*” with every occupier of his own land in almost any situation; with road-making, &c., furnishing a perfect change—as good as a rest—of occupation for both men and cattle. What is here said does not, of course, apply to seed-time or harvest; at these seasons, all hours are made to bend to the exigencies of the occasion, and much is sometimes performed during those of the night: it is the general and uniform late hours which are here kept on a farm, that the writer conceives must often be found extremely wearisome, by their long-extended duration.

But let it not be thought that these remarks are made invidiously, or in a spirit of cavil and unkindness—no one ever crossed the Atlantic with warmer feelings, or more grateful acknowledgments of the uniform and generous treatment which it has been his fortune to experience in this “land of his adoption;” and he is quite prepared to fear, that if any of his own countrymen were to endeavour to adopt such a mode of management as is here proposed, in this country, they would fail in the attempt; for he has before his eyes many instances of ill success that have attended the introduction of European management into foreign countries, occasioned by a variety of causes which would be, indeed, “too numerous to mention.” No, the extent of his desires is, to see an agriculturist of this country, of acknowledged property and standing in society, take up the plan and carry it out, and ascertain by experience, whether the thing be practicable. But, to do it justice, he must commence the year at Michaelmas—the real *New-Year* of the farmer—and finish up all his ploughing for winter fallows and spring-sowing of oats, with sod-ploughing for corn, &c., by Christmas; and after that, until the opening of spring, the work of preparation must be going on as briskly as any of the summer work; one very important item being, the periodical removal of the dung from the winter straw-yard to the field where it is to be expended, there to be turned up with muck, bank-earth, lime, &c., and be fermented and pulverized and *amalgamized* by the time it is needed for carrying abroad—a business which, in many places, requires the labour of weeks, at that busy season of the year, when *hours* are of more account than *days* of winter—in short, the winter season upon a well-regulated farm is the most important part of the year—a strange idea this to many, no doubt.

I find, in the New England Farmer, some interesting remarks on this important subject, which, although they do not exactly coincide with the plan here proposed, are valuable, so far as they go. It would appear an interesting question, why should the mechanic arts be supposed to afford the means of leisure to their votaries, while the agriculturist is doomed to "plod his weary way" for 12 or 13 hours in the day without intermission, and under a burning sun. D.

"The principles of our advice in relation to the speed of the team and hours for working your beasts, are applicable to your own labour and that of your men. We are satisfied from observation as well as experience, that ten hours per day, *in the field*, are enough—(the care of the stock to precede and follow.) In ten hours each day, *diligently improved*, most men will accomplish as much work as they can by extending the hours of work beyond that number. In other words, we know of no other farms on which so much labour is accomplished in a season by a given number of hands, as on those where about ten hours per day are spent in the field in vigorous and diligent labour. We know many who work twelve or thirteen hours—but they work more slowly, and do not accomplish a greater amount of work than those who take two hours more for rest. If one is lazy, or if his natural motions are very slow, it may take him more than ten hours to perform a fair day's work: he must make up in time what he lacks in despatch. On all farms, circumstances will occasionally make it desirable to work more hours than we have named, on some particular days; but not ordinarily. We go upon the presumption that one is to *keep at work*—busily and vigorously *at work*. Employers often think it for their interest to keep the men as many hours as possible in the field. We doubt the economy of the course. A good labourer knows what a fair day's work is, and is willing to perform it. If he knows that when he has done it, he may leave the field, he will accomplish it in ten or eleven hours; but if he must continue longer than that at his work, he will soon train himself to that slower movement which will prevent the accomplishment of the "fair day's work" before the hour when he is called from the field. This will be done from necessity rather than from any deliberate purpose."

For the Farmers' Cabinet.

Centre Draught and Subsoil Ploughs.

MR. EDITOR,—I was present at the first trial of the centre draught and subsoil ploughs, at the farm of P. Reybold, jr., and saw them at work on land that had been heavily top-

dressed with long manure, turning it under, with a view of preparing it for planting with peach trees as a nursery; and from the performance of the centre draught plough in that very rough land, I am induced to ask the favour of you to select me one of each kind, say one centre draught and one subsoil, of large size. The peculiar property of the Prouty plough of undermining the land-side of the furrow, is a very great matter in turning clover or other grass crops for wheat, &c., as the loose earth, so taken up and laid over, completely fills the furrow-seam, which, in our clay-lands, where blue-grass abounds, would, with the ploughs now in use, soon be filled with a luxuriant growth of grass, to the great injury of the growing wheat. The subsoil plough will, I think, be of great advantage in such land, from its property, with comparatively light force, of loosening the earth to the depth of more than 12 inches, without bringing any part of it to the surface. You will please send the ploughs for me by Hand's line, to the care of Mr. Karsner, Chesapeake city, who is keeper of the locks at that place, Chesapeake and Delaware Canal. I have a few acres of old timothy sward, that is now heavily top-dressed with long manure from the barn-yard, which I wish to put in corn and potatoes, and I want the centre draught for turning in the manure, and the subsoil for its particular province; and if I get those ploughs in time, say next week, and they should do their work well, of which I have no doubt, I should like to have them, with others, tried at the next quarterly meeting of our agricultural society, which takes place at Port Penn, early in June next.

I think, with yourself, that ploughing-matches at such meetings would be productive of much good, as the farmers would have an opportunity of comparing notes upon matters in general, and particularly on the most certain and accessible means of improving their soil, as also, of the most profitable mode of *employing* it; besides which, our mechanics, of which we have a number, excellent workmen, in this neighbourhood, would have a chance of showing off, in their ploughs and other implements, their skill and industry. And again, I am much in favour of our young men, our sons and our hired helps also, attending; they would generally be the ploughmen in such cases, and the good effect it would have would be felt at home, in the additional care they would take of their teams, and in perfecting themselves for such pleasurable feats, long before the day of trial, and without which *amusements*, if I may so call them, our young men would hardly think them worth attending—neither does your friend,

J. JONES.

Wheatland, Newcastle Co. Del.

For the Farmers' Cabinet.

Ruta-Baga Turnips for Dairy Cows.

To Sam'l West, Delaware Co., Pa.

DEAR SIR,—In the cars from Philadelphia to Chester the other day, in company with our valued agricultural friend of this county, John Barney, Esq., I inquired of you, as a celebrated butter maker in winter as well as spring and summer—your mode of winter feed for dairy cows—the reply was, after a sufficiency of good hay, to feed them on the *ruta-baga* turnip. I objected to the taste of the turnip imparted to the milk and butter, which you assured us could be *totally obviated* with proper care, as also the taste of garlic in the spring, in which cattle so delight. I think your experience so important, as to request further information on these subjects—you will much oblige me and other of your agricultural friends, by furnishing us *facts* which we may make known, for the public good. Very truly your friend,

JAS. W. THOMSON.

Wilmington, Del. March 25, 1842.

[REPLY FROM S. WEST.]

Chester, 4th month 7th, 1842.

To Dr. Thomson, Pres't. of Ag'l. Soc. of Newcastle County.

RESPECTED FRIEND,—Thy favour of third month 25th, came duly to hand, and in reply to thy inquiries I will state my method of winter keep for dairy cows, so as to ensure good sweet winter butter. After a sufficiency of first-rate upland hay, I allow to each cow about a half bushel of *ruta-baga* turnips finely cut up—always remembering to strip the cows clear of milk *before feeding with the turnip*, and *in the morning* feeding with a different kind of food, viz., cut hay, with a little Indian meal, or other mill feed. By this process there will be no taste of the turnip, either in the milk or butter, so objectionable to many; and by it you will have a full flow of milk from your cows, and butter of a fine rich springlike quality, seldom obtained in the winter season.

And so likewise to avoid the taste of garlic in milk and butter, so common in many parts of the U. S., in the spring. You have only to strip the cows well in the morning—turn them upon your fields in which there is garlic, until noon, or 12 o'clock, then take them out and put them upon pasture where there is *no garlic growing* until evening, and then you will not detect garlic either in the milk or butter. In addition to these precautions, I put about a teaspoonful of well pulverized saltpetre in the cream-pot when filling to make butter—observing to stir it often before churning.

There is always at liberty to call upon me for any information in my power to give. I have no secrets to keep from my brother farmers, and believe with thee that the occupation of the agriculturist is the most honest when freed from mystery, and most profitable when those engaged in its pursuit are most willing to impart their experience and information to each other.

As ever, thy friend, SAM'L WEST.

To the Editor of the Farmers' Cabinet.

Kentucky Blue-Grass.

SIR,—I want information relative to the Kentucky blue-grass; can you or some of your contributors give me its botanical designation? is it the same as the green grass that grows in New Jersey? what soil does it require? does it make good hay, and will it bear frequent mowing, so as to be suitable for ornamental grounds around the dwelling-house? Answers to these questions will much oblige
A SUBSCRIBER.

ANSWER.

Poa Pratensis, L. Smooth-stalked meadow-grass; Green grass; Blue-grass of Kentucky, but not of other districts. This is decidedly the most valuable of all our pasture grasses, and comes in spontaneously, in all our rich, calcareous soils.—Dr. Darlington.

Kentucky Blue-Grass. The best time for sowing is as soon as you get ready after October; or any time before the middle of March, expect a good stand.

Land. Old fields, on which the sun can exert all his powers, produce blue-grass in the greatest abundance, and best quality. Animals feeding thereon without grain, keep better and become fatter than on any other treatment; but even wood lands will produce good grass.

Preparation. If intended for old pasture, break up the fields in February, and sow oats; then sow ten pounds blue-grass seed, half a gallon of red clover seed, and if a little timothy or orchard grass be sprinkled on, so much the better; the timothy and clover or orchard grass will give a quick pasture and afford protection to the blue-grass until it gets a strong foot-hold, after which no other grass can contend with it. If wood land is to be sown, take off the logs, &c., and if the underbrush could also be removed so much the better; and after the land is cleared, harrow it well, then sow your grass seed at the rate of 10 or 12 pounds per acre, but if you put on 15 or 20 pounds, you will not regret it; the rains will sufficiently cover the seed to insure vegetation.—West. Far. and Gar.

Premiums

Proposed by the Philadelphia Society for Promoting Agriculture, for the Exhibition to be held on Wednesday and Thursday, the 12th and 13th October, 1842, at the Rising Sun, Germantown road.

A public sale of stock will also be held on the second day of exhibition.

HORSES.

For the best thorough-bred Stud Horse	\$12 00
For next best do. do.	6 00
For the best Stud Horse adapted to the field and road	10 00
For the next best do. do.	5 00
For the best thorough-bred Brood Mare	10 00
For the next best do. do.	5 00
For the best Mare adapted to the field and road	10 00
For the next best do. do.	5 00
For the best Horse Colt between 2 and 4 years old	8 00
For the next best do. do.	4 00
For the best Filley or Mare Colt	8 00
For the next best do. do.	4 00
For the best Horse Colt between 1 and 2 yrs. old	4 00
For the next best do. do.	2 00
For the best Filley or Mare Colt	4 00
For the next best do. do.	2 00

NEAT CATTLE OVER TWO YEARS OLD.

For the best Durham Bull over 3 years old	12 00
For the next best do. do.	6 00
For the best do. between 2 and 3 years old	10 00
For the next best do. do.	5 00
For the best Bull of Devon blood	8 00
For the next best do. do.	4 00
For the best Ayrshire Bull	8 00
For the next best do. do.	4 00
For the best Alderney Bull	8 00
For the next best do. do.	4 00
For the best Durham Cow over 4 years old	10 00
For the next best do. do.	5 00
For the best do. between 2 and 4 years old	10 00
For the next best do. do.	5 00
For the best Cow of Devon blood	8 00
For the next best do. do.	4 00
For the best Ayrshire Cow	8 00
For the next best do. do.	4 00
For the best Alderney Cow	8 00
For the next best do. do.	4 00
For the best Cow of mixed blood	6 00
For the next best do. do.	3 00
For the best yoke of working Oxen, reference being had to their performance	10 00
For the next best do. do.	5 00
For the best Ox or Steer	10 00
For the next best do. do.	5 00

NEAT CATTLE UNDER TWO YEARS OLD.

For the best Durham Bull between 1 and 2 yrs. old	8 00
For the next best do. do.	4 00
For the best Bull of other improved breed	6 00
For the next best do. do.	3 00
For the best Durham Bull Calf between 4 mos. and 1 year old	6 00
For the next best do. do.	3 00
For the best Durham Heifer between 1 and 2 yrs. old	6 00
For the next best do. do.	3 00
For the best Heifer of other improved breed do.	4 00
For the next best do. do.	2 00
For the best Bull Calf of improved breed between 4 mos. and 1 year old	4 00
For the next best do. do.	2 00
For the best Durham Heifer Calf between 4 mos. and 1 year old	6 00
For the next best do. do.	3 00
For the best Heifer of improved breed do.	4 00
For the next best do. do.	2 00
For the best Steer between 1 and 2 years old	4 00
For the next best do. do.	2 00

SHEEP.

For the best Bakewell or Leicester Buck	4 00
For the next best do. do.	2 00

For the 4 best Bakewell or Leicester Ewes	4 00
For the 4 next do. do. do.	2 00
For the best Southdown Buck	4 00
For the next best do. do.	2 00
For the 4 best do. Ewes	4 00
For the 4 next best do. do.	2 00
For the 4 best Lambs of any breed	4 00
For the best Merino Ram	3 00
For the 4 best Merino Ewes	4 00

HOOS.

For the best Berkshire Boar	4 00
For the next best do. do.	2 00
For the best Berkshire Sow	4 00
For the next best do. do.	2 00
For the best Boar of other breed	4 00
For the next best do. do.	2 00
For the best Sow of other breed	4 00
For the next best do. do.	2 00
For the best litter of Pigs of any breed not less than 6 in number	4 00

No animal that has previously taken the Society's first premium, will be allowed to compete in the same class.

AGRICULTURAL IMPLEMENTS, &c.

For the best Plough	\$5 00
For the next best do.	2 00
For the best Drilling Machine	4 00
For the next best do.	2 00
For the best grain or grass Sowing do.	4 00
For the next best do. do.	2 00
For the best Mowing or Reaping Machine	6 00
For the next best do. do.	3 00
For the best Straw and Hay Cutter	4 00
For the next best do. do.	2 00
For the best Root or Vegetable Cutter	4 00
For the next best do. do.	2 00
For the best Corn Sheller	6 00
For the next best do.	3 00
For the best display of Agricultural Implements	8 00
For the next best do. do.	4 00
For the best display of Agricultural Produce, such as grain, butter, plants, &c. &c.	6 00
For the next best do. do. do.	3 00

Any newly-invented Agricultural apparatus will be entitled to appropriate premiums.

SPECIAL PREMIUMS

For such animals as have received the first premiums of this or any other agricultural society, accompanied with a certificate or satisfactory evidence thereof.

For the best Bull of any breed	\$20 00
For the best Cow of any breed	20 00

Stock entered for these premiums cannot compete for others.

The Judges are authorized to withhold premiums where the object is not entitled to distinction; and where but one of a class is exhibited, they will award such premium as they think it merits. Those persons who intend bringing animals for competition, must inform the Committee of Arrangement before 10 o'clock on the first day of the exhibition.

Ample evidence will be required as regards the pedigree, age and character, of all stock entered for premiums.

Competition is open to the whole Union. All stock, &c., contributed, must remain on the ground during the two days of exhibition.

PORK RAISING IN 1842.—That you may form some idea of the profit of my farming operations in this country, Illinois, I will give you the result of my pork speculation. I purchased ten pigs a year old for fifteen dollars the lot. By feeding them with 200 bushels of corn I made them weigh 200 lbs. apiece, or 2,000 lbs. altogether. I carried seven of these to market, requiring two days with my team, and sold them at 1½ cts. per pound, *store pay*, so that the seven hogs produced twenty-one dollars in goods, equal to about ten dollars in money. I think the three I have, remaining unsold, would probably produce five dollars, and thus reimburse me for the first purchase of the hogs. Thus the time devoted to them, the expense of going to market, and the 200 bushels of corn, are the gain or loss of the transaction. —*N. Y. Tribune.*

The Farmer's Land Measurer.

TESTIMONIALS.

To JAMES PEDDER, Editor of the Farmers' Cabinet.

Dear Sir.—Your valuable little work, entitled "The Farmer's Land Measurer and Pocket Companion," forwarded to me as President of the Agricultural Society of New Castle, Del., was duly received; and at the next quarterly meeting I will present it in your name to the directors, for the Society's library, as you directed. I have perused it with care, and feel, after doing so, that it is one of those valuable and practical assistants to agriculture that requires only to be known to be appreciated. With this view I sent it to one of our valued and practical members, whose testimony in its behalf I take pleasure in forwarding you. The hearing this work will have, if extensively recommended, and I trust it will be, by those who write for our agricultural journals, will be, greater accuracy and approximation to facts, so essential in those who write for the benefit and instruction of others: it will be also highly beneficial to the young as well as the old farmer, and a great saving of time and money—both so essential to agricultural thrift. Concurring fully with Mr. Webb in all the views he has taken in regard to your work, and intending to recommend it to our members, I would advise you to appoint an agent for its sale in this city, and would suggest to you the name of Mr. George Reynolds, of Market street, as a proper and fit person; agricultural warehouse agent and seedsman, Wilmington, Delaware. Very respectfully, your friend,

JAS. W. THOMSON.

Wilmington, April 21, 1842.

To JAMES W. THOMSON, M. D., President of the Agricultural Society of New-Castle County.

As requested, I have looked over the little book thee sent me, entitled "The Farmer's Land Measurer, or Pocket Companion," and find it a very valuable companion indeed—one which I think every practical farmer, after he hears of it, will feel an interest and a pleasure in becoming acquainted with.

The calculations being made in yards instead of rods, the farmer with his little book in his pocket, is always ready to measure and lay off his field into lots for any purpose he may desire. Almost any man can step a yard near enough for common purposes, and when the width of the field is known, he can in a few minutes, by the help of the tables, measure off one, two, three, or any number of acres, to plant with potatoes, turnips, or sow with seed, or for the equal distribution of manure; when the heaps in a load are determined on, the tables give the distance they must be from each other, in order to distribute a certain number of loads per acre.

The book contains other information, interspersed with valuable observations and remarks on the subject of farming, and I feel a pleasure in recommending it to the patronage of agriculturists generally. It is by Jas. Pedder, the worthy and indefatigable Editor of the

Farmers' Cabinet, and for his benefit and those purchasing the work, I hope it may find a circulation equal to its merits. Very respectfully, thy friend,

BENJ. WEBB.

Wilmington, 4th mo. 21, 1842.

The Farmers' Pocket Companion is just such a little work as was needed in this country; I hope it will, as it ought, meet with an extensive sale. It must be to the farmer as convenient as Rowland's interest tables to the accountant; I am disposed to publicly recommend its use.

SOLON ROBINSON.

Lake Court-House, Indiana, April 13, 1842.

I have examined with pleasure "The Farmer's Land Measurer and Pocket Companion;" it is just the book all farmers should have, and is what I have often wondered was not got up.

T. B. SKINNER.

Washington, April 1, 1842.

My eldest son has just commenced farming, and the first present I made him was the very useful little manual, "The Farmer's Land Measurer," as a "Pocket Companion." It is my opinion that every farmer when at home—as every farmer ought to be at this season—should carry a copy of it in his pocket. J. S. SKINNER.

Washington, May 3, 1842.

We consider the book a good one—an excellent one, as being both practicable and useful in its applications; and being influenced by a proper sense of its intrinsic worth, we advise every farmer and planter to buy a copy.—*American Farmer*.

Published by Thomas, Cowperthwait, & Co., Philad. Sold by D. O. Prouty, Market street; Kimber & Sharpless, and office of the Cabinet, 50 north 4th street, Philadelphia; George Reynolds, seedsman, Wilmington, Delaware; and F. Taylor, bookseller, Washington, D.C. Price 50 cts.

Notices.

"A FARMER" will find his inquiry for the best machinery for the purpose of crushing and pressing the corn-stalk in the manufacture of sugar, fully answered in Mr. Webb's essay, at p. 307 of the present number.

"P. J.'s" letter of inquiries would have been more welcome, had he not forgotten to pay postage; as it is, however, we shall perform our duty by informing him, the Bull which was exhibited at the Philadelphia Agricultural monthly meeting, on Wednesday, is the property of Dr. George Uhler, Kensington; his age, 3 years; sire, COLOSTRA; dam, imported CATO; name, Sam Slick; weight, 1932 lbs.; took the first premium at the Philadelphia Agricultural Exhibition in the year 1840. The price may be known by addressing a line, *post paid*, to the owner.

The quantity of rain which fell during the 4th month (April), 1842, was 5.3 inches. Pennsylvania Hospital, 5th mo. 1, 1842.

THE FARMERS' CABINET,

IS PUBLISHED BY

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THE FARMERS' CABINET, AND AMERICAN HERD-BOOK,

DEVOTED TO
AGRICULTURE, HORTICULTURE, AND RURAL AND DOMESTIC AFFAIRS.

"The Productions of the Earth will always be in proportion to the culture bestowed upon it."

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JOSIAH TATUM,

PROPRIETOR AND PUBLISHER,

No. 50 North Fourth Street,
PHILADELPHIA.

Price one dollar per year.—For conditions see last page.

For the Farmers' Cabinet.

Corn-Stalk Sugar.

MR. EDITOR,—I perceive by your last paper that J. M. C. has again called attention to the question of originality, which he raised in a former number respecting the plan I have proposed for making sugar from corn.

"Justice to himself," as he says, "requires such a course;" but this pursuit of an ignis-fatuus which he fancies to be justice, has led him a very unprofitable and troublesome race from one quagmire of mistake and misunderstanding, into another. Every succeeding step has only served to make "confusion worse confounded." After all his labour to prove that there is "nothing new in the proposed plan," he suddenly finds out that "Mr. Webb himself makes not the least pretension to discovery of any sort, or even of improvement in any of the processes, whether of growing the corn or extracting and concentrating its juices."

This curious inference offers another illustration of the wonderful power of mental vision possessed by J. M. C., which I have had occasion before to notice. He sees things entirely invisible to everybody else.

"Optics sharp it takes, I ween,
To see what is not to be seen."

People of ordinary penetration do not consider it necessary to argue against a claim until some pretension is made to it; but Mr. C. not only demolishes the claim (in his own estimation) but proves at the same time that no claim is made!

He next asserts that the processes detailed in the essay are extremely "defective when compared with late improvements which might well be termed discoveries in the art of sugar-making; coming properly under the head of *refining*." This is very true, they do come properly under the head of refining, and for that reason could not properly be introduced into the essay. Those who manu-

facture sugar on a large scale should doubtless use vacuum pans and evaporate by steam, but as I have done nothing in this way, nothing was said about it; preferring rather to write on matters upon which I had some practical acquaintance;—The display of mere theoretical knowledge being apt to lead into difficulty, a fact which it appears that Mr. C. is not aware of.

In the course of the investigation some experiments were made with different quantities of lime, in order to ascertain as nearly as possible what proportion of this substance would best answer the purpose. The result was that no certain rule could be given about it; the experience of the manufacturer is the only thing to be depended upon—the varying strength of the lime, and the uncertain qualities of the juice will make a difference of more than a hundred per cent. in the quantity required. Accordingly it was stated in the essay that one and sometimes two table-spoonsful of milk of lime were added to a gallon of corn juice, and that both quantities were successfully used. This was given as a simple matter of fact, yet it is considered by Mr. C. as showing a "want of all judgment," and as proof positive that the "principle of defecation was neither understood nor practised."

Mr. D. L. Child, who lately visited the beet-sugar establishments of Europe, states that of "forty-three manufacturers whose methods he had an opportunity of observing, no two ever used the same quantity of lime;" the smallest quantity was 150 grains, and the largest 300 grains to the gallon of juice. He also states that experienced manufacturers never weigh it, but judge by the eye. This is all "*antiquated*" information to those who know any thing about the manufacture of sugar, but it is given for Mr. C.'s especial benefit. This "loose" mode of doing business proves, according to his notion, their "want of all judgment," and that they neither "understand nor practise the true principle of defecation." Under such circumstances the success of these French manufacturers in making sugar must be, to *him*, a matter "not easily to be accounted for."

As to the "precise point of concentration," of which he talks so much, I can only say that the point recommended was the one

which succeeded best with me after trying several others, both higher and lower. A higher concentration would have been better were it not that the syrup contained some substance which prevented speedy granulation. After standing some time, this foreign matter was removed, probably by deposit, as the crystallization, though tardy, has generally been very complete. If Mr. C. (as he strongly insinuates) possesses any more definite knowledge on the subject, I should be glad to hear it, and hereby call upon him for the information, which he will see the propriety of giving over his signature in full.

Should the manufacture of sugar from corn become a business of importance (of which there can be no doubt) it may be interesting to know how it originated. The discovery that a larger quantity of saccharine matter might be procured from this plant, if it was prevented from bearing grain, was made by M. Pallas, in 1839, and by myself in 1840. It was equally original in both cases. This was the first step in the business, and it appeared at the time to be all that was necessary for success. But from experiments made on a small scale, it appeared that only 100 or 200 pounds of sugar could be procured from an acre, corroborating the result obtained by M. Pallas, who states that corn treated in this way "contains crystallizable sugar in quantity very often double that obtained when the plant is allowed to mature with the seed;" so that the only remuneration for sacrificing the grain, is an increased portion of sugar just equal to that which might have been procured had the ears been left untouched. There is no evidence that the investigation has ever proceeded beyond this point in France, the small yield having perhaps proved discouraging.

I have found that the quantity of sugar produced on a given space of ground, is in proportion to the number of stalks cultivated upon it, subject of course to certain limits. Knowledge of this fact is necessary before the first discovery can be applied to *any practical purpose*. This was plainly stated in the essay, but it would appear not "plain enough" for Mr. C.

The extracts published in the Cabinet contain no directions about the planting and cultivation;—those who undertake the business without some information on these points, will not succeed; and although the simplicity of the thing may be sufficient evidence to Mr. C. of its unimportance, it will be found that attention to it will make all the difference between success and failure.

The ridiculous story about the toddy-making Indians, has been shown to be *totally* unworthy of credit, which Mr. C. has admitted, yet he again brings it up, and appears deter-

mined to identify himself with his authority. This is a very unfortunate association for him; but as the Scotch proverb has it, "A wilfn' man maun hae his ain way." Opposition on this point being fruitless, it will not be attempted.

In conclusion, I would remark that I have no objection to criticism or discussion. When conducted in a proper spirit, they can lead to none but good results. The preservation of good-humour, however, is all-important, and should be particularly attended to. Whether Mr. C. has paid due regard to this, or whether he has not, your readers can determine. His first essay contained a charge of false pretensions, and in his last the accusation was reiterated. This course does not appear to me to be the one best calculated to foster friendly feelings, and lead to temperate discussion; I answer that the charge is not true; but Mr. C. may reply that this is also a false pretension, so that his *argument* on this point is impregnable. Cowper's consolation under such unanswerable attacks, shows true philosophy:

A moral, sensible, and well-bred man
Will not affront me, and no other can.

A charge against one's veracity it is impossible to answer in *words*, and for that reason there is an impropriety in making it. Let each one gain the best character he can by his *actions*, and in all discussions confine the dispute to matters which can be *settled* by words.

WM. WEBB.

Woodland, near Wilmington, Del., June 1st, 1842.

P. S. TO THE EDITOR—

Dear Sir,—I should be glad to offer you a welcome to Woodland, whenever other engagements will allow you to make the visit. We have not much to *show*, but perhaps there may be enough of something else to make it agreeable. Your knowledge and experience in this sugar business would be of the highest importance to me, and I would like very much to avail myself of them. I cannot close without saying a word about the "FARMERS' LAND MEASURER"—you have truly done the "State some service" in its publication. The careful cultivator will find it first *agreeable*, then *useful*, and at last *necessary* to the satisfactory carrying on of his business. If all who need the book will buy it, the demand will be very great. Respectfully yours,

WM. WEBB.

It will afford us real gratification to be of service to our interesting and amiable young friend; the readers of the Cabinet are much indebted to him for his articles on the exciting topic of which they treat. We hope he has a good breadth of corn under cultivation the present year, and that the season will prove propitious for the full development of the experiment. May perfect success attend his patriotic exertions, and a corresponding rich reward.

EDITOR.

For the Farmers' Cabinet.

The Dairy.

MR. EDITOR,—There is no one who loves to read “all about farming” better than I do, nor is any one more ready to admit, that for a single dollar a year spent in the subscription to an agricultural periodical, we may often derive information of the value of hundreds; but really, we now and then meet with strange accounts in the pages of some of these journals, when detailing their crops of beets, corn, potatoes, &c., and to which I would add *butter*, as I have at this time my attention turned to that item, by the perusal of an article in the “Central New York Farmer,” a work published at Rome, Oneida county, in which the writer, after acknowledging the enjoyment which he has experienced in the hospitality of Col. J. M. Sherwood, proceeds to describe the Colonel’s “choice lot of short-horns,” to which I am sure I have no objection, for I can readily believe that to one at all acquainted with, or interested in the breed of live stock, such an opportunity must have been a real treat. He particularizes the cow Daisy, as a great milker, from whom 17 lbs. of butter have been made per week; and remarks, that “this is evidence of her sustaining the character awarded to the Durhams in the London markets, of being the best *milkers* that can be had.” But this is a *butter* cow, and it by no means follows that she is, therefore, a great *milker*, for which peculiar property cows are preferred in the London dairies; nor are they preferred, even there, for their milking properties *alone*, another object being, to procure those animals which, after being milked for a season, will come earliest to the butcher, and return a considerable portion of the first purchase-money in the shape of beef, to which purpose they are uniformly devoted when they go dry, no dairyman, or more properly, milkman, ever thinking of rearing calves, even from his very best cows, the most valuable of them being devoted to the butcher, oftentimes without extra feeding—a circumstance perhaps not generally known to persons in this country. Now, without saying more than that 17 lbs. of butter per week is a very large quantity to be made from one cow, I would pass on to the writer’s interesting inquiry—“Why should the farmer stock his farm with inferior cows (!) from which he can realize only 8 or 10 pounds of butter per week, when by a *little* care and attention he might obtain those which would yield him double that quantity? Surely no good reason can be given; and yet it is extremely difficult to induce *farmers* to step out of their ordinary track to accomplish an improvement of such vital importance to their best interests.”

Upon this very singular passage I had intended to make some remarks, but it is so *outré* that I would merely ask the Editors of the Central New York Farmer—a work, by the bye, which bids fair to become one of our leading journals—if they can inform us what *trade* the writer of the above article happens to be? Certainly he is no farmer; and if it be added, he will never become one, it ought not to be deemed a harsh conclusion. It is in perfect keeping, when he says, “When our farmers have before them the evidence of their senses to convince them, they will, it is presumed, avail themselves of the opportunities offered; and but a short time will have elapsed before we shall witness an entire change in the appearance of the stock in that section of country.” He adds: “We were very much gratified with our visit, and we hope ere long to renew it,” in which hope I cordially join, as it will afford him a little experience in the matter, of which he seems to stand wofully in need.

Now, I live in a dairy country, and yet I have never seen a cow that would give 17 lbs. of butter a week, let alone 20; though, to be sure, an extra 3 pounds per week, after once the Rubicon is passed, would not be a very great matter! No, mine are all inferior cows—mere 8 and 10 pounders—and so are my neighbours’; but we only want “the evidence of our own senses to convince us;” when it is *presumed* we shall be glad to avail ourselves of any opportunity that may offer, for working an entire change in our circumstances, although in the opinion of the above writer, it is extremely difficult to induce *farmers* to step out of their ordinary track to accomplish any improvement of vital importance to their own interests. This state of things is no doubt sincerely deplored by our friends of the quill; but I hardly know how to render farmers less obtuse and obdurate, unless they would set to work and fabricate a number of these *CREAMERS*, and exhibit to our sober senses their ability to make 18 or 20 pounds of butter per week;—then, I guess they would not lie long on hand, difficult as it is to induce *farmers* to step out of their ordinary jog-trot to accomplish any improvement, be it even to their vital interest to do so. There is a little *jeu d’esprit*, on the way in which matters are sometimes dished up for the farmers, at p. 34 of the 5th vol. of the Cabinet, which is worth re-perusing; and with its closing remark I shall conclude.

“Seriously, we have too much of this sort of trash mixed up in our agricultural reading; it might be amusing to others, but to practical men it is anything but interesting, and often operates as an antidote to matter of much more importance, when met in conjunction with it.”

May 29, 1842.

JACOB LIST.

For the Farmers' Cabinet.

Happiness.

EVERY employment, calling, or pursuit, that the mind can suggest, is tried in the search after happiness. It seems to be almost an universal opinion, that whoever has least care, trouble and sorrow, and enjoys most the blessings of health and contentment, with a reasonable share of the smiles of fortune, enjoys most *happiness*. But in what employment or profession shall we look for all these blessings? Not in the mercantile life, where, oftentimes, our destinies hang by a single thread; not in the busy whirl of politics, where all is commotion and confusion; not in the employment of a soldier, dealing in the lives of his fellow-men. No—but we may find them among the cultivators of the soil; with him who is neither dependent on the charities of his fellow-men, nor harassed with the care of immense possessions; who neither bows to riches, nor spurns honest and virtuous poverty.

The cultivation of the soil is a noble employment! The farmer may be called God's nobleman, for he labours in his vineyard and enjoys from him peculiar blessings. A glorious independence is his; he is happy in making the living things that are under his dominion happy; he walks over his verdant and grassy meadows, and inhales the fresh breeze laden with the perfume of flowers, and is greeted on every side by the kind and cheerful looks of his domestic animals: even the feathered songsters of the grove, accustomed to his presence, regale him with their sweetest melody, and scarcely hop out of his path as he passes along. The scenes that are ever before him are calculated to lead him to the contemplation of that "Source divine whence all his blessings flow."

The nursery of greatness is in the hills and valleys; from them many of our most eminent bards, divines and statesmen, have sprung, and of these we have numerous examples, both in ancient times and in the present day. Agriculture was a favourite employment amongst the Romans, Grecians, and Egyptians. Cincinnatus was called from his plough to rule over a rebellious people, and after restoring their turbulent spirits to peace, and creating harmony amongst them, he again returned to his plough. Franklin, although not a practical farmer, yet delighted in agriculture, and mankind owe him a great debt for his valuable improvements in the science. But the brightest example is WASHINGTON! He was not only a theoretical, but also a practical farmer. We are told that he delighted to see his wheat-crowned fields waving in golden ridges before the wanton breeze, and gaze upon his verdant hills and

meadows spotted with flocks and herds; and that whenever opportunity offered, he would retire from the turmoils of war, or the busy affairs of state, to seek repose upon his beloved farm.

Agriculturists are the pillars on which the nation rests, and agriculture is the great source of individual and national prosperity: on it depends, in a great degree, both manufactures and commerce. The farmer may sit by his domestic hearth and listen to the shock in pecuniary affairs, and feel secure. Surrounded with plenty, he can smile upon them all; his farm is to him a little world; it supplies him with all the *necessaries* of life, and he wants no more. M.

Hillside, April 23, 1842.

The Evils of War.

THE physical evils of war defy calculation or estimate; but the climax of its mischiefs will be found in its *moral* results. Some of its evils are in its spirit of malice, its deeds of rapacity, its wrath, its revenge, and in unbridled lust! (See the horrors of this sort following the siege and capture of the city of Badajoz by Wellington.) War is steeped in malevolence, it reeks with pollution; it is a mass of sin, a system of gigantic wholesale wickedness; it is a hotbed of the foulest, fiercest, deadliest passions; it teaches man to harm and to hate his fellow man; it makes the slaughter and destruction of mankind a science, a profession, a livelihood, a support, and a road to fame, wealth and power! The war system incorporates every vice, and excludes nearly every virtue. It is a concentration of nearly all crimes, injustice, fraud, theft, robbery, violence, rapine, lust and murder. There is nowhere seen such a theatre of unmingled, unmitigated, outrageous cruelty and crime as a field of battle, if we except therefrom the exhibit of a city taken by storm, and given up by the conquerors to be sacked, devastated, and its inhabitants abandoned to massacre and ruthless, relentless destruction. War debases the intellect by engaging it in the pursuit of a very large proportion of the evils wherewith mankind can be afflicted; it scars the conscience, it steels the heart, it brutalizes the soul!—It is one vast laboratory of mischief. It blunts the whole of the spiritual feelings; it destroys every sound sentiment of religion; it withdraws multitudes from all thought of their Creator and their God; it sinks them into the lowest pits of sin: in a word, it is in every form and aspect, in all its details, totally opposed to the Christian religion, the divine life, the doctrines of the gospel, the life and example of the Saviour, and the commands of the Almighty.—Ledger.

For the Farmers' Cabinet.

Oxen in Harness.

MR. EDITOR.—Is there any reason why oxen should not be made to work in harness as well as in yokes? I have repeatedly asked this question, but have never yet met with a valid objection to the *innovation*, as it is termed, although much has been urged and strenuously insisted upon, on the ground that it would be found impracticable and impossible. I am not, however, convinced that it is so, but rather, I feel quite certain that the substitution of collars for yokes would be advantageous in every way, both to man and beast. The subject has of late been impressed upon my mind, by witnessing the extreme awkwardness of the adaptation of the yoke to the plough, as well as to several other labours to which the ox is devoted; but in which his motions and freedom of action are reduced almost to a piece of machinery, by the everlasting yoke upon his neck, oftentimes a weight of itself sufficient for a load for a single beast; and to which it is customary to add half a hundred weight of iron—merely, I presume, to ascertain how much the poor brutes can be made to bear up against. I was present a few days ago at a discussion of the subject, and would place the arguments for and against the yoke on record, so far as I can remember them.

C. I wonder why oxen cannot be used in collars as well as yokes?

D. Oh, they would not be found to do at all.

C. Did you ever see the trial made?

D. No, but I know it would never do.

C. Well, I have seen it tried, and it was found to do exceedingly well. I wonder who first thought of putting a yoke, the size of a tree, upon the poor animals' necks for them to push up against?

D. Don't you see it is an ordination of nature!—the hump of the neck being made on purpose to receive the pressure, like a natural pad.

C. Exactly the argument which is used by the inhabitants of the islands of the Hebrides, for hitching their horses to the plough by their tails! "What else," ask they, "is the tail made for? It is an *ordination of nature*; there can be no question about it." But I cannot see that nature or reason has anything to do with a practice so cruel and so bungling.

D. Oh, I have no doubt that upon trial it will be found the best and easiest method of fixing it; however, I have never seen or heard of any other until now.

C. At page 152 of the Cabinet, vol. 2, it is said, the French method—that of drawing from a board strapped across the forehead,

has been found far preferable to the yoke, the cattle being easily broke to the method; stepping out very light and free; and although sorely pressed by way of experiment on a broiling summer's day, they worked quite easily, in a labour that would have sorely distressed them if in yoke, each ox working separately.

D. But that is not in collar, as you recommend.

C. True, and is not near so complete; for there, too, each animal would be separate, after which it would enjoy the freedom of its head as well as its neck. Only think for a moment, of the weight of a broad, thick piece of wood, the length of the thickness of its carcase, the stuffing and strapping, besides the iron hooks for the traces to be hitched to, all hanging at the forehead of the poor beast, for ten hours a day!

D. Oh, they don't mind the yoke when they get used to it.

C. No more do eels mind skinning when they get used to it. But who told you they do not mind it? I guess that custom would never enable us to bear anything so frightfully painful, wearisome and inconvenient, as a yoke on our necks for so many hours without complaining, if we had the power to express ourselves.

D. Well, did you ever see oxen work in collars?

C. Repeatedly; a great many teams, both single and double, come daily into London from the surrounding country, and traverse the streets, both in carts and wagons, with the greatest ease and convenience, exhibiting all the tractability of the horse, and the same power of putting back the load and of going forward; with blind bridles, but without bits in their mouths, and collars, stuffed in a different manner from those of the horse; opening on the top and confined with a strap and buckle, and their feet shod with double shoes; in which state they are equal to horses in all but pace; as easily guided and in every way as convenient. And at plough, they are a thousand times more convenient in collars than in yokes; turning at the ends of the lands in half the time and with half the labour, and going through a day's work with half the exertion.

D. Well, I don't see the need of changing what has been in use for so many years.

C. Then, of course, you still adhere to the tinder-box and flint and steel, and have not "changed" them for a box of Lucifer matches.

D. Oh, but that change for the better was so apparent.

C. To me, not half so apparent as the change from the yoke to the collar, because, of so much more importance in the saving of expense and suffering.

D. But the yoke is so much cheaper than the collar and harness.

C. True, and I am willing that you should debit every crop which you raise by their means, with an extra two cents per acre — that being, I calculate, about the extra expense incurred, and which would cover it.

D. Then, it is so much more labour and trouble to gear up with the collars and harness than with the yoke, that I guess I shall go on as I am.

C. Yes, that is exactly the conclusion to which I expected we should arrive, for to that point have all the arguments that I have heard, come at last; and, but for the shame of it, it would no doubt form the first objection to the substitution of the collar for the yoke.

VIR.

Agricultural Production Impossible without Manure.

THE first care of a man, who devotes his capital in obtaining productions of the earth, is that the earth should have fecundity, that is to say, that it should be fit for the production of plants.

Plants, like animals, are beings who have life, who are possessed of organs and vessels, in which circulates a fluid, and which, aided by an appropriate nourishment, develop an organic mass, in a given time.

Of two kinds of earth, the most fruitful will be that, which in the same time will have produced the most considerable weight of organic mass, reduced to a dry state; and the production will be as much more advantageous to the cultivator, as it will be sought for, and of a higher price.

Plants, to accomplish their life, to arrive to the state of being organic, have absolutely need of manure, the result of the decomposition of other vegetable, or animal, organic matter spread upon the surface of the earth. An organic body can be born only of the elements of organic substances.

These matters, most generally of a vegetable nature, have been also of plants, and have owed being obtained, to cultivation; therefore it is truth to say, that to obtain of the earth productions of a certain weight, it is necessary, previously to dispose in its bosom the remains of other plants having had life also; and often it happens, that the weight of the matter to be converted into manure, ought to be equal to that of the plant to be obtained; in other terms, when one wishes to obtain from a field, which has no trace of manure, a production of given weight, it is necessary to carry and place in this field other organic matters, produced elsewhere, and of an equal weight; and if this obtained production is carried entirely out of the field and

sold, it will be necessary, if one wishes to obtain of it still a like production, to carry again into this field the same weight of organic matter obtained by cultivation upon another field.

All manure put into the earth ought to be in a state of humus, soluble in water, so that the juices of plants can seize upon it and appropriate it to themselves. Manure consists of all the elements of vegetable matter. As soon as it is soluble, the roots absorb it and communicate it to the interior organs of the plant which secretes it in the parts of which it has need to develop itself.

Thus the more a piece of land is mixed with soluble manure, the more it produces plants and vegetable qualifications; only the consumption of the manure is not the same.

There are plants, which, although imparting to the earth a part of their nourishment by the means of their roots sunk into the earth, appropriate to themselves also a great quantity of atmospheric substances by means of their leaves, their aerial roots, and have, besides, this great advantage, that even when they are carried out of the field, they have there still, by means of their stubble, and of their numerous fleshy roots, as much, and sometimes more, organic matter than they have consumed for their growth. If one leaves them in the field, and covers, as it sometimes happens, the entire body of the plant in the earth, they recover the juices that it has furnished, and will give more in equivalent richness of nutritive principles, than the hidden plants had drawn from the atmosphere.

It is owing to this admirable property of certain plants to produce more matter than they absorb of humus from the earth, that it is possible to maintain the fertility of a piece of ground in rendering to it only a part of that which it has produced, that is to say, in directing a portion to indemnify itself of its expense and trouble.

If plants live only by the humus spread upon the earth, we should be obliged to replace the production which we have not converted into manure, by a proportionate quantity of vegetables cultivated in another piece of land; and if it was thus, the strength of vegetation would diminish little by little, and the money consecrated to the cultivation of the soil would be lost.

Some plants, with large leaves, which do not appertain to the leguminous family, have some of their properties, those which deprive the soil of less of the humus than it contains, and impart more new humus by their remains, are those which possess these properties in the highest degree.

We can now divide the plants into four classes, with respect to the more or less in-

fluence which they have over the nutritive juices of the earth. First, those which exhaust much; second, those which exhaust the least; third, those which enrich much; fourth, those which enrich the least.

Plants which require much manure, occupying the earth more than a year sometimes, and not absolutely rendering anything to the soil for that which they have drawn from it, are eminently weakening.

Plants which have not all these effects, are weakening in a less degree. To the class the most weakening, belong hops, madder, hemp, poppy, flax, nursery plants, and colsa.

To the class of plants which weaken in a less degree, belong cabbages, turnips, red beets, potatoes, cereales of autumn, cereales of spring. Wheat weakens less than rye; barley weakens as much as rye; oats weaken as much as wheat, at an equal weight. But there is this difference between grain of autumn and that of spring, that the first, besides weakening, wastes the soil, as I shall have occasion to say hereafter.

Let us speak now of plants which weaken the earth, which absorb its nourishing juices, or which restore them to it; let us speak furthermore, of those which waste, or improve, the intimate composition of the earth. It is necessary to seize upon this distinction, between these two different effects, produced by the plants upon the soil. There are plants which weaken and waste the earth at the same time; others, on the contrary, which in weakening the soil of all its nourishing juices, improve its nature; others finally, which enrich and improve. We see that this augmentation, or diminution of the nourishing juices, is called augmentation or diminution of richness, and that the improvement or the waste of the nature of the soil is called augmentation or diminution of power.

Plants which are wholly covered, or which, having occupied the soil for many years, have enriched it by their remains, and by fertilizing substances, drawn from the atmosphere, are eminently enriching.

Plants are as much less enriching, as they have drawn less from the atmosphere as they have given to the earth a smaller quantity of their remains, consequently they are as much less enriching, as their vegetation would have been less leafy, less vigorous, less compact, and that one would have covered a smaller quantity.

To the class of plants the most enriching, belong, of the first rank, lucerne and sanfoin, well trimmed, which have lasted many years; it is necessary that they should have been broken before they had decayed; clover, well prospered, which one has planted in full growth; green turf, lupine, spergule, fitch, rape seed, bean, buckwheat, rye, covered.

To the class of plants which enrich in a less degree, belong the leguminous harvest, clover, peas, fitch, beans; enriching themselves only as much as they have been not only vigorous, but thick, which happens only in fields in a good state.—*Boston Cult.*

Barley.

BARLEY should be sown as early in spring as the ground can be well fitted for its reception. We have known it sown from April to June: but it may be observed, as a general rule, that on soils equally prepared, the early sown grain always gives the best samples. From the 1st to the 15th of May may be considered the usual time of sowing. It rarely suffers from spring frosts.

Any soil that will produce good roots, or clover, will grow barley. It should be rich and friable, moist, but not wet. Cold, heavy, tenacious soils are unfit for this crop. Stagnant water is destructive to it.

Barley succeeds best after hoed crops, potatoes, turnips, or corn, crops that require heavy manuring, and keep the ground clean. Manure, applied directly to this crop, is not advisable, as it gives too much straw, is apt to lodge it, and injures the berry. It is frequently sown on clover sward; and in all cases, the soil must be made fine for the reception of the seed.

Thin skinned, plump, and rather pale seed is to be selected. Soaking the seed in a weak solution of nitre, for twenty-four hours, has proved of great service. We use from two to two and a half bushels per acre. Poor soils require more seed than rich ones, as the plants do not tiller so much. In England, greater quantities of seed are used than here, from three to four bushels being the amount recommended.

Barley should never stand, before cutting, until it is *dead ripe*. When the ears drop and bend down to the stems, and lose their previous reddish cast, barley should be cut. The straw will now be of a yellow colour, and if allowed to stand longer, becomes brittle, the heads break off, and thus easily wastes. Cut early, the berry will be finer and of brighter colour than if allowed to stand longer.

Barley is a good food for any animal, but is generally grown for the purpose of making pork, for which it is only exceeded by corn. Barley, if fed to horses, should be ground, and fed with cut straw. If given them in the same manner and quantity as oats, it is apt to produce fever, a proof that its nutritive powers are great, and that some more bulky substance is required for the distention of the stomach.

To the Editor of the Farmers' Cabinet.

Change of Seed.

I WAS lately looking over the back volumes of the "Cabinet," when my attention was arrested by an article headed "Change of Soil a Change of Seed," vol. 5, page 336, signed J. M. Now, that a change of soil is a change of seed, or that it is requisite to change seed in order to insure a good crop, I must say, I am not yet altogether prepared to admit. J. M. asserts, that "the Foxite potato, which has been grown for many years in New Jersey, where the crop has for some time past suffered a regular diminution in quantity, is quite renovated by a removal to the neighbourhood of Spring Mill, Montgomery county, where it has uniformly yielded double the quantity of the Mercers." He also suggests the propriety of farmers changing their seed every year. Now, I believe the first Foxite potatoes were introduced in the neighbourhood of Philadelphia, by a gentleman near Camden, N. J., about the year 1812 or '13, and have been cultivated on the same farm every year since without a change of seed, and with a result very different from that stated by your correspondent: their superior quality is still maintained, their appearance greatly improved, and the crop increased about one half. I have cultivated both Foxites and Mercers, side by side, for many years, the Foxites uniformly yielding the heaviest crop. In the year 1838, my Foxites yielded a very large crop; the Mercers were a total failure: the Foxite seed was never changed; the Mercers have been changed repeatedly. One or two more facts, and I have done.

The late Joseph Cooper, of Camden, N. J., more than fifty years ago, cultivated a long green squash on his farm; and the same variety, I am told, has been ever since cultivated there, without any perceptible deterioration. The same may also be said of the "Cooper corn," which originated with him.

Q.

Gloucester Co., N. J., May 2, 1842.

Relative Weight of Grain and Cob of Indian-Corn.

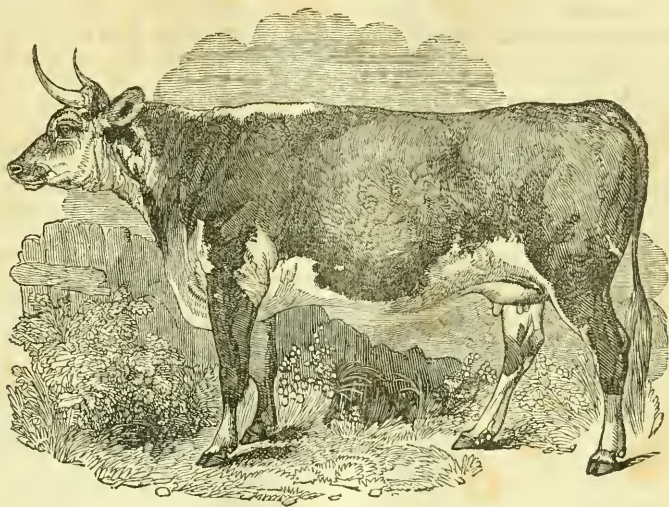
EDITOR Kentucky Farmer,—In looking over your interesting periodical, I sometimes meet with notices of fine ears of corn produced in our country. Now, in order to enable your readers to understand precisely how good they were, it seems to me that your correspondents should, in describing them, give us the exact weight of the corn both on the cob and when shelled, as this would afford a very certain standard. The length or girth of the ear, the number of rows or grains, are too uncertain measures by which to determine the excellence of an ear of Indian-corn.

A reflection of this kind led me while gathering my corn to make the following experiment:

On the 17th November last, without any very great care, I selected twelve of the most remarkable ears that were convenient to hand. The whole, being quite dry, weighed thirteen pounds good weight on the cob. The longest ear, measuring 13 inches in length, but only $5\frac{1}{4}$ inches in circumference, was the lightest of the twelve, and contained 742 grains. The shortest ear, measuring $8\frac{1}{2}$ inches in length and $8\frac{1}{4}$ inches in girth, had 22 rows and about 1100 grains—the greatest number of grains on any of the twelve—but the ear was much lighter than many others of the dozen. The heaviest and best ear of all, measured only 9 inches in length and $8\frac{1}{4}$ inches in girth, containing 18 rows and about 846 grains; it weighed 1 lb. $3\frac{1}{4}$ ozs. unshelled; the corn when shelled weighed $15\frac{1}{2}$ ozs. I did not consider this a very remarkable ear for size; but the experiment shows how much the eye may deceive us as to the relative value of an ear of corn. Among the dozen there was one ear, selected by several as being decidedly the finest and best; and certainly its appearance was prepossessing, being 12 inches long and $7\frac{1}{4}$ inches in circumference, containing only 14 rows and about 700 grains, which, however, were very large, wide and full. This ear was the second in weight—mark that—weighing 1 lb. 3 ozs.; the corn it shelled weighed $14\frac{1}{4}$ ozs., having a much heavier cob than its successful competitor. The description of corn is the white flint, and considering that the past season was not the best for corn, I think mine tolerably good. The above experiment has suggested to my mind an important improvement that I think may be made in corn. I intend to try it, and if I succeed, will in due time inform you as to the result.

JNO. ALLEN GANO.

ANIMAL MATTER AND PEAT.—"There are other sources of alkali, for converting peat into soluble matter. Of these the chief is animal matter. Here we have ammonia produced. It has been actually proved by experiment, that a dead horse can convert 20 tons (or cubic yards) of peat into a valuable manure, richer and more lasting than stable dung;—"a barrel of alewives is equal to a wagon load of peat." The next great and prolific source of ammonia is urine. The urine of one cow for a winter, mixed up as it is daily collected, with peat, is sufficient to manure half an acre of land with 20 loads of manure of the best quality, while her solid evacuations and litter, for the same period, afford only 17 loads, whose value is only about one half that of the former."—Dana.



THE HEREFORDSHIRE COW.

THE above is the portrait of a beautiful cow, the property of the Earl of Egremont. The Hereford cow is comparatively small and delicate; she is very light in flesh when in common condition, and beyond that state, while in breeding, she is never suffered to proceed; but when she is up for fattening, she spreads out and accumulates fat at a most extraordinary rate. The Herefords fatten to a much greater weight than the Devons, the cows weighing from 1000 to 1400 lbs. the four quarters. A cow belonging to the Duke of Bedford weighed more than this; but they are far worse milkers than the Devons; and this is so generally acknowledged, that while there are many dairies of Devons in many parts of the country (none of which are however very profitable to their owners), a dairy of Herefords is rarely to be found; but to compensate for this, they are kindly feeders and their meat is finely grained and beautifully marbled, and few cattle are more highly prized in the market. In the choice of a cow, the breeder does not value or select her, or breed from her, for her milking properties or the price which the grazier would give for her, but in proportion as she possesses that general form, which experience has taught him will render her likely to produce a capital ox; hence, she is often small, and, what some would be apt to call her, ill-made, but her purchaser has been taught by experience, that when a cow, although somewhat roomy, is too large and masculine, she is apt to bring an ox that will prove brawny and coarse, and sluggish at work; as also, unkind and slow in the process of fattening; and these are objections which, most of all, he would be unwilling to encounter. The cow is, therefore, often somewhat undersized; but it not unfrequently happens that she produces an ox that is three times her size and weight. Thus, the dairy has been comparatively neglected in Hereford, for experience has proved, that the breeding qualities of a cow are materially lessened, and even her form is deteriorated, by her being inclined to give a large quantity of milk. The Hereford breeder has never entertained the idea that the properties of milk and beef could be united in the same race; he has long been convinced that they are incompatible, although individual instances to the contrary might sometimes be cited; and is therefore satisfied with the distinction of rearing one of the finest breeds of beef cattle in England, leaving to other counties the triumphs of the dairy, whether that be in the production of butter or cheese.

The hide of the Hereford is considerably thicker than that of the Devon; they are shorter in the leg, and also in the carcass; higher and broader and heavier in the chine; rounder and wider across the hips, and better covered with fat; the thigh fuller and more muscular, and the shoulders larger and coarser. They are both excellent breeds, and the prejudices of the Devonshire and Herefordshire farmers for their peculiar breed being set aside, a cross of the one would often materially improve the other; the Devon acquiring bulk and hardihood, the Hereford a finer form and greater activity. The Michaelmas cattle fair at Hereford is not exceeded by any show of beasts in good condition in England; they are sold to the graziers expressly for the London market.

Culture of the Peach.

THE most extensive peach orchard which has come to my knowledge, is that belonging to Messrs. Isaac Reeve and Jacob Ridgway, of Philadelphia. It is situated forty-five miles below the city, on the river Delaware, at Delaware city, and contains 200 acres of trees, in different stages of growth. In 1839, they gathered from this orchard 18,000 bushels of first rate fruit from 170 acres of trees, whereof only 50 acres were then in full bearing. When the fruit has attained the size of a small musket-ball, it is thinned. One of those gentlemen informed me, that of that small size, they had gathered in that year, 700 bushels, by measure, of the immature fruit. By this judicious management, while the amount of fruit was but little diminished, either in weight or measure—its size and beauty were thus greatly improved, so that their fruit was the handsomest in the Philadelphia market, and during the best of the season much of it was sold at from \$4 50 to \$6 the basket of three pecks in measure. Since that period, they have increased their orchards, which now comprise 300 acres. Their trees are usually transplanted at a year's growth from the bud; they usually produce a full crop of fruit in the fourth year after being transplanted, and from some of their trees two bushels of fruit have been gathered in a single year. They prefer a dry soil, light and friable, on a foundation of clay, or gravelly clay; a good, but not a very rich soil. Like all other cultivators, the whole land is always kept in cultivation. For the first two or three years, corn is raised in the orchard, but afterwards the trees are permitted to occupy the whole ground, nothing being suffered to grow beneath their shade, as this would rob the fruit of its nourishment. In Delaware, where the climate is warm, and the soil good, twenty feet asunder is the suitable distance recommended for the tree; while on the eastern or Atlantic side of New Jersey, sixteen or seventeen feet is deemed sufficient by some of their most experienced cultivators on good soils; while farther north, or on poorer soils, a less distance will suffice. Even ten feet asunder answers well in the latitude of Boston.

The blossoms of the peach trees, as well as those of the cherry, are sometimes liable to be cut off by winter, or by spring frosts, which occur after the sap has arisen; the danger in this case being caused by the occurrence of very warm weather, either during an open winter, or during the progress of a very early spring, which causes the tree to advance prematurely. Those trees being more especially exposed which are in warm and sunny situations, while those trees which are situated on the north sides of hills, the

most exposed to cold winds, and on the north sides of fences and of buildings, almost invariably escape. In Switzerland, it has been stated that a mound of earth is sometimes placed over the roots of trees in autumn, as a protection from winter frost, which is removed in spring. Completely to protect the tree, and to insure a crop of fruit in all situations and seasons, let the surface of the earth beneath the tree be covered to the depth of eight or twelve inches, either with leaves, or coarse, strawy manure, or with coarse hay in January and February, and when hard frozen. This will preserve the ground in a frozen state, and effectually retard the advancement of the tree till the danger is past, and to a late period in spring.

The peach flourishes and ripens well its fruit usually wherever and as far north as the Indian-corn or maize will produce a certain crop. But by attending to the above directions, we are persuaded that it will succeed and flourish, producing fruit perfect and mature, and abundantly even still farther north. It is eminently deserving of trial.—*Kenrick New Am. Orchardist.*

To the Editor of the Farmers' Cabinet.

The Olive Tree.

ESTEEMED FRIEND,—I do not know that this tree has ever been introduced into any part of the United States, but I consider the cultivation of it in the Southern States of far more value than the *morus multicaulus* in the Middle States. As an article of food, the olive oil is considered preferable to animal fat; but it ought always to be mild, fresh, and of a sweet taste. And having in my hands the following excellent observations upon the culture of this tree, addressed by Thomas Jefferson, in 1787, to the Agricultural Society of Charleston, South Carolina, I make an extract therefrom for the pages of the Cabinet. If worthy, please insert, and oblige

A SUBSCRIBER.

“The olive is a tree the least known in America, and yet the most worthy of being known. Of all the gifts of heaven to man, it is *next* to the most precious, if not the *most* precious. Perhaps it may claim a preference even to bread, because there is such an infinitude of vegetables, which it renders a proper and comfortable nourishment. In passing the Alps at the Colde Tende, where they are mere masses of rock, wherever there happens to be a little soil, there are a number of olive trees, and a village supported by them. Take away these trees, and the same ground in corn would not support a single family. A pound of oil, which can be bought for 3*d* or 4*d* sterling, is equivalent to many pounds of

flesh, by the quantity of vegetables it will prepare, and render fit and comfortable food. Without this tree, the county of Provence and territory of Genoa would not support one half, perhaps not one-third, of their present inhabitants. The nature of the soil is of little consequence if it be dry. The trees are planted from 15 to 20 feet apart, and when tolerably good, will yield 15 to 20 lbs. of oil yearly, one with another; but there are trees which yield much more. They begin to render good crops at 20 years old, and last until killed by cold, which will happen at some time or other, even in their best positions, in France; but they put out again from their roots. In Italy, I am told, they have trees 200 years old. They afford an easy employment, and require so little nourishment, that if the soil be fit for any other production, it may be cultivated among the olive trees without injuring them. The northern limits of this tree are the mountains of Cevennes, from about the meridian of Carcassonne to the Rhone: from thence to the Alps and Appenines, as far as Genoa, I know, and how much farther I am not informed. The shelter of these mountains may be considered as equivalent to a degree and a half of latitude, at least, because, westward of the commencement of the Cevennes, there are no olive trees in $43\frac{1}{2}^{\circ}$ or even in 43° of latitude, whereas we find them now on the Rhone at Pierrelette in $44\frac{1}{2}^{\circ}$, and formerly they were at Tains above the mouth of the Isere in 45° , sheltered by the near approach of Cevennes and Alps, which only leave there a passage for the Rhone. Whether such a shelter exists or not in the southern states, I know not; but this we may say, that either it exists or is not necessary there, because we know they produce the orange in open air, and wherever the orange will stand at all, experience shows the olive will stand well, and be a much hardier tree. Notwithstanding the great quantity of oil made in France, they have not enough for their own consumption, and therefore import from other countries. This is an article that will always keep pace with its productions. Raise it, and it begets its own demand. Little is carried to America, because Europe has it not to spare; we therefore have not learnt the use of it. But cover the Southern States with it, and every man will become a consumer of it within whose reach it can be brought in point of price. If the memory of those persons be held in great respect in the Southern States who introduced there the culture of rice, what obligation would be due to him who should introduce the olive tree and set the example of its culture! Having myself been an eye-witness to the blessings which this tree sheds on the poor, I never had my wishes so kindled for

the introduction of any article of new culture into our own country. South Carolina, and those states south of Carolina, appear to me to be the states wherein its success, in favoured positions at least, could not be doubted; and I flatter myself it would come within the views of the Society for the encouragement of Agriculture, to begin the experiments which are to prove its practicability. Carcassonne is the place from which the plants may be most certainly and cheaply obtained; they can be sent from thence by water to Bordeaux, where they may be embarked on vessels bound for the Southern States."

A Princely Establishment.

THERE is, probably, not so splendid a country estate in America, as that described in the following article from the Farmer's Visitor. It is situated at Watertown, seven miles from Boston, and belongs to J. P. Cushing, Esq.

"Mr. Cushing's garden is a most enchanting and delightful spot; it is the same spot, two and a half miles south of West Cambridge centre, upon the heights of Watertown, which, half a century ago, was the farm and residence of the late Col. Bond. All the varieties of vegetable cultivation, shrubs, trees, fruits and flowers, of all the various climates, may here be found. Tropical trees and fruits, oranges and lemons, figs and dates, pine apples, the coffee and tea plant, the cinnamon and the alspice—indeed, many more than we know how to name, much less to describe—may be found here. The establishment of this garden alone must be kept up at an annual cost, appalling to the purse of the most wealthy men of the country; thrown upon the hands of the man with an income of ten thousand a year, the cost of such an establishment as the garden, would make him shrink from the idea of fixing it among the permanent amusements of his life.

The farm of Mr. C., including the walks and lawns and splendid woodlands, together with the garden, covers about sixty acres: the whole is in a high state of cultivation. The quantity of hay upon the acre is immense. Fifteen hands were employed at hay making on the day of our visit; ten hands is the minimum number employed at all seasons upon the farm; and five men, the most if not all of them trained European gardeners, are kept constantly employed in the garden. Such of these as have families, find their domicile in a brick house of many apartments, forming the rear part of the wall which surrounds the garden. The garden consists of two or more acres, and in its centre is a splendid fountain and vase, from which we presume the whole may be watered at all times. The sides of the close brick walls

upon either hand, as well as the latticed fences on the margins of the various walls, were decorated with fruit trees, apricots, peaches, pears, &c., which had been taught to grow in the shape of an open fan, with the branches extended in those directions which would compel all the limbs to stand as the side of a panel, and thus enable the light and the sun to strike both the tree and its fruit directly upon the side of the wall. Although this position of the tree did not leave them to the freedom of nature, yet the gardeners informed us that these bore better and more fruit than when left in a natural position. Clusters of ripe grapes were hanging in this garden on the 12th of July; these were forced by means of artificial heat; but there were many early fruits, such as peaches and pears, that were nearly ripe.

Mr. C. is erecting, near the front of the garden, a brick dwelling-house, which will vie in expense and interior and exterior elegance and convenience, with any other house probably in the country. This house has already been three years in building and preparation; the work exhibits a perfection in material and arrangement greater than any structure we have ever before seen; it is supposed one, if not two years more, will be necessary to complete it.

Everything is done on Mr. Cushing's farm to gratify the taste—nothing is done with a view to making money. Mr. C. will consume everything raised upon his farm if he can. To make manure, he keeps some hundred and fifty hogs: finding no other practical use for the meat of these, his overseer was obliged, as we are informed, to send to the Boston market some eighteen or twenty fat hogs last fall. Mr. C. introduced from Europe the finest breed of cattle, and, with his characteristic benevolence, presents and places some of the best in positions most likely to propagate them. In his garden the workmen were employed in throwing from an engine a liquid preparation calculated to destroy the insects which were upon them, engaged in the work of destruction.

To do the farming and gardening justice, we ought to have spent a week in viewing the processes by which giant vegetation was procured, and the kind of treatment which every variety of thing coming from earth required. Our stop was short; we went into several of the unfinished apartments of his splendid house, and had a full view of the Boston State House and city from the balustrade in front; and we left the enchanting scene with regret. The intelligent neighbourhood of farmers around him will profit by the introduction of useful breeds of animals, and by every valuable experiment which he makes, at the same time, few of them will

envy his superior ability to farm and garden on an astonishing scale; and none of them will ever undertake to be his competitors in producing the rarities and curiosities of nature merely to gratify taste, and with no view to replenish the purse."

Recipes for Composts.

A Substitute for Soapboilers' Spent Ley.

—Take of—

" Fine, dry, snuffy peat	50 lbs.
Salt	½ bushel.
Ashes	1 "
Water	100 gallons.

Mix the ashes and peat well together, sprinkling with water to moisten a little: let the heap lay for a week. Dissolve the salt in the water, in a hogshead, and add to the brine the mixture of peat and ashes, stirring well the while. Let it be stirred occasionally for a week, and it will be fit for use. Apply it as spent ley, grounds and all. Both ashes and salt may be doubled and trebled, with advantage, if convenient. The mixture or ley must be used before it begins to putrefy: this occurs in three or four weeks. It then evolves sulphuretted hydrogen gas, or the smell of gas of rotten eggs: this arises from the decomposition of the sulphates in the water and ashes, by the vegetable matter. A portion of the geine is thus deposited from the solution.

Salt, Lime and Peat—Take one bushel of salt—one cask of lime. Slack the lime with the brine made by dissolving the salt in water sufficient to make a stiff paste with the lime, which will be not quite sufficient to dissolve all the salt. Mix all the materials then well together, and let them remain together in a heap for 10 days, and then be well mixed with 3 cords of peat; shovel well over for about 6 weeks, and it will be fit for use. Here, then, are produced 3 cords of manure, for about the cost of \$2 10 per cord.

Salt	\$0.60
Lime	1.20
Peat	4.50

3) \$6.30 (\$2.10

From experiments made in a small way, it is believed that this will be found an effectual manure: the author suggests it, in the hope that it may lead to cautious experiment."—*Dana.*

A QUART of corn soaked in strong salt-petre liquor, and sown upon the surface of an acre of land at the time when the corn is coming out of the ground, or at the time the crows commence pulling it up, will serve as a sure protection against their interfering at all with the corn. I have practised it for 15 years, without ever knowing a hill of corn being touched by them after this.—*O. M. Whipple.*

For the Farmers' Cabinet.

The Carrot Culture.

MR. EDITOR,—I find in the last number of the Quarterly Journal of Agriculture, some very valuable remarks on the culture of the carrot, by Mr. James Brown, which are well deserving the notice of the cultivators of that root in this country. It has been sometimes objected, that the expense and labour attending a large crop of carrots are more than can be afforded, where the rate of farm-wages is so high; but the uniform testimony of all those who have persevered to the end, is in favour of clean, unremitted culture; while it is those only who have fainted in a race against the weeds, who have been satisfied that "the thing will not do here." It is readily granted that the trouble is great, but those who have gone through it, assure us, that after that point, to which all proceed—a sort of half-culture—when the weeds have made their last growth, and one more clearing will have broken the neck, as it is termed, of the labour, the trouble is comparatively slight, and the satisfaction great; while the value of the crop is generally much greater than almost any other that can be grown—(witness the account published by Mr. Gowen in the Cabinet, page 190 of the 5th volume)—and always commanding a ready sale. In the culture of the carrot, the use of the sub-soil plough will no doubt be found of infinite importance.

Mr. Brown says: "It is well known that the carrot is very apt to be injured, and often entirely destroyed while young, by small worms eating the roots, particularly when grown in a soil having long been under cultivation, as gardens generally are, and full of manure. As my principal intention is, to give a system of culture by which the carrot may be grown quite free from this injury, I will give a course by which, according to my own experience, this might be effected. At Mount Melville, where I served my term of apprenticeship to gardening, the garden was quite new, and had lately been levelled, trenched and drained; that part devoted to the culture of the carrot having been removed to the depth of two feet; here the crop attained a perfection which none of those raised in the old neighbouring gardens ever reached; and on mentioning the circumstances to the gardener, he remarked—"All the surrounding gardens have long been under cultivation; and I am satisfied that ground that has been saturated with manure, is not in a proper state for the perfect growth of the carrot. Now, our garden has been under pasture for fifty years, during which time those gardens have been under a constant course of cropping, which has unavoidably required the continual

application of large quantities of manure to renovate and stimulate the soil; thus the land has become foul or sick; for along with the dung used in garden cropping, insects in every stage of their being, and particularly in their egg state, enter, and consequently are dug into the soil; and when these are brought to life, they attack the young roots of plants which grow in the soil, particularly the carrot, as it is of a sweet, fleshy and soft nature, without an outer skin sufficiently hard to repel their attacks. Our garden has not yet undergone those repeated manurings, and is therefore clean ground, or more properly, it is not yet adulterated with foreign particles not natural to the soil, and that, I consider, is the reason why our carrots are better than our neighbours'." I was struck with the rationality of the theory, and was determined to put it to the test of experience the first opportunity, which soon offered, by my taking the care of the gardens of Henry Dunlop, Esq., of Craighton. Here, I inquired if they had good crops of carrots in the garden? and was informed they were uniformly bad—the garden being an old one afforded me an opportunity, which I embraced by preparing the land according to the method I had in view. But before I enter into detail I would say, I had always observed that the vermin which attacked the carrot were, for the most part, near the surface of the ground; and upon examination, I ascertained that very few of the living insects were to be found deeper than eight inches below it; I therefore concluded, that the eggs of the insects required the influence of both air and sun to bring them into life, although there is no doubt they lie dormant at a greater depth perhaps for years, requiring only to be brought within the influence of the sun and air to insure their vitality. I therefore concluded, that the common mode of trenching the soil for carrots was useless, because the insects, although buried in the act of trenching, had still the power of bringing themselves to the surface, as nothing but the open soil was above them. Now, the end I had in view was, to trench the ground so as that the upper stratum should be so buried in the bottom of the trench as to have no connection with the newer portion of the soil placed above it, and thus I effected it.

The soil was rather stiff; my first operation therefore, was to drain it, after which I commenced trenching in the following manner. I took out an opening along one end of the piece, wheeling the earth to the opposite end for the purpose of finishing, the opening being three feet wide and two feet deep; I then marked off another trench of the same breadth with the first, and parallel to it, and dug up the top spit of the second trench and cast it into the bottom of the first opening,

and at the same time shovelled clean up the loose earth left behind the spade, and threw that on it. This I levelled in the bottom of the trench, and trod hard with my feet, making it firm and compact; and thus I had the whole body of the soil in which were the living insects with their eggs, &c., firmly fixed in the bottom of the trench, and not likely again to be disturbed by after work on the surface. On this layer of earth, trodden as firm as a barn floor, I wheeled in a compound previously prepared, consisting of two-thirds lime and one of sand, one inch thick, and upon this I turned over the remainder of the trench to the depth of two feet; and in the same manner, went over the whole piece, always putting in the compost above the trodden earth in the bottom of the trench; and finishing by scattering over the surface about three-quarters of an inch in thickness of the above compost, and digging it lightly in, thus to lie exposed to the frost of the winter, repeatedly digging and presenting a new surface to the weather when opportunity served. In the month of April, I slightly dug the surface, and drew the drills 18 inches apart and an inch deep, sowing the seed of the Altringham variety of the carrot pretty thick, and finishing by a slight rolling. When the plants were three inches in height, I thinned them to four inches apart in the rows, choosing a damp day for the purpose—a necessary precaution, as I have known whole crops destroyed by thinning in dry, hot weather; the ground being left open about their slender roots, the heat dried them up and caused their death in a very short time: if this work can be performed during a gentle rain, so much the better. The crop of carrots grew rapidly after this operation, and at the end of October, presented an appearance not equalled in that part of the country; no mark of worm or rust upon them: they were acknowledged to be the best that had ever been grown in the same garden during my employer's lifetime.

C. W.

Absorbent Effects of Lime.

LIME possesses other properties besides that of neutralizing acids; one of the most remarkable being its power to absorb putrescent manures, and to hold the fertilizing essence until it is wanted by the crop through every vicissitude of the seasons, and through indefinite periods of time—there it is, locked up, and nothing at common temperatures but the energy of a growing plant can unlock it. Lime is styled the basis of all good husbandry; it stores up the manure that is not immediately wanted for future use, and thus becomes a kind of *save-all*. When the supplies from the barn-yard are spread and

ploughed into a soil that is nearly destitute of lime, the growing crop catches only a part of its virtue, a large portion escaping, and but little will be left for the benefit of succeeding crops. Lime fixes the volatile substance, and parts with it gradually, and in the proportion as well as at the time it is most needed. Unwholesome and villanous smells are absorbed by lime; and some places, and even extensive districts of country, once remarkable for insalubrity, have been changed in their character by liming around them, and thus nuisances are converted into manures. A striking illustration of this principle is thus recorded in Ruffin's invaluable essay on calcareous manures. The carcase of a cow was laid on the ground and covered with 25 bushels of broken shells mixed with 45 bushels of earth; the process of putrefaction was slow, and several weeks passed before it was over; nor was it ever so violent as to throw off any effluvia that the earth, rendered calcareous by the shells, did not intercept in its escape, so that no offensive smell was ever perceived to arise from the decomposing mass, which, in a few months was turned over and carried abroad, furnishing a dressing sufficient for the sixth part of an acre of wheat, the effects produced far exceeding that of other calcareous manure applied at the same time on the surrounding land. But the farmer must not suppose that calcareous earth enriches a soil by *direct* means; it destroys the worst foe to productiveness, *acidity*, and uses to the greatest advantage the fertilizing powers of other manures—being the strong box for the treasure, rather than the treasure itself.—*Thomas's Address.*

Protection of Corn against Crows.

THE best *scare-crows* we have ever used, were bright sheets of *tin* suspended from poles by wires—the poles of sufficient height, and in sufficient numbers to be seen all over the field. Four or six, if judiciously placed, will effectually answer for a field of 50 acres. Our mode of fixing them was this: we cut a pole of sufficient height; trimmed off all the limbs but the upper one; to the end of this limb we attached, by a strong flexible wire, a sheet of tin, and planted the pole thus provided, firmly in the ground, on the destined spot. The limb left at the top, should project horizontally far enough to allow full play to the tin. Thus attached, the slightest breeze gives motion to the tin, and consequently causes a reflection so sudden as to effectually frighten off crows, or other birds addicted to picking up the corn. Three years' successful use of such scare-crows, justify us in recommending them to our brethren.—*American Farmer.*

For the Farmers' Cabinet.

Removal of Weeds from the Soil.

MR. EDITOR,—In the Farmers' Register for April, I find some well-written remarks by the Rev. J. H. Turner, in reply to inquiries and strictures addressed to him by an anonymous writer over the signature of "A Young Farmer," one of which has surprised me not a little. That such a question should be asked by any *but* a farmer, would be sufficient to call forth a degree of astonishment—that such a question *has* been asked, even by a *young* farmer, adds greatly to that feeling; but that such a question could be permitted to have weight sufficient to call forth such an *answer*, from such a man as Mr. Turner, is the most surprising thing of all! The question asked is—"Is not the practice of removing the weeds injurious to the land from which they are taken?" and the answer, no less remarkable and strange, is—"This is very generally considered to be the fact"! And although the writer adds, "but after looking at the subject in all its bearings, I am decidedly of a different opinion," he goes on to say, "I do not pretend that the removal of a weed or anything else from the land, can benefit the spot on which it grew." Indeed!—then I have been taught in a strange school, for I have been made to believe that no good husbandman will ever permit anything to grow on his land, save what he plants in it; and that a strong weed growing in a crop of drilled wheat has been known to draw away a great portion of the nourishment from six of the adjoining plants; thus rendering the produce inferior, both in quality and quantity; while Mr. Coke—Lord Leicester—after eighty years of the most successful farming, must indeed be very ignorant, when he conceives that his success depends entirely upon his careful cultivation and the eradication of weeds; and how great must be that ignorance, when we find him, at his grand annual sheep-shearing feast, offering a reward to any one who shall find a weed growing on a thousand acres! his turnip crop consisting of 700 acres annually.

Mr. Turner, in advocating the mowing of weeds after harvest for the purpose of furnishing litter for the manufacture of manure, seems to have only this one end in view, for he says, "But what do we accomplish by it (the mowing of the weeds)? We produce a convenient material by which we can keep our stables and hog-pens clean and healthy; making the richest and best manure; then, it cleanses the field; and at the next harvest, instead of battering the scythes against hard, dry weeds, there is a beautiful clean surface to cut over; labour therefore is saved, and the crop secured is cleaner and in better condi-

tion." But not a word does he say as to the exhausting character of these weeds, by which the land must have been drained of *half* its powers of nutrition—that being the proportion of the weeds to the crop of grain, &c., sown, when the owner does not consider that their presence is exhausting! Shades of Jethro Tull, and the thousand other successful cultivators of the soil, who have been labouring for so many years to convince us both by precept and example that the eradication of weeds is necessary to the well-being of the crop that is cultivated, even at the severest cost of labour and expense, how would you be surprised and astonished to find that there is a spot on the globe—in Virginia—where one of the most prominent of her cultivators cannot pretend to say that the removal of a weed or anything else from the land, can benefit the spot on which it grew! Ye who have contended that the most sterile soil could be rendered rich merely by pulverization, if no plants were to be permitted to grow upon it; and that weeds are more uniformly exhausting, than any artificial crop that can be planted, particularly when they begin to perfect their seeds, as they all do at the time of harvest! But, certainly the advocate of the non-exhausting character of weeds has hit upon a very easy mode of farming, which might be expedient for that section of country from which he hails; it is, however, with feelings of pride and thankfulness that I add, such a course of cultivation "would not do in these parts," where men are content to earn their bread by the sweat of their brows, and where an enclosure overgrown with weeds is considered a disgrace to its possessor; no one ever dreaming of asking the question, "Is not the practice of removing the weeds injurious to the land from which they are taken," any more than that the answer would be given, "I do not pretend, that the removal of a weed or *anything else* from the land, can benefit the spot from which they are taken"—a crude answer, it must be admitted, which if it do not bear the meaning I have attached to it, must mean nothing.

This is the first time that I have ever heard the growing of weeds advocated; I thought the most that could be said for them was, "What shall I do with my stock after harvest, if I mow the weeds in my grain stubbles?"—a question which was once asked, to which the reply given was, "grow useful green crops, that will not shed their pernicious seeds on the land to give you the labour of seven years' weeding." But we live in eventful days, which incline us to fear that the world is no *wiser* than it was centuries ago—the definition of wisdom being, "the right application of knowledge." W.

Eastern New York, May 21, 1842.

For the Farmers' Cabinet.

Compost Making.

MR. EDITOR,—At length it would appear that the making of compost is beginning to command attention; I see several experiments going forward around me, but what is more to the purpose, I have one in progress which I attend and watch with very great interest—it is, the mixing bank earth with lime, hot from the kiln, the earth being the opening of a deep cut through a marshy hollow, where it had lain for the past age and become covered with grass and weeds and tufts of herbage, &c., all which I turned down with the plough after covering them with a coat of lime, using the subsoil plough at the same time; and upon this, I have again thrown earth and lime in alternate layers, as directed at page 316 of the last number of the Cabinet, expecting to reap a rich harvest in return for my labour. And I now begin to perceive how the making of compost operates; it is, by the absorption of the gases, liberated by fermentation, which always takes place on bringing two substances into contact, be they never so dissimilar in their nature and properties, particularly when they are composed of *putrid matter*, whether animal or vegetable, that, being acidulous, is immediately neutralized by the alkali of the lime, and the gases friendly to vegetation, liberated by the process, are immediately absorbed by the earth in composition, in which state it is carried abroad on the land to be operated upon by the rain and dews, which carry the carbonic acid to the roots of the plants by its power of density. And I perceive that the bank of earth in question sends forth a smell, as has elsewhere been observed, somewhat like soap-boilers' ashes.

The absorbing quality of fresh-turned earth calls to notice a very wise ordination of nature; for were it not for this arrangement, the abodes in the vicinity of cemeteries would not be habitable to human beings; the exhalations arising from the decomposing bodies by which they are so thickly tenanted, would so contaminate the air as to breed a pestilence: a very slight covering of earth, however, is found all-sufficient for the purpose of absorbing all the malaria that is engendered, and teaches us at the same time the mode in which these putrid gases may be preserved to give life to a future generation—according to the “Gem” from Liebig—see page 336 of the 5th vol. of the Cabinet. In confirmation of this view of the subject, it is stated, that a garment which has been contaminated by the filth of a skunk, may be rendered perfectly inodorous in a short time, merely by burying it in fresh earth, so that the parts defiled come in immediate contact with it.

Here then is the *rationale* of the whole matter—the earth in our compost heaps absorbs the gases that arise on fermentation, fixing these that are friendly to vegetation, and permitting those of a contrary nature to pass off into the atmosphere, there to form other combinations, by which they might be prepared for other purposes! After this, may it not be expected that we shall carry our dung from the barn-yard during winter and deposit it in the fields where it will be required the next spring or autumn, turning it up and mixing it with muck or bank earth, in the proportion of one of the former to three or four of the latter, and thus add to our resources without the purchase in town of a commodity that we can better supply at home; remembering, the oftener it is turned, the more it is enriched by atmospherical and other influences, and rendered at last a bank of gold? I guess it might. P.

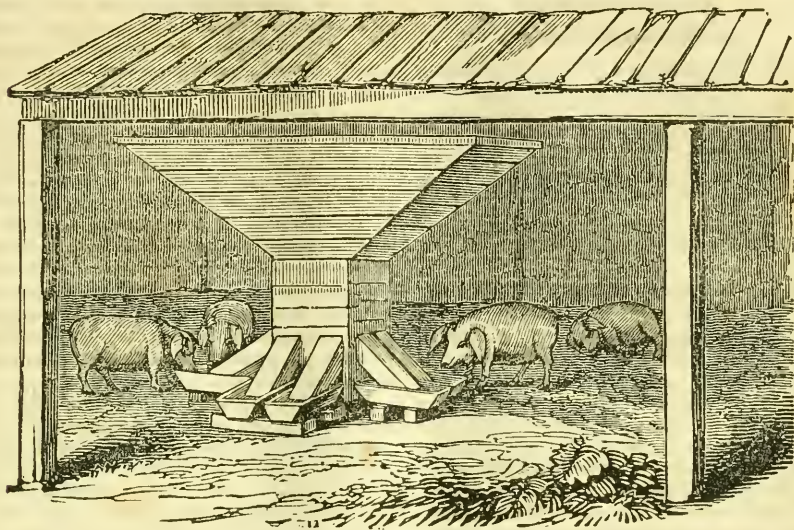
May 24, 1842.

Plaster.

PLASTER is a cheap and easily transported manure, and is applied with little trouble or cost. In many cases its good effects are very apparent, although on some soils it has but little effect; yet it is well for every one to try it and make experiments for himself. Sometimes the increase of crop from its use has paid four or five times the cost, and old pastures have been improved by it, so as to support twice the stock it had been accustomed to do; while in other cases it has had no perceptible effect; it would be well, therefore, to make the experiment cautiously until it is ascertained what are its real effects.

In the British American Cultivator, a farmer states, that on 12 acres of land that usually produced six tons of hay, by sowing four barrels of plaster in May, 1837, he cut from it the same season 15 tons. He had applied plaster every year since with great success, except the last, which was unfavourable to grass on all soils, in consequence of the drought. But he finds that plaster applied in the spring to any kind of *grain*, although it causes a good and quick growth, adds nothing to the crop at harvest, nor does it ripen so well and uniformly. He applies plaster to grass about the first of May, and considers a barrel sufficient for three acres of land.—*Far. Jour.*

CABBAGE CULTURE.—“Sixteen acres of cabbages planted on the farm of L. Wyckoff, in Bushwick, Kings county, produced 61,120 heads, which sold for \$2,434 77. The sod was turned over in the fall of the year and well worked in the spring, fifty cart loads of street manure being allowed per acre.”



THE FATTENING HOG-STY.

THE above representation of a hog-sty is taken from an old folio work on agriculture and husbandry ; it exhibits a mode of feeding hogs which ought never to have fallen into disuse. The only way in which it can be adopted is in feeding whole corn or grain, or that which has been coarsely broken and kept dry ; but as many persons are still in the habit of feeding whole grain in the most wasteful, loose, and inconvenient manner, the mode here pointed out will no doubt very much interest them. It embraces many excellent purposes, and should immediately be adopted on every farm where the feeding of whole or dry food is practised ; it is simple, cheap, convenient, and applicable to all situations.

In the first place, it takes little room in the erection ; is under shelter ; each hog has a trough to himself, in which he cannot place his feet while feeding, nor disturb his fellow ; the corn or grain is delivered into the trough no faster than the hog eats it ; it is never full to overflowing, or empty, while any grain remains in the hopper ; the grain is kept dry, clean and sweet, not being soiled by the feet of the animals or the moisture from their mouths ; and the feeder can apportion a given quantity of food to the hogs at the time of filling the hopper, by which he may ascertain, when that is emptied, how much per hog has been expended, keeping the account by scoring the date when, and the number of bushels placed therein, on the side of the hopper by means of a piece of chalk, with the satisfaction of knowing that each hog has had as much food as he chose, and that it has been administered at the time most suitable to his wants, and that no more has been fed than was required ; no dependence being needed to be placed on careless or interested servants, as likely to *over* as *under* feed ; the weakest hogs as certain of obtaining their fill as the strongest, it being only necessary for them to fall back while the stronger are feeding, their time coming after, and their share being as secure, sweet and plentiful, as that of any of them. A strong and tight cover to the hopper with a lock to it, saves the corn that way from depredators, whether rats, mice, fowls or men ; and at the time of slaughtering, the feeder is able to ascertain the number of bushels of grain that have been expended in the process of feeding ; and by placing the value against the weight of pork, he will see at a glance the cost per pound for fattening ; and this, without labour, loss or care, with a saving of much inconvenience and cost. The troughs for water should be placed outside the building, in the yard appropriated for exercise and the making manure ; thus the feeding-place, which is also the bed-place, will be kept dry and clean, a consideration of great importance, for it is an egregious error to suppose that fattening hogs delight to wallow in their own filth ; generally speaking, there is no cleaner animal than a fattening hog, or one that delights more in a comfortable, dry habitation.

From Jesse's Gleanings.

English Cottage Scenery.

"SWEET was the sound when oft, at evening's close,
Up yonder hill the village-murmur rose;
There as I pass'd, with careless steps and slow,
The mingling notes came soften'd from below;
The swain, responsive as the milk-maid sung,
The sober herd that low'd to meet their young,
The noisy geese that gabbled o'er the pool,
The playful children just let loose from school,
The watch-dog's noise, that bay'd the whispering wind,
And the loud laugh that spoke the vacant mind —
These, all in sweet confusion sought the shade,
And fill'd each pause the nightingale had made."

Goldsmith.

THERE is something unspeakably pleasing in rural sounds and rural objects; the noise of village boys playing at their various games, the cawing of rooks in a still evening, the distant tread of a horse, the sheep bells, and even the village clock, are all pleasant! I like to see the cows going to be milked, and inhale with satisfaction the fresh and fragrant perfume which one perceives as they pass by: those that have calves are always in advance, and show their impatience to reach their young by an occasional bellow and a short run, and then a sudden stop to listen whether they can hear the call of their calves; if they do, how eagerly do they advance to the gate of the farm-yard and show the utmost anxiety to have admittance! The clean, well-scoured milk-pails and churns are delightful objects; and while the process of milking is going forward in a well-littered farm-yard, the cows quietly chew the cud, and appear contented and happy. Those, however, which have been recently deprived of their young ones, show a reluctance to give down their milk, and many retain it, from a maternal feeling that their offspring may require it.

On a fine summer's day, we hear the tinkling of pans and shovels, to persuade a swarm of bees to settle in some cottage-garden, and are pleased with the whetting of the scythe in a neighbouring meadow; while the gobbling of the turkey, the peevish call of the guinea-fowl, and the cry of young pigs for their evening meal, are pleasing sounds to those who delight in the country. I love also, the village church—the peasant enters in his clean frock, smooths down his hair, says, or appears to say, a word in his hat, which he then carefully and deliberately hangs up, and then leans with crossed arms over the door of the pew until the service begins; and both before and after church, he may be seen standing with his back against the low wall of the church-yard, with the hand of a favourite child or grandchild in his, talking over the village news; and as the squire or clergyman pass, he touches his hat to them with respect and affection; and in the evening he may be seen with his cottage-door open, drinking tea with his wife and chil-

dren, and then sauntering about with them, picking flowers either in his garden or some village lane. The good old squire hobbles out of church, leaning on the arm of his daughter, and kindly inquiring after the welfare of all about him; he sends food and money to the sick and needy, makes up quarrels as a magistrate, maintains a well-ordered Sunday-school, and promotes the happiness of the villagers by every means in his power. If, on returning from church, he meets a smoking dinner going to a cottage, from the village bake-house, he generally slips a shilling into the hand of the bearer, as his quota in some charitable fund; I must, however, add, he sometimes slyly takes a good-looking potatoe out of the dish, which he eats with evident satisfaction.

The welfare of the labouring population of the country, is a subject which interests the naturalist as well as every other good man; it is intimately connected with almost everything which makes the country delightful, and enhances the pleasure of the rural walk. To be greeted with smiling, happy faces, to see the insides of cottages clean and orderly, the outside decorated with flowers and well-cultivated and flourishing gardens, never fails to produce sensations of pleasure and satisfaction: and if, in addition, a fat pig is found in the sty, it is a proof that the family is thriving, and that the head of it is an industrious, sober man. Happily, such cottages may still be seen in every village in England, affording to the neighbourhood an useful and instructive example of the benefits to be derived from good order, industry and sobriety. But it must be confessed that the reverse of all this is too often witnessed, although I have seldom found an instance of a sober, industrious, steady man, who could not get work, fairly paid for; but haunts of vice and facilities for drunkenness have been multiplied to a frightful degree, and those, whose examples should check the vice and improve the moral condition of the lower classes, are too often poisoning the sources from which their own wealth and power are derived. In a certain village, where attention has been paid to the morals and well-being of the population, the most beneficial results may be seen; the beer-shops are less frequented, and of course the poor's rate is low; the services of the sabbath are well attended, and the labouring class have little to complain of; everything appears comfortable and flourishing; poverty has been excluded, every one looks happy and contented, and the whole village is a picture of neatness and prosperity; the church is kept in repair, and has been enlarged, school-rooms have been built, and various improvements made in the village, all by voluntary subscriptions; some of them by persons residing out

of the parish, who were desirous of aiding the exertions of an individual, who has been at the head of this creation of happiness; while an adjoining parish offers an example of the effects of a contrary system of management—here the tradesmen meet on parish business at the ale-house in the evening, many of them generally half drunk; they are headed by an attorney, who has involved the parish in lawsuits, and driven every respectable person from the vestry meetings. Here the poor-rates are enormous, the church-rates high in proportion, and the parish is overwhelmed with debts and unemployed poor! These parishes are cited as proofs of good and bad management; in the former, one active, intelligent individual, co-operating with a few respectable farmers and tradesmen, has been the means of effecting all the good I have enumerated: in the latter case, interested storekeepers have generally had the disposal of the parish funds; the poor have been neglected, and the whole place has become a picture of poverty and wretchedness! It is not possible to imagine two villages which afford a more striking contrast, and yet, they adjoin each other.

For the Farmers' Cabinet.

Pressure of the Atmosphere.

HAVING to transact business some miles from home, and the starting of the cars not suiting my convenience, I determined to walk the distance on the railroad, which offered a very smooth path, by which I expected to reach my destination without inconvenience and fatigue, by taking it leisurely. But I was very much surprised to find that I had not proceeded three miles on the road before I felt my feet very tender and beginning to blister: this I could not account for, as the road was as smooth as a floor and quite level; and I began to fear that I must relinquish my intention and wait for the cars, perhaps a couple of hours; when, all at once, I thought of the Dialogue between Frank and his Father on the subject of the pressure of the atmosphere, which I had read only the day before, at p. 114 of the 4th vol. of the Cabinet, where it is said, when accounting for the splashing of the mud in the streets of London, "the pavement is worn so smooth, that at every step the shoe fits it so closely that the air is driven forcibly out from under it; and then the foot falls so *heavily*, in consequence of the pressure of the atmosphere upon it, that the mud is scattered about on all sides;" and when walking in clay, "the foot takes so close an impression, and is pinned so forcibly down by the pressure of the atmosphere, that it is often difficult to raise it." Then I thought I could perceive the cause of the pain of my

feet; the truth of the conjecture I put to the test of experience at the moment, by changing my road, and walking on a part of the path which was more unequal; and in about a dozen steps I was convinced of the fact, for I walked more easily, lighter, and without pain; the inequalities of the ground giving space for the expansion of air under the foot, by which the pressure upon it was at once removed; and with it, the pain also. After I had made the discovery, it was a source of amusement to witness how suddenly the pressure would become painful on the smooth road, and be as quickly relieved by changing it for that of greater inequalities. The result was, I finished the task I had set myself, and reached my destination with far less fatigue than I had ever experienced in the many perambulations which I am called upon to perform in the way of business; and in this single instance, I am indebted to the Farmers' Cabinet for the value of far more than my six years' subscription money, trifling as it may at first appear. D. C.

May 25, 1842.

Precious Metals.

GOLD, the most precious of the metals, seems to have been known from the earliest antiquity. It is of an orange red, or reddish yellow colour, and has no perceivable taste or smell. Its lustre is considerable, yielding only to platinum, steel, silver and mercury. It is rather softer than silver—its specific gravity is 16.6. No other substance is equal to it in ductility and malleability. It may be beaten out into leaves so thin that one grain will cover $56\frac{2}{3}$ square inches. These are only one 282.003 of an inch thick. But the gold leaf with which silver wire is covered, has only 1-12th of that thickness. An ounce of gold upon silver is capable of being extended more than 1,300 miles in length. Its tenacity is considerable, though in this respect it yields to iron, copper, platinum and silver.

From the experiments of Seckingen, it appears that a gold wire, 6,078 of an inch in diameter, is capable of supporting a weight of 150,07 lbs. avoirdupois without breaking. It melts at 32 degrees of Wedgwood's pyrometer. When melted, it assumes a bright bluish-green colour. It expands in the act of fusion, and consequently contracts while becoming solid more than most metals; a circumstance which renders it less proper for casting into moulds.

THE "sons of thunder" make most noise in the world, but the "sons of consolation" lay mankind under the most lasting obligations, and plant their principles deep in human nature.

For the Farmers' Cabinet.

Cultivation of Corn.

MR. EDITOR,—The Louisville Journal publishes a letter over the signature of Walter C. Young, that seems at length to contain something new relating to that hackneyed subject, the cultivation of corn. In this region of country, to talk of ploughing the land in the fall of the year, and again in the spring as deep as circumstances will admit, sounds rather heterodox; but it strikes me there is something in it, although whenever I have proposed it to my agricultural friends, they have given me to understand that I was no *farmer*. Now, that is true enough, but if my prayers are heard, I shall some day be one in this country, as I was in the old one, and then I will not thank any for their opinion, as I mean to have one of my own, and of my own framing too, from experiment. I have often wondered what would be the result of a thorough fall and winter working of land for corn, so that it should be clean and pulverized; and although I have been told the corn would not grow, or if it did, that it would never stand to ripen, but fall down for want of support at the root, I have not hesitated to express my belief to the contrary. And here at length, is the testimony of a man who, in the estimation of the Editor, comes nearer to perfection than any one else that he knows in the culture of corn, having produced 195 bushels (ears, I presume) of corn to the acre, and in the dryest seasons, not less than 100 bushels; growing larger crops than any one else; his mode of management admitting the cultivation of a large number of acres to the hand. But I beg leave to extract some observations from Mr. Young's letter, for publication in the Cabinet. He says:

"My universal rule is, to plough my corn-land the fall preceding the spring when I plant; and as early in the spring as possible, I cross-plough as deep as circumstances will permit, and as soon as this is done, I commence checking off the first way with my large ploughs and the second with my small ones, the checks, three feet by three, admitting of working the land both ways. And then, I plant my corn from the 20th to the 25th of March—a rule to which I adhere with scrupulous exactness; planting from eight to twelve grains in each hill, covering the same *from four to six inches deep*, greatly preferring the latter depth; and in this particular I take more pride and more pains than any other farmer in Kentucky, holding it as my ruling principle, that the product of the corn-crop depends very much upon its being properly covered, and much on its being properly ploughed the first time. So soon as my corn is up of sufficient height, I start the

large harrow directly over the rows, allowing a horse to walk each side, harrowing the way the corn was planted; and on land prepared as above and harrowed as directed, the hoeing part will be so completely performed by this process, that it will satisfy the most skeptical. Then, allowing the corn thus harrowed to remain a few days, I start my small ploughs with the bar next the corn; and so nicely will this be done, that when a row is thus ploughed, so completely will the intermediate spaces, hills, &c., be lapped in by the loose earth occasioned by this system of close ploughing, as to render any other work useless for a time. I thin to four stalks upon a hill, never having to transplant, the second ploughing being performed with the mould-board towards the rows of corn; and so rapid has been the growth of the corn between the first and second ploughings, that this is performed with ease; and when in this stage, I consider my crop safe; my general rule being, never to plough my corn more than four times, and harrow once. My practice is, to put a field in corn two successive years, then grass it, and let lie eight years, a rule from which I never deviate. Now, I do not pretend that the labour bestowed upon a sod-field to put it in a state of thorough cultivation does not meet with a fair equivalent from one crop, but I presume no farmer will doubt when I say, the second year's crop from sod-land is better than the first, with not more than one half the labour. The best system of farming is, to produce the greatest amount of profit from the smallest amount of labour.

"I lay it down as an axiom incontrovertible in the cultivation of corn, that whenever a large crop has been raised, it was the result of close and early planting; and I defy proof to the contrary. I plant my corn three feet by three, four stalks in a hill, and allow but one ear to a stalk, and one hundred ears to a bushel, and then ascertain how many hills there are in a shock, sixteen hills square, which is the usual custom to put it up. My present crop, planted on the 20th of March, bids fair to outstrip any preceding one; I am now ploughing and thinning the first planting.

WALTER C. JONES.

"Jessamine Co., Ky., April 26, 1842."

It is novel, indeed, to plant on the 20th of March to the depth of six inches; but without this deep planting, it would be ruinous to the crop to harrow with the two-horse drag the way the corn was planted; and it is a very interesting question, whether by means of early and deep planting, the ravages of the cut-worm might not be arrested, as also, whether they would not be entirely destroyed by a careful autumnal ploughing and a cross-ploughing in the spring "as deep as circum-

stances would permit," with three other ploughings during its early growth. The very act of deep planting might possibly operate very effectually against the attacks of the cut-worm by placing the grain out of its reach. At all events, the thing is well worthy a careful trial, and the serious consideration and examination of every one, especially of those within a distance which affords the proof of ocular demonstration. I trust we shall hear more on this very interesting subject; Mr. Young's rotation of crops is as singular as his mode of planting, and might prove to be worthy the imitation of corn-planters and cattle-breeders in this section of country also.

T. F.

Philadelphia Co., May 23, 1842.

Fall Ploughing.

THE Monthly Genesee Farmer, vol. 1, page 180, in an article on this subject, says:

1st. It is one of the established principles of philosophical agriculture, that the soil derives much of its productive property from the air, and that chemical changes and combinations are constantly going on, by which fertility is much increased. These alterative effects of the atmosphere, and these changes of the qualities of the soil, are the more active and efficient as new surfaces are exposed to new action. For instance, much greater quantities of carbonic gas will be absorbed by a given surface of earth, if the earth is frequently stirred, than if it was allowed to remain with a single saturated surface. Ploughing, by exposing new surfaces to the action of the atmosphere, must be productive of essential benefit; and as fall ploughing generally takes place after crops which have partially exhausted the surface of some of its nutritive and absorbent qualities, its service in aid of spring crops is greatly enhanced.

2. There is always on land more or less grass, weeds, stubble, or other vegetable matters convertible into mould by fermentation and decomposition, a process which is greatly aided by being turned under the surface of the earth. Fall ploughing renders such substances much sooner available in advancing the growth of crops, than they would be if left uncovered during the winter, independent of the great loss necessarily sustained by the washing away of the lighter materials and their dispersion by the winds.

3d. Nothing acts more efficiently on moist soils in promoting vegetation, than high pulverization; and fall ploughing aids this operation most essentially. Lands that if ploughed in the spring only, will remain in large cakes or lumps, defying the efforts of the farmer to reduce them suitably, will, if ploughed in the fall, be found loosened in texture and fitted for early operations in the spring of the year.

Frost is the most efficient disintegrator of the soil with which the agriculturist is acquainted, and he should avail himself of its available labours in all practicable cases.

4th. The earlier the ground can be prepared for the suitable reception of spring crops, such as corn, spring wheat and barley, the better it will be found for the cultivator; and in nine cases out of ten, early sown crops are the heaviest and most productive.

5th. Ploughing land acts more effectually in destroying insects than any other mode of treatment, and fall ploughing for this purpose is preferable to any other. Those insects which produce the most mischief to the farmer, such as the fly, cut-worm, grub, &c., cannot resist the frost of our winters, if prematurely exposed to its action by a fall ploughing. The cut-worm which accumulates in such numbers in old meadows and pastures, is thus destroyed, and crops planted on them saved.

Lastly. Our summers are so limited in duration, that unless the time allotted to vegetation is fully occupied by the growth and ripening of plants, the certain failure of crops may be anticipated. Hence the farmer usually is more hurried by his work in the spring than he ought to be, in order to avoid having his crops caught by the frost and snow. It should be the object of the farmer to have his necessary labour as nearly equalized through the season as possible, and thus avoid all pressures at inconvenient seasons of the year. Experience shows that the farmer in most cases, has more leisure hours in the fall of the year than at any other time, and he who would work it right, should employ this time in advancing his *next spring's work*—for such, fall ploughing emphatically is—and thus preventing the pressure of business then usually felt.

CHINESE METHOD OF PROPAGATING FRUIT TREES.—Take about two quarts of moist earth, and tie it around the limb which you wish to make a new tree of, by means of a piece of old cloth, or anything else that will keep in place. Let it remain several months, till the earth becomes full of small roots; then cut off the limb just below the parcel of earth, and set it in the ground. The small roots soon become large ones, and the limb speedily forms a productive tree. If the earth be put on a good limb in April, it would probably be fit to plant in November; though I cannot say it would not require another year. This method may, in many cases, be better than grafting, cutting off roots and planting the sprouts that run up from them, or any other method in use among us for multiplying the number of trees bearing choice kinds of apples or other fruits.

For the Farmers' Cabinet.

The Sun.

"Thou Sun, both eye and soul of this great world!"

MR. EDITOR,—The exquisite little gem at page 300 of the Cabinet for last month, on the subject of Sunrise, I read on Sunday morning last, on the banks of the Brandywine, just as that glorious luminary made his appearance in the east, and for which rich treat I had waited half an hour: but it is quite out of my power to say with what ecstasy I worshipped at the shrine of Nature, or to describe the holy awe by which I felt entranced. The service was the most glorious that I had ever joined in, the hymn on the occasion being Horace Smith's, to the Flowers—see p. 285, 3d vol. of the Cabinet—which was chaunted throughout, without omitting a verse or a line! The organ, in the absence of *thunder*, being the deep lowing of the cattle on the surrounding hills, as they "saluted and welcomed in the rising morn," the birds furnishing out the symphony! Oh, the opportunity was indeed heavenly! Of a truth, "the man that misses sunrise loses the sweetest part of his existence."

The present season, like the past winter, has been remarkably friendly to vegetation—what now, indeed, has become of the millions of blight with which the wheat has been afflicted for past years? All are passed away, without the least intervention of man or the influence of the moon; the SUN alone may be said to have accomplished the whole business, for without his enlivening rays, all would have been chaos. No wonder that whole nations, in the absence of the knowledge of "Him who made the Sun," should bow down and worship him at his approach. But although no one is a more fervent admirer of NATURE than I am, I cannot perform the service aright, without the aid of that blessed book by which I am taught my duty to its Maker as well as to my fellow-creatures—to "do unto others as I would they should do to me; to forgive my enemies, and do good to them that despitefully use me, rendering good for evil." No, nature and revelation must go hand in hand, and that which God has so intimately joined together, must not by man be put asunder.

The poet beautifully expresses the intimate and sacred union, when he says:

The rolling Sun, the changing light,
And nights and days thy pow'r confess;
But the blest volume Thou hast writ,
Reveals thy justice and thy grace.

Oh! like the Sun may I fulfil,
Th' appointed duties of the day;
With ready mind and active will,
March on and keep the heav'nly way!

M.

Daniell's New Artificial Manure.

AT length we have notice of the mode in which this new mixture is formed. The ingredients are as follow. Any wood mechanically reduced to powder—in plain words—sawdust: this is the basis, and it is to be thoroughly saturated with bituminous matters, of all, or any kind; to this is to be added small proportions of soda and quick-lime, and a very small quantity of sulphur. The principles on which this compound is formed, appear, at first, rather obscure, but one thing is apparent, it is an attempt to make an artificial bituminous coal, and to keep this in a state of slow combustion with only the substitution of soda for the potash of the wood, and the addition of quick-lime. The proportions are not told, nor how long the compost is to remain before used, nor what the bituminous matters are; the only additional information is, that in using, it should be buried two or three inches under the surface of the soil, to prevent the evaporation of the volatile, and valuable parts. Mr. Hall produced a sample of the manure—a coarse, black powder, having a strong smell, somewhat resembling coal tar. Samples of the wheat grown by Mr. Daniell were also exhibited; and it was stated, in reply to questions, that the crops produced were greater in quantity, better in quality and weight, and produced with one-third the ordinary quantity of seed. If this new manure will give us artificial coal, which will, *of itself*, enter into slow combustion,* and furnish vegetables with its ammoniacal product, by degrees, as required, it must be of immense importance to agriculture.

The value of bituminous soot as a manure has never been doubted, but, like many other manures, it has too often been applied in such large quantities, or in such strong solutions, as have rendered it injurious instead of beneficial. Bituminous coal contains from 13 to 16 per cent. of nitrogen or azote, and from 4 to 12 per cent. of hydrogen. When coal is burnt, these two gases unite and form ammonia; when burnt in the open air, the ammonia goes partly into the atmosphere, and is partly condensed in the soot; but when burnt in retorts, for the purpose of affording gas for illumination, the ammonia is dissolved in the liquor used for purifying the gas, and is called the ammoniacal liquor of gas-works. The manure will probably be about one-third the price of bone-dust.

The following account of it was given to the Royal Agricultural Society, and is extracted from the Boston Courier.—*New. Gen. Far.*

* By this, are we to understand spontaneous combustion? We would also ask, *how* is soda to be substituted for the potash already contained in the wood, and for what purpose is the exchange to be made from one alkali to another? or rather, where is the necessity for the addition of soda at all?
Ed.

“It had long been a subject of inquiry, what is the food of plants, how are they supplied, and what are the elements of their growth? There was every reason to believe that a reply could be now given of a more satisfactory nature than had ever been hitherto known; besides which, by the discovery of Mr. Daniell, a most important corroboration had been obtained of what had been considered the elements of vegetable growth; those elements were carbon or charcoal, hydrogen or inflammable gas, oxygen or vital air, and nitrogen. All these elements existed in the atmosphere, in combination with other elements, in which state they were found to be the sources of vegetable development. It was known to persons accustomed to rural pursuits, that the heaps of vegetable substances collected for the purposes of manure, during the process of decomposition became greatly reduced in bulk and weight. If they investigated the causes of this reduction, they would find that it was occasioned by the evaporation of the carbonic acid and ammonia, the principal sources of nutriment to plants. The discovery of Mr. Daniell contained all the elements of vegetable growth. It did not supply new elements, but the same derived from other sources. It was known, that by combustion substances were rapidly decomposed, and its operation produced the elements of vegetable growth. There were on the earth numerous plants which were apparently useless, but it was a principle in nature that nothing should be lost, and they were capable of a reduction into their elements, and being made the means of vegetable growth in other forms. The discovery of Mr. Daniell was suggested by the fact that, while burning vegetables, he observed that the ashes became blackened by the surrounding smoke, and when used in that state were very fertilizing. This led him to investigate the cause, and as the result of his investigation he had produced the new manure, the elements of which were carbon and ammonia. With it the principal properties would not fly off during decomposition, as that would take place in the earth. Among other advantages, it was light in weight, cheap, and capable of being produced in any quantity.

“This manure has been applied by the discoverer to his own crops, on three acres of poor land, in an elevated situation, on some of which he has grown wheat four successive years with improving results each year; its good effects are therefore founded upon experience, personal observation, and the testimony of other observers competent to judge. From the nature of the manure, it is applicable, with some variations in its composition,

to every kind of crop. It is not a stimulating manure, in the ordinary sense of the word—that is, it will not have a tendency to call into activity the existing resources in the soil—but its direct effect is to convey to the soil the direct nutriment of future growth. This effect is produced by the supply of ammonia to the soil in substances calculated to retain it for a time—to again absorb it from the atmosphere—as they give it out to plants during their growth. It will probably prevent also the ravages of insects.

Its mode of application may be various, according to the circumstances of the crops. The application by drill is conducive to economy of the manure, and a direct application to the infant plant, as is the case with bone-dust. Care, however, must be taken that it is not applied too directly to the plant, or without some portion of mould around it. This is the only precaution needed to avoid danger in its use. There is one required to prevent waste, as it is of a volatile character; that is, to place it several inches in the earth, as the earth will absorb and retain the volatile and valuable part. For grass lands, for similar reasons, it will be well to have it mixed with a considerable portion of ordinary unvalued mould. If the manure, as manufactured, be mixed with an equal bulk of mould, it will be perfectly safe for application; or if the mould of the field be stirred over it, when drilled, it will suffice. The quantity to be used will vary according to the crop, like any other manure. About twenty-four bushels per acre are recommended for wheat, and half as much more, or thirty-six bushels, might be beneficially applied for turnips or mangel-wurtzel. The most beneficial quantities will easily be ascertained by the intelligent farmer.”

Home.

THE only fountain in the wilderness of life where man drinks of water totally unmixed with bitterness, is that which gushes up in the calm and steady recess of domestic life. Pleasure may heat the heart with artificial excitement; ambition may delude it with golden dreams; war may eradicate its fine fibres and diminish its sensitiveness, but it is only domestic love that can render it truly happy.

WHEN you see a man who curses when it rains, frets when a fog occurs, and smiles only when the sun shines, be sure that such an one can never bear up with fortitude against the attacks of misfortune, nor stand with equanimity the marvellous changes of our daily life.

The Wife.

"WHILE the unlettered nations of the earth have either deified woman as a goddess or debased her as a slave, we are delighted to accept her as the honoured companion of our homes and the pride and ornament of our assemblies. At her feet do we learn lessons of mental refinement and moral sensibility; and this is no ideal compliment or vain pretence, to foster her pride or feed her vanity, but the sincere conviction of every mind susceptible of truth. When the tide of woman's influence is turned to the upbuilding of our societies, of whatever name, we ask no surer token of success; *with it*, our highest anticipations are realized—*without it*, our strongest efforts are paralyzed. I care not how great, how difficult and discouraging the enterprise; woman has courage and perseverance adequate to its accomplishment."—COL. A. MORTON.

THERE is something enigmatical in the relative position of the wife, and yet the lines of office and duty are distinctly drawn in nature. It perhaps may be said with truth, that she is the *equal* of her husband in nothing; in all things, she is either his superior or inferior. In physical strength, inferior; in symmetry and beauty, superior. In intellect, she has more imagination, vivacity and brilliancy; less power of reasoning and acuteness in argument; but in moral sensibility she is greatly the superior; in power of persuasion, if not argument, she holds a controlling influence. She can most readily find the way to the heart, and easily subdues it; but when she leaves the moral and gentle means of exercising control, and assumes to *command*, she must always expect to find a master. By courtesy, everything she asks will be granted, her wants will be anticipated. But when she assumes to be a man, or to take the place of a man, she transcends her sphere, and resembles a star thrown from its orbit, its laws of motion subverted, and its position doubtful. Let her, in the retired position assigned her by the gospel, be satisfied with her legitimate and proper influence, and she may appear the superior in everything praiseworthy, without exciting jealousy, and without dispute.

From her very weakness, from her purity and tenderness, from her great freedom from the causes of irritation, her husband learns to respect her decisions in morals and religion, and his conscience comes in aid of the influence she seeks to exert over him. She influences him as an angel of light and love. He may, in the pride of his heart, hate the gospel, and despise the cause of the poor, but he will go to church with *her*, and freely put his hand in his pocket to supply her charities. She is the weaker vessel, and yet she is strongest. He may rage in giant strength against the objects of his hatred, and yet let her interpose, and she holds his arm nerveless, like the arm of a child. While she is gentle,

kind, affectionate, devoted, true, the mother of his children and their guardian angel, she holds him by a silken cord, which is stronger than a cable, stronger than the chains of the slave, because it entwines his heart, it binds the affections, which are the seat and motive power of the will. While, therefore, in the pride of his power, he opposes force by force, toward *her* he is all kindness and condescension. But let her assume the tone of a dictator, and of masculine command; let her talk of "woman's rights," and write a code of laws to define them anywhere but in *the heart*—the common law of the soul—and she appears shorn of her locks, which are "her ornaments;" she abjures her womanhood, she affects the man, and must *contend* with men.

No—the proper sphere of woman is *home*. Her great office in the social system is to make that home a happy one to her husband, that his affections may centre there—that he may have no temptations to wander, and may always hasten to return to it. Let her train her children so that they may be the pride of their father, so that he may love to own them, and be not ashamed to show them as the jewels of his country. Let her always stand ready to receive him with complacency after his conflicts with the world, when his brow is knit with care, when his heart has been rudely convulsed by contact with treachery, dishonesty, or abuse, and his passions are striving for mastery; then, from her still and quiet retreat, from her communion with the innocent spirits of her nursery, from her closet of prayer, which opens to heaven, let her meet him like a ministering angel, and he will lie at her feet like a tamed lion; he will imbibe from her something of her own spirit, and his spirit will be chastened under such a ministry.

Here lies the great strength of the wife: here is her high, honourable, and honoured sphere of action—where men are made, moulded, controlled—not where they contend, and cherish the angry passions. Does she seek for honour? It lies in the honour she renders to her husband; in her children, educated, and led to paths of usefulness and heaven; in the domestic arrangements, the admiration of all. Does she seek for happiness? Where can she find it but in a peaceful home? The wife was appointed to make a *home* for man, to form a centre for his affections, and bind them there; to act constantly as oil upon the troubled waters of life.

I lately saw a scene for a painter, exemplifying most clearly the position of the wife. Two men had become violently enraged, and sought each other with deadly weapons. I trembled for the issue. But as they came near, their arms fell powerless, and their voices of anger softened. I pressed through the crowd, and saw a female figure, like the

presence-angel, standing between them. She was the wife of the one and the sister of the other. She spake not—but she had power. She led her husband home, and in the morning he went with a brother's heart and sought a reconciliation.—*The Patriarch.*

For the Farmers' Cabinet.

Pulverization of Soils.

MR. EDITOR,—Every day adds to the conviction, that the preparation for our crops is most defective, and that not one-half the necessary labour is expended on this first and most important of all our operations. Let any one but go into an examination of the crops of oats, which are now beginning to show the balks in ploughing and the unequal and ineffectual coverings by the harrow, and he will not be at all surprised at the very general complaint of the uncertainty of a crop which, in other countries, is at once the safest, and most convenient and profitable that is grown: no wonder that they are generally down before they are ripe, and exhibit an inequality of growth that would otherwise be unaccountable. It is easily perceived that the almost universal custom is, to sow the land without first harrowing it, under the persuasion that otherwise, it would be impossible to cover the seed: this accounts for the many broad patches which are now to be seen without a plant, while the adjoining hollows are literally heaped with starved plants, without space for thousands of them to grow, and where they choak each other. But the evil commences with the ploughing of the land, which, being after corn and easily broken up, it is thought a useless labour to turn in small furrows, the very largest being easily broken down by the harrows, which to the eye makes all smooth—it is only to point to the fields, now that the crop has sprung up, to be convinced of the absolute robbery of the land and the insanity of the practice. But no hope for the better can be entertained, while it is thought that agriculture will not pay for good management—that it *never can*, while such dishonesty is practised, is certain; but that it never *would*, if a better system were adopted, is a libel on common sense and reason. If on stiff soils the seed-oats were put in with the cultivator, I am convinced they would be found to pay the extra expense ten times over; while on light soils, the practice would be found equally beneficial, burying the seed deeper, and giving it a more compact bed, from which it would spring more regularly and of stronger growth, and when, too, more seed per acre might be allowed, without fear that the crop would fall before ripening. On a more careful pulverization of our soils, more depends than almost any of us can imagine;

and I am very much pleased with some remarks which I find in an address delivered by D. Thomas, of Aurora, before the Agricultural Society at Auburn, N. Y., which I copy for insertion in the Cabinet: they are simple, and easy to be understood and practised.

YOUR SUBSCRIBER.

May 9, 1842.

“Jethro Tull, observing the extraordinary effects of high culture, concluded that plants fed wholly on mellow earth, and Duhamel adopted the same opinion—if we were to follow their example, making plenty of fine earth, for the plants, not to *feed* on but to *drink* from,* our crops might be greatly increased. I am satisfied that we are too saving of our harrows: thirty years ago there was a method of ploughing in this country, called ‘cut and cover,’ the furrow-slice covering the space where a furrow ought to have been; and I am apprehensive that our ideas of harrowing were learned in the same school, for when grain is sown, is it not the prevailing opinion that it is harrowed enough when the seed is covered? I have had land harrowed sixteen times in a place, and was satisfied the labour was well applied. For beets, corn, potatoes, &c., what would be the effect of turning in a heavy coat of manure, harrowing twice, and repeating the operations of ploughing and harrowing four times more, adding each time to the depth of the soil? I have not yet performed the experiment exactly, but the nearer I have approached to it, the better has been the crop. Thorough culture would seem to require that the lumps of earth should be so broken that the roots can wander and penetrate in every direction in search after food and moisture, and that every drop, even of a summer shower, should be caught and retained for future use. Hard and thin soils have some resemblance to a dish turned bottom upwards.”

Poetry of Book-Keeping.

Attentive be, and I'll impart
What constitutes the accountant's art.
This rule is clear; what I receive
I debtor make to what I give.
I debit Stock with all my debts,
And credit it for my effects.
The goods I buy I debtor make
To him from whom those goods I take;
Unless in ready cash I pay,
Then credit what I paid away.
For what I lose or make, 'tis plain,
I debit Loss and credit Gain.
The debtor's place is my left hand,
Creditor on my right must stand.
If to these axioms you'll attend,
Book-keeping you'll soon comprehend,
And double entry you will find
Elucidated to your mind.

Honduras Obs.

* This, the subsoil plough is doing, precisely.—Ed.

For the Farmers' Cabinet.

The Hay Crop.

MR. EDITOR,—We all grow the same articles for market, and then complain we want a market for our produce. If we were to look abroad, I think we could find that there are still others which would remunerate a fair outlay of expenses, and be the means of relieving not only ourselves but our neighbours, by drawing off a portion of the articles that are so commonly, so universally exposed for sale—the everlasting corn, wheat and oats—wheat, oats and corn of a country many miles in extent. In the last number of that most valuable agricultural periodical, “The Farmers’ Register,” published in Virginia, I find a paper on this subject written by the Rev. J. H. Turner, which has interested me exceedingly, and brought to my remembrance, that the late Mr. George Walker, of Holmsburg, embraced the above mode of cultivation in a considerable degree, and experienced from it profit, and much relief in the business of *disposing of his crop*—a difficulty which is now so much complained of—his method being, to dispose of his hay at the market, where its superior quality always commanded the best price, as well as a ready sale. Mr. Turner’s reasoning is so simple and so just, that I think it will tempt others to go and do likewise. Speaking of his reflections on this subject on first coming to his farm, he says:

“In determining on a main crop, it has been an object with me to fix on that one in which I could most nearly enjoy a monopoly; and as hay is a bulky article compared with its weight and price—so much so, that it will not bear transportation to any considerable distance, I have made that my chief crop; all my farming operations are therefore subservient to the cultivation of the grass crop. And in looking back to the time when I commenced farming, I think it a little remarkable, that without any previous experience to guide me, I should fix on the very crop which, upon trial for fifteen years, I am still convinced was the very best for me to cultivate. I had observed, that but little hay was brought to market from the neighbourhood, and that most of that little was of inferior quality; those who then kept large numbers of horses depending almost entirely upon the North for their supplies of hay; and this was with them a matter of necessity, for the surrounding country supplied perhaps not one-twentieth part of what was needed. Observing this, I concluded that if I could succeed in raising hay of a good quality, I should have no difficulty in finding a market for it; nor in this have I been disappointed, for I have never, in any instance, failed in disposing of my whole crop, and generally at fair remunerating

prices; and even at this time, when every body is complaining of a scarcity of money, hay commands a more ready and a better price than almost any other article. Some of my neighbours have expressed the apprehension that the market would soon be overstocked, and that therefore the price would go down, but I entertain no such apprehension; the first effect arising from the increased quantity at home, will be to arrest the importation from abroad. At present there is still coming a considerable quantity from the North, and as long as this is the case, I have no fear that *good hay* will be a drug upon my hands; indeed I am pleased to see that vigorous efforts are now making greatly to increase this crop, and I hope that the time is just at hand, when, in addition to our neighbourhood supplies, we shall see large quantities borne to market on our canal and railroad; for it is quite time that Virginia should assert her own independence—she has been too long dependent upon the North for her hay, and upon the West for her pork.

“But the main point remains yet to be touched—what is the *value* of this crop? I answer, I know no crop that, upon the whole, requires less labour, is more certain, and at the same time yields a fairer compensation. The chinch-bug and the Hessian-fly, which prey upon our corn and wheat, never touch this crop, nor is it subject to the depredations of any other destructive insect; give it rich land well prepared and a moderate degree of moisture, and this is all that it asks. If, therefore, it be subject to fewer casualties, and when produced commands a fair and ready market, I must pronounce it a good crop. But besides these recommendations, there is another which, in my opinion, greatly enhances its value, and that is, I regard it as less exhausting than most of our other crops, but I pretend not, that this, in common with all other crops that are removed from the land, is not an exhauster; but then, it ought to be recollected that other crops, such as corn, wheat, oats, &c., when removed, make no effort to recruit themselves; they leave the land, with the exception of a little stubble, entirely naked; but this is not the case with the grasses, for besides the stubble, they begin immediately to renew themselves, and continue so doing, until arrested by severe frosts; so that the aftermath on good land, especially in clover, is often nearly equal to the first crop; and this *second* crop, if left to fall and rot on the ground, must contribute materially towards repairing the exhaustion of the first crop; and this, in my opinion, is the true reason why grass exhausts less than other crops. In this view of the subject I am greatly strengthened by Liebig and other celebrated writers on the subject of agriculture; they

say, and I think with much plausibility, that the very best manure for any particular species of vegetation is that which is derived from itself—leaves, for instance, for wood or forest trees, and wheat-straw for growing wheat; and if this be the case, then the second grass-crop, containing as it does the materials of the first, must be a valuable manure for itself; and this, I think, is a *strong argument for banishing cattle and all other depredators from our fields.*"

Is it to be understood, that Mr. Turner recommends the second crop of grass to fall and rot on the land as manure for another first crop? or does he merely argue, that such a course would answer the best purpose, on the French theory, that "Nature has within herself the power of renovation?" To the latter I have no objection, but should suspect that the former mode would be materially to injure the quality of the hay of the first crop, as it would not be possible to mow it close, without cutting up with it much of the second crop in the shape of old fog, in a state of decomposition, the mouldy smell and taste of which would be highly detrimental to the hay. I would much rather pass the second crop through the bowels of the stock, take the dung or "evacuations" periodically into the fields, and mix them at the rate of four or five loads of muck or fresh earth to one of dung, and after fermentation, turn all up and add a portion of lime, carrying the compost abroad in the spring as a top-dressing. But this is *labour*—true, to which I should have no objection; for what was a man sent into the world for, but to labour and enjoy the fruits of it? the richest portion of that fruit being the "looking on the labour of his own hands." But I forget the relative positions of the countries from which we date—*here*, it is neither *disreputable* or *disagreeable to labour!*

Z.

Lancaster County, Pa., May 21, 1842.

For the Farmers' Cabinet.

Another "Farmer in Distress."

How many are the ills that "flesh is heir to!"

THE account of the farmer in the last number of the Cabinet, who had at last *waked up*, and so improved his land with lime, attention to his manure heaps, good tillage, &c., as to find his milkers in the spring without *pasture*, as all his fields were *now mowable*, reminds me of a couple of my neighbours, who had also *their troubles*. They were similar in character to *his*, to whom I have just referred, all having their origin in the honesty of old mother earth, and in her strong disposition to repay, with interest, the labour used in coaxing her to pour forth the exhaustless riches of her bosom.

"Heighho—neighbour G.," said E., one frosty morning, as he passed through his neighbour's corn-field, and found him beating his hands against his ribs to keep up the circulation—"how is the corn-crop on your side the fence this fall? Mine is very fine; I calculate upon 70 bushels to the acre." "Oh," said his friend, "I shall have quite that much: indeed, if you look at the heaps, with three or four baskets in them, you'll say I'll have 80 or 85 bushels. But, dear me! I don't know what upon earth I shall do with my hogs; I can't fat them; it seems as if there was always some trouble or other in store for me; some *crook* falling to my lot; my pumpkins are all gone, and I shall have no *offal corn to fat my porkers with!* I manured my ground well in the spring, and gave my corn a good sprinkling of ashes and plaster when I first harrowed it, and then it looked so well, that I couldn't help tending it nicely all summer, and now, it's all sound and hard, and I'm harassed not a little to know how to get my hogs fat!" "Oh well, neighbour G.," said E., "you're not solitary in your troubles, for I've been brooding over mine, ever since harvest. I've limed, and marled my land, and picked up so many hints from the 'Cabinet,' that Cousin Humphrey persuaded us both, you know, to subscribe for, that last summer I cut so much more first-rate hay than I've been used to, that my barns would not hold more than half of it; if I go on this way, I shall be obliged to put up more hay-houses, and buy more stock! I'm most wish we had left that Farmers' Cabinet alone; it's got us both into trouble, you see." I came along just in time to hear this conversation, and we all made ourselves merry over the "distresses" of my neighbours, and they concluded I should be *spokesman* and have it put in print—with this *sage* advice to all brother farmers who can't afford to put up additional buildings for their increased crops, nor to fatten their porkers on *sound corn*—namely, to be careful how they enrich their farms, for land is honest, and will pay; and by all means not to subscribe for the Farmers' Cabinet!

HUMPHREY.

POTATOE OATS.—Mr. G. B. Smith, of Baltimore, is convinced that the potatoe oat is an inferior food for horses; it is said that more of this variety than of any other passes through the animal undigested, which is supposed to arise from its being more difficult to masticate. Whatever be the cause of the evil, the evil itself is not questioned; consequently, horse-keepers decline to purchase them—the purchasers of forage for the army horses in particular—at any price; it is therefore thought advisable to caution farmers against growing them.

Experiments with recently introduced Manures.

By JOHN GREY, Esq., Dilston, Northumberland, (Eng.)

As the results of experiments already before the public are seen to vary much, both from the quality of the soil and the description of crop to which these manures have been applied, and as it seems necessary to bring under review a great number of such results, for the purpose of determining with reasonable certainty, the kind of land and of crop to which these several manures are to be applied with full success, the following details may perhaps be considered not unworthy public notice.

On the 28th of April, 1840, I sowed upon each alternate ridge of a plot of land consisting of four acres of good gravelly loam, which had lain three years in grass and was thickly covered with plants, nitrate of soda at the rate of 112 lbs. per acre, having ascertained the exact contents of each ridge and divided the nitrate accurately into the right proportions. To some of the alternate ridges I applied gypsum, at the rate of ten bushels per acre. To one ridge, I applied both the nitrate and gypsum; and three ridges were left without any application whatever. The grass, to which the nitrate was applied, in a few days assumed a darker colour than the other; rose quickly above it in height, came earlier to seed, and was sooner fit for cutting. The plot was all mown and made into hay at the same time, great attention being paid to keep the produce of each of the ridges intended for the experiment, distinct. The following is the weight of hay produced by each plot; the aftermath of those ridges to which the nitrate was applied, was obviously better than the others.

1. 112 square yards without any manure, produced 9 stones 4 lbs. of hay, weighed when newly made: equal to 2 tons 81 stones per acre.

2. 112 square yards, to which gypsum had been applied at the rate of 10 bushels per acre, gave exactly the same result; so that no benefit whatever arose from its use in this instance. It must be remembered, however, that the grasses are of the ordinary kinds used in pasture, that is, white clover, ryegrass, timothy, &c., but without red clover, to which gypsum is known to be beneficial.

3. 112 square yards, to which nitrate of soda had been applied at the rate of 112 lb. per acre, produced 14 stones 7 lbs.; equal to 3 tons 146 stones per acre, being an increase of 1 ton 65 stones, over Nos. 1 and 2.

4. 112 square yards, to which both nitrate of soda and gypsum had been applied in the above quantities, produced 14 stones; equal to 3 tons 125 stones per acre, and 21 stones

less than the produce where nitrate alone was applied. The cost of the nitrate and carriage was 22 shillings per 112 lbs., and the increased value of hay per acre, as it stood in the field, would be from four to five pounds sterling.

From the many experiments which have been made, and which have all proved more or less beneficial, no doubt can be entertained that nitrate of soda is generally efficacious in the production of grass; but several experiments may yet be necessary to ascertain on which descriptions of soil and to what class of plants it is most so, and to what particular stage of their growth it is to be applied with the greatest benefit. I am inclined to think, that it ought not to be sown upon the grass until that has risen considerably from the ground, and the leaves are sufficiently evolved to derive all the benefit. I applied nitrate of soda to a row of potatoes at an early period of their growth; the tops soon showed the effect, and they far outstripped the adjoining rows in growth; but when the potatoes were taken up, the produce of that row was found to be less than that of the others, both in weight and measure. Now, the first action of the potatoe plant is to throw out its top; the tubers make their growth at a later period; it seems, therefore, in this instance, that the stimulus of the nitrate had expended itself in the earlier process, and that, instead of being benefited, the tubers had suffered by the application, probably from the greater shade and weight of the top. It is possible, that if the drills had been much wider, so as to admit of sufficient air, the result might have been different.

I applied nitrate and gypsum to alternate ridges of different kinds of grain and at various stages of its growth, but the quantity of rain that fell in this part of the country, both previous to, and during the time of harvest, had the effect of producing so much straw and of laying the corn so flat, that it was found difficult to cut the plots so as to keep the produce distinct, and was also in other respects so unfavourable to the experiment, that I cannot reckon upon the result being correct and satisfactory. In one case, where the barley was very bulky and in consequence much lodged, the grass seeds were found to be weak and worse than in other parts of the field, but in another instance, the reverse of this was the case. The crop in the latter case was a thin one of winter wheat, on poor clay land. Four ridges were sown with nitrate when the wheat was about a foot high; little effect was perceptible during its growth, save in a darker shade which it assumed, as is common to all crops when nitrate is applied; and on being cut, those ridges produced so few sheaves more than the others, as did not induce me to keep their produce separate;

but in the spring of the following year, the new grasses upon them were found to be much better than upon any other in the field. The pasture was heavily stocked with ewes and lambs, and eaten bare, the sheep giving these ridges the preference; and when the lambs were weaned, the pasture was cleared of stock for a fortnight. When the same thing was repeated, the grass on these ridges again took considerably the lead of all the rest, and was again preferred by the sheep when they returned to it. This was a result which I had not anticipated, and proves, either that the effect of the nitrate continued in operation during the following season, or that its effect in the first year upon the grass was such, as to nourish and strengthen the plants so much as to cause them to stand better

through the winter and to shoot much more vigorously in the spring—the latter is, I think, the most reasonable.

In the beginning of May last, I applied nitrate of soda and a mixture of nitrate and manganese to equal quantities of new grass-land intended for mowing, leaving a portion without any dressing. The land was well covered with plants of red and white clover and rye-grass, but not of first-rate quality; both portions to which the dressings were applied soon assumed a dark appearance and rapid growth, the difference being perceptible at any distance. The portions were cut, and the produce of each carefully kept distinct, and weighed when made into hay and put up in pikes, of which the following is the result:

Description of Dressing.	Nit. of Soda 112 lbs.	Mang. & Nit. eq. quan. 140 lbs.	No Dressing.
Weight of hay per acre	3 tons 88 st.	3 tons 21 st.	2 tons 37 st.
Value of hay per acre at £3 per ton	£10 13s. 0d.	£9 7s. 10½d.	£6 13s. 10½d.
Cost of each dressing per acre	1 6 0	1 1 0	
Value of hay per acre, deducting expense of dressing ..	£9 7s. 0d.	£8 6s. 10½d.	£6 13s. 10½d.

When the aftermath had begun to shoot up, I applied the same dressings as above, and also a mixture of guano and soil to portions of the land that had not been dressed; the effects as to colour and growth were the same as in the previous experiment with the nitrate and mixture of nitrate and manganese; that from the guano was less apparent and slower, but still, the growth was greater than when nothing was applied to the aftermath; one thing being very obvious, that the stock, when put on the field, gave a great preference to the portions which had received the saline dressings, over that to which the guano had been applied, as well as to that which had nothing. I then applied the three dressings as above stated, to rows of turnips after they had received the second hoeing; the effect as to colour and growth was the same, and in the same proportions as to the clover fog; but the final result remains to be proved. The same dressings were applied to rape or colesed, sown on bone manure when the crop was three inches high, and here the nitrate and mixture produced the most decided effect that I had yet seen, for within a month these rows had grown to twice the height of the rest of the field, and were covered closely over the intervals, bearing fully double the weight of produce. Those rows dressed with guano were better than those which had nothing, but much inferior to that to which nitre had been applied. Sheep were put upon that part of the field on the 24th of August, and in a week had eaten the rows, done with nitrate and nitrate and manganese,

close to the ground; while those done with guano, and those left undone, were hardly touched—a decided proof, that the application of nitrate to such plants, has the effect of not only increasing the quantity to a great extent, but of rendering it more palatable to animals, and, no doubt, in an equal degree more nutritious.

I found nitrate very beneficial to the growth of tares, and extremely so, to six acres of the second year's grass, the effect being greater and more rapid than upon the first year's clover; but this land being in pasture, the increased produce could not be brought to the test of actual weight of hay; but the stock being kept off it for a week after sowing the nitrate, it acquired such a growth, as to keep afterwards, in comparison with other land, at the rate of five sheep per acre instead of three.

My experiments of nitrate upon grain, both the last year and this, have been unsuccessful; it stimulated a great growth of straw, and in consequence of much rain before the harvest, those portions have been laid and much injured, producing great bulk, but coarse in straw and unproductive in grain; and even in cases where both barley and oats seemed in no danger of being too bulky and were not lodged, a second growth has been produced, and the crop is now being cut, full of green and immature shoots, while the perfect grain does not appear more in quantity nor so good in quality as that which had no nitrate. As rapid growth of straw with a heavy shoot-blade just before the appearance

of the ear is always attended with much risk, and as nitrate produces exactly that effect if applied to grain after it has grown to the height of 12 or 15 inches from the ground, it must always be attended, more or less, with danger; and, on the other hand, when applied very early and before the plants had covered the ground, it produced no effect at all.

With respect to Guano, I am sensible that the result of these experiments forms no test of its value as manure. Being the produce of sea-fowl, accumulated for ages on the rocky islands of the Pacific Ocean, which fowls feed on fish, it must contain a large portion of organic matter of a rich and stimulating character, and ought to be applied mixed with ashes, charcoal, or some other substance, so as to be accessible by the roots of plants; but as I could not obtain any at a proper season for using it in that way, I determined to try it as a top-dressing in the same way as the others.

The results of numerous experiments which I have made with nitrate of soda, lead me to the determination to use it as much as possible on grass and green crops, but cautiously on grain crops, and only in such situations as to run no risk, be the weather as it may, of the grain being lodged from too great a growth of straw. I have satisfied myself, that I can obtain the requisite quantity of hay upon two-thirds, or rather less, of the land which I have hitherto assigned to it, by the application of nitrate of soda to the grass, so that I have one-third of the land at liberty to feed sheep. I am also satisfied, that its application to pasture-land increased the produce, at any rate by one-third; and to rape or cole-seed, in one instance at least, by one-half: the consequence of which must be, an extra production in equal proportions, of mutton and wool, and an additional return of manure from the sheep to the land, which will produce its effects upon the succeeding crops of grain, not by stimulating a rapid growth at any particular stage, but by entering gradually and regularly into the whole process, from the germination of the seed onward, to the maturity of the crop.

For the Farmers' Cabinet.

Subsoiling.

MR. EDITOR,—I owe a tribute to the Cabinet for the introduction of the subsoil plough into this part of the country: by means of it I have cultivated a field of ten acres for corn in a way that has really delighted me, and I am willing to credit its "promise to pay" at 90 days, in perfect confidence that its note will not be dishonoured. My land is strong, and so is my team—I therefore ventured upon the second large size of plough, convinced as

I am, that we have long been in error with respect to the size of ploughs best suited to the cultivation of the soil, they being too small for general purposes; lifting out in strong or stony soils, and sliding away in those that are light or sandy, against which they form no resistance. I therefore chose a Prouty subsoil plough, No. 2, and put it to the depth of about a foot, after turning seven inches of the top-furrow, when the way in which it operated—lifting the whole width of the bottom of the furrow, which on falling back became broken and pulverized, fit for the reception of the most delicate crops, into which they might send their fibres in search of moisture to the depth of 12 inches in the gravelly subsoil, "forming a perfect drain in wet weather, and a retentive medium in a season of drought," as has often been pointed out—has convinced me that no invention at all comparable to it, at least in theory, has been introduced to the agricultural world within my own memory, which is now pretty extended.

But how is it, in the name of common sense and all that is rational, that we hear of a *single-horse* subsoil plough being constructed? Ah! there it is—we are never content until we refine away, under the idea of saving expense and labour, all that is valuable and useful in our agricultural improvements; thus have light ploughs been introduced at about four dollars expense, which only scratch the ground; small cultivators to be used by hand; drills that may be denominated toys; and subsoil ploughs—whose province it ought to be to open a retentive and strong subsoil to the greatest depth, and which are used in England, where they were first invented, with the force of six or eight oxen or horses, the more expense incurred, the more profitable result—for the use of a single horse; and that, of course, a small one, on the principle the less expense incurred, the greater the gain! Thus, the greatest enemy to subsoiling will be found amongst its friends, as has usually been the case in other things—witness merino sheep, multicaulis trees, and Berkshire hogs—to which I fear may soon be added other *cidevant* favourites, that have been refined to sublimation. And yet, all these, when united, are but of little importance, when compared to the injury that will be sure to follow the use of the single-horse subsoil plough, which is destined to bring the practice of subsoiling, the greatest improvement of the age, into contempt; for we shall soon hear that some one has tried it and has found no benefit whatever from its use; the worst part of it being, the impossibility of ascertaining the depth to which it had been carried, possibly not more than a couple of inches, at which depth the plough will be found to break up a portion only of the width

of the furrow, it being made narrow and sharp, for the purpose of forcing its way into a retentive or stony subsoil; but which at the depth of ten inches or a foot, will be found capable of breaking the whole width, lifting it up like a little earthquake, and mashing it completely in its fall. I declare it makes one feel savage-like, to find to what extent our parsimonious habits are carrying us; the *saving of expense* being a besetting sin, which indeed, needs to be repented of; but which we scarcely hear of, except in the profession of agriculture. The manufacturer, the machinist, the mariner and the commercial man, are content to commit their substance to the guidance of their several occupations, calculating that the more capital is judiciously employed, the greater will be their profits; while poor agriculture—the only business that will not pay interest for capital invested, is doomed to be cheated, reviled and degraded by every species of fraud and chicanery, not even being thought worthy to be entrusted with skill, capital, or enterprise, and yet, expected to furnish “*something for nothing*.” But I will not despair; I will do my duty and debit my crops with the expense, and when a pair of strong horses are not sufficient to put my subsoil plough down to the beam, why I will put on four, and acquaint you with the result. In the meantime, I have debited the crop of corn on my ten acres with the cost of the new plough—eleven dollars—and do not despair of making 100 per cent. profit upon that, the present year. R. P.

Montgomery Co., May 25, 1842.

For the Farmers' Cabinet.

“Chemistry applied to Agriculture.”

MR. EDITOR,—I transcribe and forward for insertion in the future pages of the Cabinet, extracts from “*Liebig's Chemistry applied to Agriculture*,” a work which is about to create a new era in the science of agriculture, which every farmer cannot too attentively peruse, and which none can read without being struck with the justice and truth of many of his views, explaining clearly as they do, many phenomena heretofore inexplicable, and offering a guide to future operations in that science so important to the well-being of mankind.

“It is impossible,” says Professor Lindly, “for any one acquainted with gardening (and what is farming but gardening on a large scale) not to perceive the immense importance of these considerations, (speaking of his explanation of the necessity of a rotation of crops), which show, that by adopting the modern notion, that the action of soil is chiefly mechanical, the science of horticulture has been carried *backward* instead of being *advanced*; and that the most careful examinations of the chemical nature both of the soil

in which a plant grows and of the plant itself, must be the foundation of all exact and economical methods of cultivation.”

Professor Liebig says: “Any great improvement in this most important of all arts is inconceivable without a deeper and more perfect acquaintance with the substances which nourish plants, and with the sources from whence they are derived; and no other cause can be discovered to account for the fluctuating and uncertain state of our knowledge on this subject up to the present time, than that modern physiology has not kept pace with the rapid progress of chemistry.” Speaking of the apathy and supineness of those who should be most interested in every discovery of the chemist, every new light thrown upon the art of culture, he says: “Agriculture has hitherto never sought aid from chemical principles, based on the knowledge of those substances which plants extract from the soil on which they grow, and of those restored to the soil by means of manure. The discovery of such principles will be the task of a future generation, for what can be expected from the present, which recoils, with seeming distrust and aversion, from all means of assistance offered it by chemistry, and which does not understand the art of making a rational application of chemical discoveries?” S. T.

CRANBERRIES.—Cultivated cranberries were exhibited by S. Bates, of Billingham, Norfolk county, Mass., which were grown on his own land. He states that low land is best for them, prepared in the same manner as for grain, the wild cranberry being transplanted into it in rows 20 inches apart. At first they require a slight hoeing; afterwards they spread and cover the ground, producing crops annually thereafter without farther culture; and in this condition they are more productive, the fruit being larger and finer than in their wild state, the yield being from 200 to 300 bushels per acre, and worth on an average in the Boston market, one dollar a bushel. A damp soil, or when wet predominates, has generally been considered essential, but Mr. B. thinks this is not necessary to their successful cultivation; early spring is the best time for transplanting.—*Mon. Vis.*

COMPOSTS.—I have tried the earth taken from ditches in the meadows, but never found any benefit from it; but when carried in large quantities into my hog-sty and barn-yard in the autumn, and turned up in the spring and used for manuring corn, &c., I have found a load of this earth-mixture as beneficial as a load of unmixed manure from the yard or hog-sty; and after a year's exposure, have never found unmixed dung better.—*Bronson.*

Notices.

We are indebted to Charles Robinson, Esq., for "Transactions of the New Haven Horticultural and Agricultural Societies for 1841," an interesting and peculiarly neatly printed work of 84 pages, showing most clearly the deep interest which these societies are creating in that intellectual part of the Union; infusing a spirit into the cultivators of the soil which will lead to the most important results.

The Horticultural Society of Pennsylvania held their monthly meeting in their large and elegant saloon, lately occupied by the Chinese Museum, on Tuesday evening, the 17th of May. The effect given to the exhibition by the playing of the fountain in the centre of the room, it would be difficult to describe—it is a luxury scarcely to be properly appreciated. The coolness and fragrance of the air, the vivid gas-light diffused amid the falling water and the profusion of flowers of every form and colour, reminded one of the eastern tales of enchantment. Amongst the vegetables exhibited were cauliflowers and potatoes of immense size, and a species of rhubarb, the *VICTORIA*, the stem of the leaf measuring 4 feet long, three leaves weighing 4 pounds. The stated meetings of the society are held on the evening of the third Tuesday of every month.

"A POPULAR TREATISE ON VEGETABLE PHYSIOLOGY," is the title of a volume of 300 pages just published, price \$1. It is embellished with numerous wood-cuts, forming a valuable addition to the Farmers' library, and affording delightful reading to the younger branches of his family, instructing them in a profession of which they are destined to become the "ornaments."

We announce also, the publication of "A popular Treatise on Agricultural Chemistry, for the use of the Practical Farmer," price 62½ cents, by C. Squarry, a manual which will command attention, when the farmer shall be induced to believe that it is as reasonable for him to study *his calling* as for those belonging to what are termed "the liberal" or learned professions, the members of which never dream of success, without a severe course of "reading, reflection and application." Both these books, with all the new publications on agriculture and the sciences generally, may be had of Kimber and Sharpless, No. 50 North 4th Street, Phila.

To B. W. French, Esq. we owe obligations for a copy of the Constitution and By-Laws of the Massachusetts Horticultural Society; the report of its transactions for '39, '40, and '41, &c., a very interesting report truly.

CAN any of our friends inform us where a *full-blooded Merino Buck* may be obtained?

WE most readily correct the error pointed out by the Editor of the Boston Cultivator. To that excellent paper is due the very interesting article at p. 303 of our last No., on "Rotation of Forests."

A "SUBSCRIBER" is reminded, that the advocates for Durham blood, lay claim to *ease of keep*, as well as to *quick feeding*.

The First New Flour.

COL. W. HANCOCK, of Monroe Co., N. C., sowed his wheat on the 18th Oct., 1841; cut it on the 18th May, 1842; threshed it on the 21st; ground it and sent the flour to market on the 23d.—*Fayetteville Obs.*

Kyanized Tar for dressing Wounds in Trees.

HALF an ounce of corrosive sublimate, reduced to fine powder; dissolve in alcohol, and mix with tar in an earthen pipkin containing three pints, blending the whole as intimately as possible. For giving more body to the mixture, add fuller's earth or rotten-stone powdered.

Addition to the List of Premiums offered by the Phila. Ag. Society.

For the best Durham heifer between 2 and 3 years old	\$6 00
For the next best do. do.	3 00
For the best heifer of other improved breed between 2 and 3 years old	4 00
For the next best do. do.	2 00
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THE FARMERS' CABINET, AND AMERICAN HERD-BOOK,

DEVOTED TO

AGRICULTURE, HORTICULTURE, AND RURAL AND DOMESTIC AFFAIRS.

"The Productions of the Earth will always be in proportion to the culture bestowed upon it."

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JOSIAH TATUM,

PROPRIETOR AND PUBLISHER,

No. 50 North Fourth Street,

PHILADELPHIA.

Price one dollar per year.—For conditions see last page.

For the Farmers' Cabinet.

Review

Of "A Popular Treatise on Agricultural Chemistry. For the Use of the Practical Farmer.—By Charles Squarey." 12mo. pp 156. Price 62½cts. Lea & Blanchard. 1842.

THE author of this little book does not pretend to have originated any views concerning his subject. He has merely endeavoured to throw into a convenient form the facts and theories presented in the works of Davy, Liebig, Daubeny and others, and to place the necessary information within the reach of the class to whom it is most necessary—we allude to the agriculturists. In this he has succeeded. Much information is here compressed into a small space, and it is, we think, judiciously presented, in the most elementary manner, to suit those whose attention has never been called to this subject. But perhaps it would be best to quote his own observations in relation to his object.

"In the following pages it is intended to explain, as far as our knowledge already extends, the manner in which plants assimilate their food, and the sources of its supply. To do this, some preliminary knowledge is necessary; it is therefore proposed to consider the subjects in the following order: First.—The structure and functions of different parts of plants. Second.—The general attributes of the soil. Third.—The simple bodies forming the structure of the plant, the sources from which they are obtained, and the manner in which they are assimilated. And lastly.—The specification of the various manures now in use. In considering these subjects, it will be assumed that the reader has no previous knowledge of the question. No apology is therefore offered for the elementary character which each chapter will exhibit. It has been the desire of the writer to explain every circumstance as fully as possible, and although the use of technical terms is necessarily un-

avoidable in such a work, still a moderate degree of attention will overcome all difficulties, and, it is hoped, that the information afforded, is of such a kind, that no one will regret the trifling efforts it may have cost him to overcome them."

We are pleased with Mr. Squarey's views in regard to the estimation in which chemistry, as applied to agriculture, has been too generally held: he remarks, "Until a very recent period the consideration of this subject has been too generally deemed, if not altogether beyond the range of the agriculturist, at all events, as so distantly connected with him, as to be of little direct importance. And although at various periods men, eminent for their talents, and for the successful application of those talents to agriculture, have called the attention of the public to this subject, their endeavours have too often been of little avail, and the application of science to agriculture has been almost entirely neglected. Now, however, we date from a new era. A variety of circumstances have of late combined, to compel a greater attention on the part of all classes to this most important study: and the result is, that agriculture as a science has advanced with rapid strides, from darkness to comparative light; and from being the occupation of the lowest class in society, to one that is regarded, and justly so, as affording a field for the employment of the highest intellect; and happily also, one in which the greatest exertions may be most beneficially employed."

After describing those points in the structure of plants, which have a reference to his subject, our author proceeds to the consideration of the soil. He briefly enumerates the different varieties which it presents, and the general action produced upon it by the cultivation of vegetable substances. He next takes up the subject of the assimilation of matter by plants. In this chapter he describes the principal substances which enter into their composition, and which must therefore be abundantly supplied them, in order that they may thrive. These he considers as four, viz., carbon, hydrogen, nitrogen, and oxygen. He describes more at length their action on vegetable life, and the manner in which they should be applied to the plant. The next chapter considers the solid earthy

substances which are assimilated by vegetables. He here treats of the effects of potash, soda, lime, magnesia, and silic, with their respective salts, and the manner in which they benefit the soils to which they are applied. The last chapter consists of details concerning the various kinds of manure now in use in England. In it there are some interesting observations respecting the application of urine and the substance termed guano. This latter is a deposit from birds, which has been found, in immense quantities, chiefly on uninhabited islands in the South Sea, and along the coast of South America. It has been used, as manure, in Peru, from time immemorial, and has lately been introduced into England, where it has been used with the greatest success. The remarks, in this chapter, concerning the waste of valuable matter, which is observable even in the best kept farm-yard, are important, particularly in this country, where so little attention seems to have been turned to this subject. The most valuable part of farm-yard manure consists of the nitrogen, which is there present in large quantities, chiefly as a compound part of ammonia. This is very volatile, and is constantly escaping after the manure begins to decompose, constituting a large portion of the steam which arises from it. Our author does not consider, with the older writers on agricultural chemistry, that the greater part of the nourishment of plants, is derived from the humus present in the soil, and the arguments he advances seem to prove that it affords them but little if any matter necessary for their support. In speaking of the long-mooted question of the necessity of carbon for the nourishment of plants, he does not seem to regard the emission of carbonic acid by them under certain circumstances, as any proof that it is not requisite to their existence. After mentioning its absorption by the spongelets of the root, he remarks: "Carbonic acid thus absorbed by the roots is dissolved in the sap which pervades all parts of the plant, and evaporates every moment through the leaves with the water, in quantity corresponding to such evaporation. Neither this emission of carbonic acid, nor the absorption of oxygen, has any connexion with the process of assimilation. The former is a mechanical, the latter purely a chemical process. If this view of the subject is correct, those plants which require the presence of oxygen to convert their volatile constituents into resins, should absorb the most when the influence of light is withdrawn, and such we find to be the case, for while the tasteless leaves of the American aloe absorb only 0.3 of their bulk of oxygen during the dark, the leaves of some of the fir tribe, which contain volatile and resinous oils, absorb ten times, and the leaves of the oak, containing tannic acid, fourteen times that quantity. This chemical action is shown also very plainly in the leaves of the *calceola ficoides* and others, which sour in the morning from the absorption of oxygen during the night, tasteless at noon from the assimilation of carbon during the sun's light, and bitter in the evening, when, in addition to the carbon, a portion of the hydrogen of the water, a component part of all bitter substances, has been assimilated."

He gives some interesting observations, partially quoted from Liebig, concerning the sources from whence is derived the nitrogen necessary for the support of vegetable life. The air has constantly a small portion of ammonia, mingled mechanically with it. This is absorbed by the watery vapours, which afterwards condense and fall in the state of rain.

In conclusion we may observe, that, notwithstanding two or three faults in style and manner, we have been much pleased by the perusal of this little work. The matter appears well selected and arranged, and we should like to see it in the hands of every farmer and agriculturist throughout the country, for it contains knowledge which is, at present, very much wanted by that class. L.

For the Farmers' Cabinet.

The Compost-Yard.

Is a recently published Scotch work on agriculture, denominated "The Book of the Farm," there appears a drawing and description of the "COMPOST-YARD," an enclosure distinct from, and yet closely connected with, the farm or barn-yard, and in which is situated a tank or sunken cistern, for the reception of the urine from the horse-stables, cow and ox-stalls, and the range of hog-styes, into which it is conveyed by under drains,

so that the rain which falls in the yards does not flow into the tank, to weaken the liquid, or to overflow it with an useless article. Into this compost-yard is brought, at leisure times, large quantities of muck, virgin-earth or bank-soil, upon which is poured from time to time, as it is collected, the urine from the cistern. Several of these heaps are in preparation at the same time, and so soon as one of them becomes sufficiently saturated with the urine, it is turned over and carefully mixed, the clods being minutely broken and pulverized. And if, at this stage, lime is added and intimately mixed by turning, the mass will be found equal in value to soaper's ashes; by far more lasting in its effects, adding *staple* as well as *rigour* to the soil, and manufactured at an expense much less than by any other mode that can be devised; the urine of such an establishment being equal in value, and preferable for many purposes, to the more solid parts of the dung of the stables. By these very simple means the resources of a farm can be doubled, while the labour attending the manufacture might be carried on at a time of leisure, affording profitable employment at all seasons of the year. And this mode of expending the urine of an establishment is far better than that which in some places is in use, namely, to carry it abroad in water-casks and sprinkle it on grass-lands while the crop is growing; for on some occasions it has been found, to say the least, almost useless, while in its concentrated state, it would prove in other cases injurious. One could easily imagine a tank, with a pump for lifting the liquid into an upper cistern, from whence it might be conveyed by means of a hose-pipe to any given distance, and to any part of the heaps where required; and thus, by the labour of a couple of hands for an hour or so, the contents of the cistern could be equally distributed over large quantities of earth, upon which more muck might then be spread, and the urine be again applied, so as at length to form heaps of compost of great magnitude, in a fit state to carry abroad as top-dressing to meadows or clovers, or suitable for any other purpose.

The solid contents of the farm-yard and stable manure could then be carried into the fields, and be there composted with other bank-earth, on the clearing of hedge-rows, &c., or the earth obtained from the lower parts of a field, where is often to be found large quantities of the richest parts of the soil, brought down by the washings of rains from time immemorial, and which only require to be composted and taken back to those parts from whence they have been brought, to render the land uniform in its produce, and enabling it to double the quantity of its yield. At the same time, great labour might sometimes be saved in the article of *carting*, if care were taken to make the arrangement to carry the compost *down hill* instead of *up the ascent*, and this might often be done, by taking the earth from the lower side of the field *above* that on which it is intended to carry it abroad, removing a set of bars here and there, to render ready access to the field below. This I have often been enabled to do, at a saving of more than one half the labour in cartage; and it be- comes the farmer to consider well before commencing his compost heap—by an examination of the locality of his fields—whether such an arrangement be not practicable; remembering, however, that the heap must be formed on a dry soil, for if otherwise, the fermentation going on in the mass will draw up the moisture from the lower earth, and render all the operations difficult, laborious, and disagreeable; the character of the compost will be changed, and its fructifying principle deteriorated in a remarkable degree. The wholesome and refining process of fermentation being checked and rendered abortive by the chilling influence of a too great abundance of moisture, the compost will become cold, heavy, and adhesive; powerless in its effects, and rather a dead and putrid mass, than a warm and invigorating substance. This consideration is therefore of paramount importance to the success of the undertaking; and yet, how often have I seen a compost-heap placed in a cold, wet, low, and shady corner of a field, liable to be overflowed by frets from a neighbouring stream, or even by the effects of a heavy rain. But no practical man will be in danger of committing the error, if he have once assisted in turning a heap placed in such an unsuitable situation, the wet and heavy foundation of which will have taught him a lesson he will not be likely soon to forget. VIR.

June 27, 1842.

For the Farmers' Cabinet.

Field-Mice.

MR. EDITOR,—In some of the agricultural papers I have seen it recommended to place scions above and below the part of a tree that has been barked by mice, so that when they shoot, they may form a medium by which the circulation of the sap in the tree may be kept up, and thus the existence of it may be secured. But, I would ask, would not these scions form a living bush around the tree, to its manifest injury and disfigurement? I fear they would, and would therefore propose to remove a portion of bark from some other tree, sufficiently large to cover the space girdled by the mice, fitting it neatly around its edges, and binding it carefully, covering it also with grafting clay, relying on the perfect success of the undertaking: being careful, however, to place the added bark in the same direction upwards that it had obtained on the tree from whence it had been removed, preferring also *that* from the same kind of tree if it can be obtained, especially as to its resinous or other qualities. We often hear of very serious mischief being caused by the field-mice, especially in winters when much snow has lain long on the ground, at the passing away of which a scene of desolation is revealed that is truly deplorable. But the instances which have been known amongst us have been slight indeed, when compared with what took place in England some years ago in two of the public forests, as related in that very interesting book, "Jessie's Gleanings in Natural History," vol. i. p. 166, where it is said:

"An extraordinary instance of the rapid increase of mice and the injury they sometimes do, occurred a few years ago in the new plantations made by order of the crown, in Dean Forest, Gloucestershire, and at the same time, in the New Forest, Hampshire, (about 100 miles distant). In these, vast numbers of the trees were destroyed, the mice having eaten quite through the roots of five years' old oaks and chestnuts, generally just below the surface of the ground; hollies also, five and six feet high, were completely barked round the bottom, while the mice were often seen feeding on their upper branches; the roots having been eaten through whenever they obstructed the runs of the mice, the bark constituting their food. Various plans were devised for their destruction, traps were set, poison laid, and cats turned out, but nothing appeared to lessen their number: it was at last suggested, that if trenches were dug, into which the mice might be enticed or fall, their destruction might be effected; these therefore, were made, twelve on each acre of land, from 18 to 20 inches in depth

and two feet wide, wider at bottom than the top, hollowed under, so that the animal once in, could not easily get out again. In these holes at least 30,000 mice were caught in the course of three or four months; and it was calculated that a much greater number than this had been taken out of the trenches after being caught, by weasels, kites, hawks and owls, as also by crows, jays, &c.; the cats, also, resorting to these trenches to feed as well as dogs. As the mice increased, so did the birds of prey, of which at last there was an incredible number; and in addition to the quantity above-mentioned, multitudes were destroyed by poison, so that in Dean Forest alone, the number could not be less than 100,000, while in the New Forest the number destroyed could not but be equal. In addition to these means of destruction, it was found that when their food fell short in winter, they fed one upon another, this also often taking place in the bottom of the trenches, so that the total destruction in both forests could not but have been far above 200,000. There were two descriptions of these mice, one of them, the long-tailed field-mouse of Buffon—the *mulot*; the other, a short-tailed mouse, the *campagnol*; but there were about fifty of the latter taken to one of the former, the long-tailed mice having white breasts, with the tail the length of the body; the long-tailed mice being chiefly caught on the wet parts of the forest; the short-tailed, both on wet as well as dry ground; these having a thicker head, with ears very short, and almost lined in fur; its body being three inches in length, its tail one inch; the upper part of the body of a reddish brown, and the belly a deep ash colour; their nests being under the surface of the ground, where they produce from seven to nine young at a time. Amongst the birds of prey which made their appearance in Dean Forest during the time the mice were in the greatest numbers, was a small white owl, none of which had ever before been seen on the spot; these were considered to be the most destructive of any of their enemies; they were smaller than the brown owl, and had a kind of ruff around the head. At first, it was believed that the injury to the trees had been occasioned by rabbits, but it was soon found to proceed from the mice, as they were seen barking the trees, even at the height of three or four feet from the ground, having climbed the trees to that distance; making devastation indifferently, on the oaks, ash, beech, holly and willow, but scarcely touching the fir tribe. In a plantation in Dean Forest of 300 acres, not more than four or five trees were found which were not injured by the mice, or indeed destroyed by them; many plants, the size of a man's arm, were bitten through, and the roots were

grew so close to the stem, that some of the young trees were seen without remaining on one side, or level, with the ground. Accurate accounts were kept by the foresters of the number of mice caught in the different enclosures in Dean Forest in three months, from September to January, and it was ascertained that over 1,643 acres the number destroyed was 22,051, besides innumerable quantities otherwise destroyed. By far the greater number taken from the trenches were found dead, having exhausted themselves in their efforts to climb the sides, as well as having been drowned by water collected therein. Flies were also seen hunting for mice, and devouring them greedily."

I have never found it difficult to keep the largest garden clear of mice, merely by keeping a course of trap-traps continually set and in working order: these, as is well known, are made of a piece of board, one end of it projecting over a deep pan with water, set into the ground, and very nicely poised by a couple of iron pins driven through the side pieces into the dirt, at the end of which is secured the tail, so that it slips out off when the mouse, by its weight, is tilted into the water below, when it instantly resumes its position and is ready for another delivery: these traps are, as I said, sufficient for the security of a very large garden, but they must be kept in order the whole year, especially in the winter, for being that season of scarcity of provisions, you will find that the mice will be enticed from all quarters, and great havoc will be made amongst them. The last time I visited my traps I found not been in one of them, and the trap in order for as many more: I should say, I find that a mixture of flour and butter is an excellent bait, and it withstands the effect of the weather, besides being nice to the taste by its sweetness. I may not, I know a projecting board over the pan to keep it dry, and sometimes six peas or beans to the dirt, as a change of food, through which I drive pins to keep them in place. This is a very convenient, cheap and effective trap; not by placing such an one in the pans used by the mice under the surface of the ground, sinking the pan deeper into the earth, a whole field is soon rid of the nuisance; in many countries, these are the only traps in use for taking the mice, and none are found so successful or so convenient: these, however, are not used with bait, as that is not found necessary.

JOHN TAYLOR.

June 12, 1821.

To destroy lice on cattle, take the water in which potatoes have been boiled, and wash them with it. It is said the farmer will all be dead in two hours.

For the Farmers' Cabinet.

Renovation.

MR. BURTON.—Have any of your readers got to the point of experiment the French mode of growing wheat by sowing on a hard, unbroken surface of soil, and covering the seed with straw, according to the plan detailed at a 125. of the Cabinet for November? If they have, would they "report progress" for the information of their friends and neighbours? It is a most interesting enquiry, and I would far more than a year has not been suffered to pass away without testing the truth of a doctrine which seemed, at the time of its first promulgation, to have nature on its side, strange as it must have appeared to some of those who had never rationally considered the subject; but if it be in the scope of curiosity only, I trust we shall hear of more than one fully-tried experiment having been carried out to completion. In a very interesting work, which I am now reading, I find an account of manuring vineyards on the same principle, naming, with the cuttings of the vines, manure said to be practised in the wine countries of Europe with the most perfect results: and thinking that just at this time the subject may excite some interest amongst your wine-growing readers—for the season is at hand when the branches will require to be stopped by breaking down those that have fruited—about July or August—when they can be chopped up and be buried in the soil at their first *secundum artem*, testing by their next year's progress, the truth of the problem by the effect on their fruitfulness and well-being. I have copied a portion of the account for insertion in the pages of the Cabinet, subject of course to your approval.

"Nothing more," says a vine-dresser upon the state of the vines, "is necessary for the manure of a vineyard than the branches of the vines themselves: my vineyard has been manured in this way for eight years, and yet none beautiful and rich-wine vines cannot be pointed out. I formerly followed the method usually practised in this district, and was obliged in consequence to purchase manure to a large amount. This is now entirely saved, and my land is in excellent condition; and when I see the following labour used in the manuring of vineyards—forces and men tilling up the mountains with unnecessary materials, I am inclined to say to all, come to my vineyard and see how a beautiful Creator has provided that vines should manure themselves like the trees in the forest; and even better than they, for the foliage falls from the trees in a forest only when the leaves are withered, and then they lie for years before they decay, but the branches are pruned from

the vines about the end of July, while still fresh and moist, and if they are then cut into small pieces and mixed with the earth, they undergo putrefaction so completely that at the end of four weeks not the smallest trace can be found."

Another poor man writes—"For the last ten years I had been unable to place dung on my vineyard because I am poor and could buy none; but I was very unwilling to allow my vines to go to decay, as they are my only source of support in my old age; and I often walked very anxiously amongst them without knowing what I should do. At last my necessities became greater, which made me more attentive, so I remarked that the grass was longer on those spots where the branches of the vine fell, than on those on which there were none. So I thought upon the matter and then said to myself, if these branches can make the grass grow large and strong and green, they ought also to be able to make my plants grow better and become strong and green.—I dug, therefore, my vineyard as deep as I would have done to put dung into it, and cut the branches into small pieces, placing them in the holes and covering them with earth. In a year I had the great satisfaction to see my barren vineyard become quite beautiful; and this plan I continue every year, and my vines grow splendidly and remain the whole summer green, even in the greatest heat. All my neighbours wonder very much how my vineyard has become so rich, and yet they all know that I have put no dung upon it for ten years."

A most rational plan of management of the vine prevails in some places: it is to pinch off the top of the bearing shoot when it has advanced about a foot beyond the last fruit-joint, with the view of throwing more of the juices of the tree into the fruit; and this it no doubt does; but this cure is not properly conducted or cooked, by passing to the end of the shoot and returning to the fruit, there to be deposited in a state of purity, fitted by the hand of nature, for the express purpose, and in a way which she only knows. Hence arises plethora and miasm, the vessels, overcharged with the crude sap are burst, and then putridity and life are engendered, to the destruction of the crop. Of a piece with this highly improper treatment, is the removal of the tendrils; and, at a later period of the season, the leaves which shade the fruit, with the view of allowing the sun to fall upon it in its full vigour.—All wrong, depend upon it: we cannot oppose nature, all we can do is to assist her, as some see very properly and so. With the best wishes for the success of your well-conducted Journal, I am your Subscriber, but no

Magnify your Calling.

I wish I could see in all our farmers a disposition to magnify their calling: but I have been grieved in many a farm-house, to listen to lamentations over what they term their "hard lot." I have heard the residents upon a noble farm, all paid for, talk about indigence, and never having their work done, and few or no opportunities for the children; and I have especially been sorry to hear the females lament over the hard fate of some promising youth of seventeen or eighteen, who was ultimately filling up his duties, and training himself for extensive usefulness and influence. They draw comparisons between his situation, gratefully paid and working hard, and coming in fatigued, with some cousin at college, or young man who dined at a city store, till at length the boy has become dissatisfied, and begged off from his true interests and happiness. I am conversant with no truer scenes of enjoyment than I have witnessed in American farm-houses, and even log cabins, where the latter, under the influence of enlightened Christianity and sound views of life, has gone with his family, as the world have termed it, into the woods. The land is his own, and he has every encouragement to improve it: he finds a healthy employment for himself and family, and is never at a loss for materials to occupy his mind. I do not think the peasant has more occasion for research than the farmer: the proper food of vegetables and animals will soon constitute a wide and lasting field of investigation. The diary journal of a farmer is a source of most interest, to himself and others. The record of his labours, the expression of his hopes, the nature of his fears, the opinions of his neighbours, the results of his experiments, the entire sum total of his operations, will prove a deep source of pleasure to any thinking man. If the establishment of agricultural societies, and the cattle shows of our country should have the effect of stimulating the farmer in every town to manage his land and stock upon the best principles of husbandry, there would be a wonderful and speedy addition in the products of the earth, because comparison would have itself upon his friends and neighbours; and an example would be certainly beneficial, as experience itself will give way to profit.—Charles Crocker.

To prevent weeds from growing in my nursery of trees, I cover the land thickly with horse's spent manure, it prevents every thing out of the trees from growing. I find that two loads of dung carried to the land in the spring, worth three loads carried to it in the fall of the year. BRACKENLEY.

Manufacture of Eleaine and Stearine from Lard.

By a new process, patented by J. H. Smith, 122 Front Smith St. N. Y.

"THE first process to be performed upon the lard is that of boiling, which may be effected either by the direct application of fire to the kettle, or by means of steam. When the latter is employed, I cause a steam-tube to descend from a steam boiler into the vessel and be coiled round on the said bottom so as to present a large heating surface to the lard, provision being made for carrying off the water and waste steam, in a manner well known; I usually perforate this tube with numerous small holes along the whole of that portion of it which is submerged below the lard, thus allowing the whole of the steam to pass into and through the lard. To operate with advantage, the vessel in which the boiling is effected should be of considerable capacity, holding, say, from ten to one hundred barrels. The length of time required for boiling will vary much, according to the quality of the lard: that which is fresh may not require to be boiled for more than four or five hours, whilst that which has been long kept may require twelve hours. It is of great importance to the perfecting of the separation of the Stearine and Eleaine that the boiling should be continued for a considerable period, as above indicated.

My most important improvement in the within described process consists in the employment of alcohol, which I mix with the lard in the kettle or boiler at the commencement of the operation. When the lard has become sufficiently fluid, I gradually pour and stir into it about one gallon of alcohol to every eighty gallons of lard, taking care to incorporate the two as intimately as possible; and this has the effect of causing a very perfect separation of the Stearine and Eleaine from each other by the spontaneous granulation of the former, which takes place when the boiled lard is allowed to cool in a state of rest. I sometimes combine camphor with the alcohol, dissolving about one fourth of a pound in each gallon of alcohol, which not only gives an agreeable odour to the products, but appears to co-operate with the alcohol to effect the object in view; the camphor, however, is not an essential ingredient, and may be omitted; while spirit of a lower proof than alcohol may be used, but not with equal effect or benefit.

After the boiling of the lard with the alcohol has been continued for a sufficient length of time, the fire is withdrawn or the supply of steam cut off, and the mass is allowed to cool sufficiently to be ladled or drawn off into hogheads or other suitable coolers, when it

is to be left at perfect rest to cool down and acquire the ordinary temperature of the atmosphere; and as the cooling proceeds, the granulation consequent upon the separation of the Stearine from the Eleaine will take place and become perfect. The material is then to be put into bags and pressed moderately under a press of any suitable kind, which will cause the Eleaine to flow out in a state of great purity, there not being contained within it any appreciable portion of Stearine; and this pressure is to be continued until the Stearine is as dry as it can be made in this way. The masses of solid matter thus obtained are to be re-melted, and in this state are poured into boxes or pans of the capacity of ten or twelve gallons and allowed to form lumps or blocks; which when removed from these vessels are piled or stacked in a room for a week or ten days more or less, the room at a temperature of nearly 80°, which will cause a sweating or oozing from the blocks, and they will improve in quality. The blocks are then to be rolled in cloths or put into bags and these placed between plates are to be submitted to very heavy pressure by means of an hydraulic press. After this pressure it is brought again into the form of blocks, and these are to be cut up by means of revolving or other knives or cutters, when the pieces thus obtained are to be put into bags and subjected to the action of hot water or of steam, in a press, until it becomes hard enough to be manufactured into candles, or put up for other purposes to which it may be desired to apply it. And the manner of subjecting it to the action of heated water or steam is, to place the bags containing the Stearine in a box or chest into which heated water or steam may be introduced, but not to such extent as to fuse the Stearine. A follower is then to be placed against the bags contained in the chest or box, and moderate pressure made upon them, and the material will now be found to have acquired all the required hardness, and to possess a wax-like consistency, such as would generally cause it to be mistaken for wax.

I am aware that alcohol has been used for the purpose of separating Eleaine and Stearine from each other in analytical chemistry, but the lard or other fatty matter consisting of these substances has, in this case, been dissolved in the heated alcohol, and the whole has been suffered to cool together; but this process would be altogether inapplicable to manufacturing purposes, as the cost would exceed the value of the product. In my manufacturing process, instead of dissolving the lard in alcohol, I add a small proportionate quantity of the latter to the former, the whole of which is driven off at an early period of the ebullition, but by its presence, or catalytically,

disposes the Eleaine or Stearine to separate from each other, which they do, after long boiling and subsequent cooling. I do not, therefore, claim the use of alcohol in separating Eleaine and Stearine from each other by dissolving the fatty matter in heated alcohol and by subsequently cooling the solution; but what I do claim as of my invention and wish to secure by letters patent, is, the within-described method of effectively promoting their separation by incorporating alcohol, or highly rectified spirits, with the lard in small proportionate quantities, say a gallon, more or less, of said alcohol or spirits, to eighty gallons of lard, and then boiling the mixture for several hours, by which boiling, the whole of the alcohol will be driven off, but will have left the Eleaine and Stearine with a disposition to separate from each other on a subsequent cooling, as herein indicated and made known.

(Signed) JOHN H. SMITH."

MESSRS. WILLIS MARTIN & Co., Dillwyn Street, Philadelphia, have, for a long time, been engaged in preparing in great purity and by a process peculiar to themselves, the Eleaine or lard-oil, which has been sold under various names, but chiefly as olive-oil for manufacturing purposes, and which, in the dressing of cloths, has been found quite equal if not superior to every other. They still continue the manufacture, and are furnishing, at \$1 00 per gallon retail, or 75 cents per gallon by the barrel, a very beautiful article for lamps, which upon a fair and extended trial we feel prepared to recommend to general notice. It gives a far brighter light than does whale-oil at the same price, emits neither smoke or smell during the burning or at the time of extinguishing, and seems in other respects preferable to all other, excepting, perhaps, the highest refined sperm-oil, which, however, is only two degrees more in *levity*—a property by which lamp-oil is to be judged—but many degrees higher in price than Eleaine. Messrs. M. are not yet prepared to manufacture candles from the Stearine, but we would recommend our friends to make trial of the lard-oil—which will be supplied either by the barrel, gallon or quart—in the expectation that they will find it a very excellent article, and by far preferable to fish-oil at the same price.

Ed.

For the Farmers' Cabinet.

Medicated Tar.

MR. EDITOR,—I find that some years ago the gardener of the Duke of Portland, Mr. W. Speechley, discovered an effectual mode of ridding trees and other vegetables of the blight insect by the following dressing. He took one pound of quicksilver, upon which he poured boiling water, which, after agitating for a considerable time, he poured off for use. To every gallon of this mercurial water he then added six ounces of soft soap, with which he washed the trees and plants, and an effectual cure is said to have followed. But Mr. M'Mahon very shrewdly observes, "mercury is not soluble in any degree in water,

but if corrosive sublimate be substituted for crude mercury, there would be no doubt of its efficacy." Whatever good has arisen, therefore, from washing with the saponified mercurial water, must have proceeded from the soap, or more properly from the alkali contained in the soap, by which the acidity arising from the diseased plants was neutralized, all putricity being found to be highly charged with *oxygen*, which is the basis of acidity, or the *acidifying principle*. From the above, then, it would appear that Mr. Hagerston's discovery of the whale-oil soap is not original, effectual as it might have proved for the destruction of the blight insects on plants; and that in all probability a saponified solution of corrosive sublimate would prove far more effectual for the purpose than merely whale-oil soap dissolved in water.

In the 5th volume of the Cabinet, page 118, there is a most interesting article on the management of orchards, where mention is made of "medicated tar" for the purpose of dressing wounds made in the body or limbs of trees while eradicating canker, and which, there is no doubt would be found highly beneficial; I would suggest, however, the addition of soap to the corrosive sublimate before mixing with the tar; which would in all probability be then found perfectly effective when applied to the limbs and bodies of trees, while a solution of the sublimated soap without the tar, would be better adapted to the cleansing of the leaves. By turning to the page above mentioned, it will be found that half an ounce of corrosive sublimate in powder, dissolved in alcohol and mixed with three pints of tar, would be found sufficient for the dressing of 200 diseased trees; much, of course, depending upon their size and state of health. It is also recommended to use the medicated tar in simple pruning, anointing the parts as soon as the knife has passed; and no doubt the use of it would be found of great importance as a dressing after the eradication of worms from peach and other trees, as also while pruning the canker from diseased branches of the plum and cherry. The mixture might be thickened by an addition of fuller's earth or fine clay.

C. D.

May 31, 1842.

Manure for Cranberries.

WHEN these are cultivated in gardens or fields of firm land, use for manure the muck or mud from the bogs where they grow spontaneously; by these means full crops of this most valuable fruit may be procured with the greatest certainty and at little cost or trouble, and of superiour flavour.

For the Farmers' Cabinet.

Autumnal Ploughing for Oats.

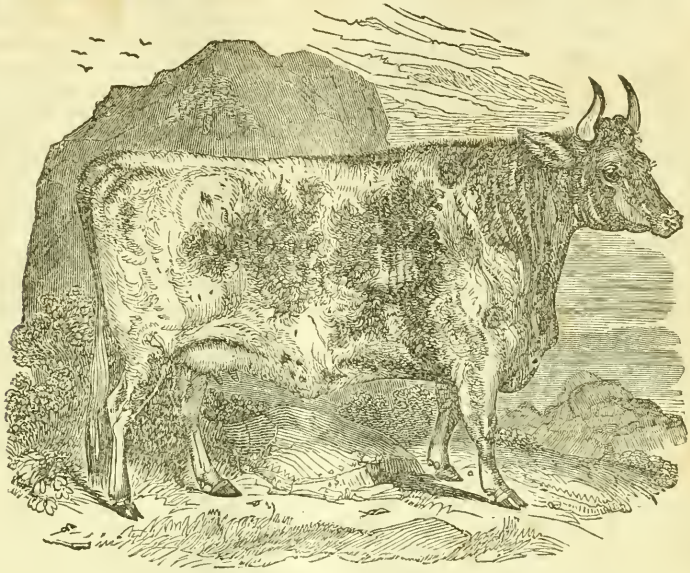
MR. EDITOR,—It has been with considerable distrust that I have sometimes heard of the English mode of ploughing the land, designed for oats in the spring, early in the previous autumn; not being able to persuade myself that the land, after lying for so long a time unworked, would be found a fit seed-bed for the crop—in short, I thought the account was *foreign*, both to our circumstances and to the truth; but I have since learnt that the experiment has been made, and is likely to be crowned with success; if so, the plan is an excellent one for the relief of our spring labours, as well as giving us an opportunity of an early sowing—a circumstance which I have long been convinced is of vast importance in the cultivation of that crop. On this subject a friend has sent me the following account, extracted from some work on husbandry—a plan which he assures me would be found to work well in this country, the oat requiring a close, compact seed-bed, which is given by an autumnal ploughing, preparatory to a spring sowing. “On the 20th of October, I commenced ploughing a field of 52 acres for oats; the land broke up very fine, being after tares, and I feared that it would become too flat by the winter rains, &c., for spring sowing without another ploughing; but although the land was light, and fell so fine, yet at the seed time, the 20th of February, the oats were so completely covered by *five* harrowings, as to show the effects of early ploughing in the winter. This plan of fallowing for oats is admirable, and answers in every respect; the oats were buried deep, and prospered beyond those I sowed the same year after two ploughings; and when I mowed them, they were in every respect a great crop. I concluded, therefore, that ploughing thus early is best, since the earth, by receiving the winter rains and frosts, retains so much moisture, as to bring all the oats away at once; the contrary of which is often the case in light lands sown after the plough. In the beginning of November, I ploughed up four acres of a field containing fourteen acres, which had been laid down to red clover for two years, during which it had been mown; and although it was clayey land, it broke up pretty freely, and, therefore, having much other business on hand at the time, I thought I would delay the breaking up the rest of the field until January, supposing it would harrow well by the end of February, when sown with oats; accordingly, the latter end of January I ploughed the rest, and sowed the whole field with black oats the latter end of February. The land dressed well with the harrows, but

this difference I observed—the four acres of land ploughed in November was broken by the frosts to dust, the other part was not so fine, although it worked very mellow. This experiment I made, on conjecture that the four acres ploughed so early would carry the best oats—and my expectation was answered, for although the whole field from the first appearance gave me great hopes of a good crop, by the latter end of May, the four acres which were ploughed in November were distinguishable in colour for a quarter of a mile, being much stronger and darker in colour. On the 8th of June, I took a view of another field consisting of six acres, which I had ploughed in the winter in the same manner, viz: four acres in October, when the ground was very dry, and in January the two remaining acres, the ground being then dry also; and this field had been, like the other, two years in red clover; both parts turned up very mellow, being sown to black oats in the latter end of February, and harrowed fine, only with this difference, the four acres ploughed in October worked like ashes. The result was like the former, the oats in the four acres were thicker, stouter, and of a deeper green than the two acres; and in addition, it is to be noted that in both the fields, on those parts ploughed earliest, no grass appeared during the winter, nor in the spring, to prejudice the harrowing.”

On the occasion of spring-sowing oats on land turned up in the autumn, without other ploughing, it is asserted, that four bushels of seed per acre will not be found too large a quantity; that it will all come together and form a regular crop, without danger of falling before ripe; and the frost-pulverized surface of the land will be by far the best seed-bed for clover and the grass seeds, being more free from weeds, and better calculated for covering them; the crop of oats too will be larger in quantity and incomparably better in quality, coming to harvest earlier, with a much heavier straw. Might we not expect to find that this mode of culture will obtain notice throughout the country, so soon as the fact has been ascertained? JOHN DALEY.

ONE of the chief errors of our husbandry is, to cultivate too much land; because it is only half done. Half the quantity, with double the work on it, would insure double crops, which would be found more profitable.

“WE should be sorry to have every body agree with us, or ourselves to agree with every body else—this would be dull work, and put an effectual stop to all inquiry—consequently, to all intellectual progress.”



THE KERRY COW.

THE Cow of Kerry is truly a *poor man's cow*, living everywhere, hardy, and yielding, for her size, abundance of milk of good quality, and fattening rapidly when required so to do. They are found in almost every mountainous district; are small, light, active and wild: the head small, the horns short and turned rather upright; and although somewhat deficient in the hind quarters they are wide over the hips, and the bone not heavy: the hair long, the colour in some places black, in others brindled, and others black or brindled with white faces; fine in the neck with a lively eye and sharp muzzle, with great activity. They are exceedingly hardy, living through the winter, and sometimes fattening, on their native mountains and moors in the summer; and when removed to better pasture they fatten with great rapidity; are generally very good milkers and many of them *excellent* in this respect.

The slightest inspection of our present cut will convince the reader of the great difference between this breed and the larger breed of Irish cattle so faithfully portrayed at p. 113 of the Cabinet for November; but, were it not for the cloddiness about the shoulder, and the shortness and thickness of the lower part of the neck and the pied colour, we could almost fancy that we here saw the middle-horn north Devon cow. While the long-horned breed are met with in the valleys and rich pastures of the low land, this small race of animals is confined to the hilly and moory ground or scanty portion of land possessed by the cottager and small farmer; and yet there are spots of better pasture where they are found of a considerable size, and in Connaught, they are much improved in size as well as form; the horns somewhat larger, but still turning upward; but they are shorter in the leg and body, their loins and haunches heavy and wide; and although the hair is thick, the hide is mellow, and they thrive with a rapidity rarely excelled by any other breed. And although this breed is now not met with pure, except inland on the mountains, being nearly worn out in the more civilized parts of the country by repeated crossings with the Leicester, Hereford and Devon, yet for the dairy, all farmers still prefer those cows which show most of the native Irish blood. Mr. Rawson of Kildare thus describes the dairy cow of Kerry.—She should have a sweet countenance, neat, clean horn, head small, neck thin at head, tapering gently and increasing when meeting the shoulder, shoulders flat and thin in the blade, chine not too fine, chest deep and full at the breast, ribs round and swelling, hips not too wide and nearly concealed by the high arching of the ribs, hind quarters broad and lengthy, narrowing gradually to the tail, which should lie snug between the bones, the quarters on the outside flat, on the inside full, but not extending too low, legs fine and clean in the bone but not too long. All which is faithfully depicted in the cut above, exhibiting a cow about as perfect for dairy purposes as can well be conceived of; the mountainous situation which they occupy in Ireland seems to point them out, like the Welsh and the Scotch, as the original breed, and to prove, that one of a very similar character was indigenous to both islands.

Agricultural Chemistry.

FROM LIEBIG.

"THERE is no profession which can be compared in importance with that of agriculture; for to it belongs the production of food for man and animals: on it depends the welfare and development of the whole human species, the riches of the state, and all commerce.

"There is no other profession in which the application of correct principle is productive of more beneficial effects, or is of greater and more decided influence. Hence it appears quite unaccountable, that we may vainly search for *one leading principle* in the writings of agriculturists and vegetable physiologists. The methods employed in the cultivation of land are different in every country and in every district: and when we inquire the causes of these differences we receive the answer, that they depend upon circumstances. No answer can show ignorance more plainly, since no one has ever yet devoted himself to ascertain what these circumstances are. Thus also, when we enquire in what manner manure acts, we are answered by the most intelligent men, that its action is covered by the veil of Isis; and when we demand further what this means, we discover, merely, that the excrements of men and animals are supposed to contain an incomprehensible something which assists in the nutrition of plants, and increases their size; this opinion is embraced without even an attempt being made to discover the component parts of manure, or to become acquainted with its nature.

"In addition to the general conditions, such as heat, light, moisture and the component parts of the atmosphere, which are necessary for the growth of all plants, certain substances are found to exercise a peculiar influence on the development of particular families. These substances either are already contained in the soil, or are supplied to it in the form of the matter known under the general name of manure. But what does the soil contain, and what are the components of the substances used as manure? Until these points are satisfactorily determined, a rational system of agriculture cannot exist. The power and knowledge of the physiologist, of the agriculturist and chemist, must be united for the complete solution of these questions; and in order to attain this end, a commencement must be made.

"The *general* object of agriculture is, to produce in the most advantageous manner certain qualities, or a maximum size, in certain parts or organs of particular plants. Now, this object can be obtained only by the application of those substances which we know to be indispensable to the development of these parts or organs, or by supplying the condi-

tions necessary to the production of the qualities desired. The rules of a rational system of agriculture should enable us, therefore, to give to each plant that which it requires for the attainment of the object in view. The *special* object of agriculture is, to obtain an abnormal development and production of certain parts of plants, or of certain vegetable matter, which are employed as food for man and animals, or for the purposes of industry.

"The means employed for effecting these two purposes are very different. Thus, the mode of culture, employed for the purpose of procuring fine pliable straw for Florentine hats is the very opposite to that which must be adopted in order to produce a maximum of grain from the same plant. Peculiar methods must be used for the production of nitrogen in the seeds; others, for giving strength and solidity to the straw; and others again must be followed, when we wish to give such strength and solidity to the straw as will enable it to bear the weight of the ear. We must proceed in the culture of plants in precisely the same manner as we do in the fattening of animals. The flesh of the stag and roe, or of wild animals in general, is quite void of fat, like the muscular flesh of the Arab; or it contains only small quantities of it. The production of flesh and fat may be artificially increased; all domestic animals, for example, contain much fat. We add to the quantity of food, or we lessen the processes of respiration and perspiration by preventing motion. The conditions necessary to effect this purpose in birds are different from those in quadrupeds; and it is well known that charcoal powder produces such an excessive growth of the liver of a goose as at length causes the death of the animal.

"The increase or diminution of the vital activity of vegetables depends upon the heat and solar light, which we have not arbitrarily at our disposal: all that we can do is, to supply those substances which are adapted to assimilation by the power already present in the organs of the plant. But what are these substances? They may easily be detected by the examination of a soil, which is always fertile in given cosmical and atmospheric conditions: for it is evident, that the knowledge of its state and composition must enable us to discover the circumstances under which a sterile soil may be rendered fertile. It is the duty of the chemist to explain the composition of a fertile soil, but the discovery of its proper state or condition belongs to the agriculturist; our present business lies only with the former.

"Arable land is originally formed by the crumbling of rocks, and its properties depend on the nature of their principal component parts. Sand, clay and lime, are the names

given to the principal constituents of the different kinds of soil. Fine sand and limestone, in which there are no other inorganic substances except silicious earth, carbonate or silicate of lime, form absolutely barren soils. But argillaceous earths form always a part of fertile soil. Now, from whence came the argillaceous earths in arable land? what are their constituents, and what part do they play in forming vegetation? They are produced by the disintegration of aluminous minerals by the action of the weather: the common potash and soda-felspars, Labrador spar, mica, and the zeolites, are the most common aluminous earths, which undergo this change. These minerals are found mixed with other substances in granite, gneiss, mica-slate, porphyry, clay-slate, gräwacke, and the volcanic rocks, basalt, clinkstone and lava. In the gräwacke we have pure quartz, clay-slate, and lime; in the sandstones, quartz and loam. The transition limestone and the dolomitz contain an intermixture of clay, felspar, porphyry and clay-slate; and the mountain limestone is remarkable for the quantity of argillaceous earths which it contains.

"It is known that aluminous earths are most widely diffused on the surface of the earth, and as we have already mentioned, all fertile soils, or soils capable of culture, contain alumina as an invariable constituent.

"There must therefore be something in aluminous earth which enables it to exercise an influence on the life of plants, and to assist in their development. The property on which this depends is that of its invariably containing potash and soda. Alumina exercises only an indirect influence on vegetation, by its power of attracting and retaining water and ammonia: it is itself very rarely found in the ashes of plants, but silica is always present, having in most places entered the plants by means of alkalies.

"In order to form a distinct conception of the qualities of alkalies in aluminous minerals, it must be remembered that felspar contains $17\frac{3}{4}$ per cent of potash, albite $11\frac{1}{2}$ per cent of soda, and mica 3 to 5 per cent: and that zeolite contains 13 to 16 of both alkalies together. Analysis has shown that clay-slate contains from $2\frac{3}{4}$ to $3\frac{1}{2}$ per cent of potash, and loam from $1\frac{1}{2}$ to 4 per cent of potash. If, now, we calculate from these data, and from the specific weights of the different substances, how much potash must be contained in a layer of soil, which has been formed by the disintegration of 40,000 square feet (1 Hessian acre) of one of these rocks to the depth of 20 inches, we find that a soil of felspar contains 1,152,000 lbs.: clink-stone contains 200,000 to 400,000; basalt 47,500 to 75,000; clay-slate, 100,000 to 200,000; loam 87,000 to 300,000. Potash is present in all clays;

according to Fuchs, it is contained even in marl, so called in Europe: it has been found in all the argillaceous earths in which it has been sought.

"The fact that they contain potash may be proved in the clays of the transition and stratified mountains, as well as the recent formations surrounding Berlin, by simply digesting them with sulphuric acid, by which process alum is formed, (which is a sulphate of alumina and potash.)

"When we consider this extraordinary distribution of potash over the surface of the earth, is it reasonable to have recourse to the idea, that the presence of this alkali in plants is due to the generation of a metallic oxide by a peculiar organic process for the component parts of the atmosphere? This opinion found adherents even after the method of detecting potash in soils was known; and suppositions of the same kind may be found even in the writings of some physiologists of the present day. Such opinions belong properly to the time when flint was conceived to be a product of chalk, a calcareous clay, because found therein, and when every thing which appeared incomprehensible on account of not having been investigated, was explained by assumptions far more incomprehensible."

For the Farmers' Cabinet.

Germination of Seeds.

MR. EDITOR, — In perusing the "Treatise on Vegetable Physiology," of which mention is made at page 360 of your last number, I have been much interested with some remarks on the germination of seeds and the particular views taken by the writer, of this most important process of nature, which I deem worthy to be offered for insertion in the Cabinet; and should they meet your approval, I shall be glad to see them introduced to your pages, and am a constant reader. D. I.

"The conditions requisite for the germination of seeds, are warmth, moisture, and the presence of oxygen, the process being also favoured by darkness; and the influence of each of these agents will be readily understood. No vital action can go on without a certain amount of heat; the germination of the seed is, therefore, as much dependent on warmth, as the hatching of an egg of a bird, although the amount it requires is not so great. Moisture is also required, for the conversion into a fluid state of the dry nutriment which has been previously stored up in the seed; and no change can commence until this be supplied. The presence of oxygen is also necessary, because the conversion of starch into sugar, requires that some of the carbon of the former should be set free; and this can only be accomplished by the union

of it with oxygen, so as to form carbonic acid; and this process is favoured by darkness, because light has a tendency to produce the contrary change, namely, the fixation of the carbon within the structure. And it is interesting to observe how all these conditions are supplied in the ordinary course of nature by the soil in which the seeds are dropped. If these be sown during the spring or summer, they speedily begin to germinate; but if they are deposited in the autumn, they remain almost unchanged until the winter has passed and the returning warmth of the air and earth arouses them into activity. It is seldom that the soil is so completely destitute of moisture for any long time together as not to be able to excite seeds to germinate, but their sprouting is well known to be favoured by damp weather; and if seeds through being put into the ground during a drought remain undeveloped, they are brought forward very rapidly by a genial shower; and a porous soil is to be preferred on account of the free admission of air which it gives to germinating seed, as well as for the other processes of vegetation, while a stiff clay soil prevents this necessary contact, and thus impedes germination. So complete a check, indeed, may thus be produced that it has been proposed to bury seeds in clay rammed hard, when it is desired to convey them from one part of the world to another through very hot climates, the high temperature of which might destroy their vitality if its influence were not prevented by the bad-conducting power of the mass in which they are thus enclosed; for if seeds are buried very deep even in a light soil, the contact of oxygen will be sufficiently impeded to prevent their germination; and the bringing such seeds nearer the surface will then have as much influence in causing them to sprout, as the supply of either of the agents just mentioned, which might have been previously deficient.

The seeds of most plants are endowed with a remarkable power of preserving their vitality for an almost unlimited time, if they are placed in circumstances which neither call their properties into active exercise, nor occasion the decay of their structure; the conditions being a low temperature, dryness of the surrounding medium, and the absence of oxygen; and if all these are supplied, there seems no limit to the period during which seeds may retain their vitality. And even if moisture or oxygen be not entirely excluded, the same effect may result, provided that the temperature be low and uniform. Thus, the seeds of most plants may be kept for several years freely exposed to the air, provided they are not exposed to dampness, which will either cause them to germinate or to decay.

Instances are frequent, in which ground that has been turned up, spontaneously produced plants different from any in the neighbourhood. The following circumstance which occurred about thirty years ago in the state of Maine, is very remarkable: some well-diggers while sinking a well at the distance of about forty miles from the sea, struck, at the depth of twenty feet, a layer of sand, nothing similar being to be found in the neighbourhood, or anywhere nearer than the sea-beach. As it was drawn up from the well, it was placed in a heap by itself, and was at last spread abroad around the spot on which it had been heaped, and was for some time scarcely remembered; in a year or two however, it was perceived that a great number of small trees had sprung up from the ground over which the sand had been strown, and these trees were at length ascertained to be the beach-plum; and they actually bore the beach plum, which had never before been seen, except immediately upon the sea-shore. These trees must therefore have sprung from seed which had existed in the stratum of sea-sand pierced by the well-diggers, and on exposure to the air they vegetated. But how long they had remained inactive beneath the surface of the earth it would be quite impossible to conjecture. It is said that some grains of wheat which were found in the window of a house in Herculaneum, vegetated when placed in the earth, after being buried about 2000 years. And the grains of wheat and other seeds enclosed in the bandages that envelope mummies are said to have germinated; and there is nothing improbable in the fact; but as the Arabs, from whom the mummies are commonly obtained, are in the habit of previously unrolling them in search of coins &c., it is not always certain that the seeds which have sprouted were really at first enclosed with the mummies. But perhaps the most remarkable instance on record, as presenting most satisfactory proof of the lapse of at least 1600 or 1700 years, is one related by Dr. Lindley. "I have now before me," he says, "three plants of Raspberries which have been raised in the gardens of the Horticultural society from seeds taken from the stomach of a man, whose skeleton was found thirty feet below the surface of the earth, at the bottom of a Barrow or Tumulus, which was opened near Dorchester, England; he had been buried with some coins of the emperor Hadrian!" These barrows or tumuli are large mounds of earth evidently artificial, for, where dug into, they are found to contain human remains, with pottery, weapons, &c., and as they are generally found together, they appear to have been erected on fields of battle, to contain the bodies of the slain."

For the Farmers' Cabinet.

Shoeing the Horse.

MR. EDITOR,—The remark of your correspondent at page 318 of your Number for May, "That many of us transpose the order of our labours," reminds me of a mode adopted in the shoeing of the horse, which I once witnessed, and which is I believe of importance sufficient to deserve notice in the pages of your valuable and very interesting work. It occurred at the town of Croydon, near London, which is known as the centre of the stag-hunt, so well attended by the whole country around, and especially by the high-bred bloods of London: and where may be seen a field of the best horses in the whole world—many of them worth their five or seven thousand dollars.

As I once passed through this town, one of my horses' shoes became loose, and I went to the shop of a smith named Lovelace, to get it fastened; the shoe was nearly new, and had become loose in consequence of the nails having drawn out of the hoof, although they had been clinched in the manner universally practised. The smith remarked that all the other shoes were loose, and would soon drop off, when I requested him to take them off and replace them; and then did I perceive the different mode which he adopted for fixing them, which I will here detail. As fast as he drove the nails, he merely bent the points down to the hoof, without, as is customary, twisting them off with the pincers; these he then *drove home*, clinching them against a heavy pair of pincers, which were not made very sharp; and after this had been very carefully done, he twisted off each nail as close as possible to the hoof; the pincers being dull, the nail would hold, so as to get a perfect *twist round* before it separated. These twists were then beaten close into the hoof and filed smooth, but not deep, or with the view to rasp off the twist of the nail. "Oh ho!" said I, "I have learnt a lesson in horse-shoeing." "Yes," said he, "and a valuable one; if I were ever to lose a single shoe in a long day's hunt, I should have to shut up my shop; my business is to shoe the horses belonging to the hunt, and the loss of a shoe would be the probable ruin of a horse worth, perhaps, a thousand pounds; but I never am fearful of such an accident."—"Simply, because you drive home and clinch the nails before you twist them off," said I—"Yes," replied he, "by which I secure a *rivet*, as well as a *clinch*." The thing was as clear as the light of day, and I have several times endeavoured to make our shoeing-smiths understand it, but they cannot see the advantage it would be to *themselves*, and guess, therefore, *it would never do in these*

parts; but if my brother farmers cannot see how it works with half an eye, and have not the resolution to get it put into practice, they ought to see the shoes drop from the feet of their horses daily, as I was once accustomed to do. Now, let any one take up an old horse-shoe at any of the smiths' shops on the road, and examine the clinch of the nails which have drawn out of the hoof, and he will soon perceive how the thing operates. In short, if the nails are driven home before twisting off, and the *rivet* formed by the *twist* be not afterwards removed by the rasp, I should be glad to be told how the shoe is to come off at all, unless by first cutting out the twist. I am, sir, a constant reader of the Cabinet, and one who has benefited many dollars by the various hints which have been given in its pages. J. S.

AMONGST which, perhaps, no one has appeared of more value to our practical readers than that here presented. Will our correspondent accept thanks for his very interesting "hint," which is given in the true spirit of reciprocity. ED.

Anecdotes of the Dog.

FROM JESSIE'S GLEANINGS.

"I delight in hearing well-authenticated anecdotes of the sagacity and attachment of Dogs: their fidelity to man is so conspicuous, and they are so capable of showing great and extraordinary instances of noble and disinterested affection, added to an instinct which is nearly allied to reason, that I shall devote a short space in relating some well-attested facts concerning them.

One of these was recently related to me by the late Captain Gooch; he informed me that Captain Dance brought with him from China a native dog; after his ship was at her moorings in the Thames at London, he took a chaise, put the dog in it, and drove to his house in Surrey, when *Bonner*, the name of the dog, was made over to the Captain's sisters. The next night, as the ship was getting under weigh for the docks, one of the sailors heard a loud barking amongst the rushes on the Kent side of the river, and immediately exclaimed it was *Bonner's* bark: that, however, was thought impossible, as the Captain had taken him away the day before: a boat was at length lowered, and on arriving at the side of the river, *Bonner* was discovered and brought on board. Here was an instance of a dog being brought to a strange country, and taken in a carriage a distance of some 25 miles from the ship he had left, finding his way back to it, through a country essentially different from his own—a different soil and climate, different objects and different people; but by what instinct he was enabled to do this, is not easy to define.

During the time that lambs are weaned, they are apt to stray in search of their dams; Hogg, the Ettrick shepherd, had at one time 700 of these under his care, which broke away in the middle of the night and scampered off in three different parties across the hills, in spite of all he and his assistant could do to keep them together. Addressing his dog he said, 'my man, they're a' awa'!' The night was so dark that he did not see the dog, but the faithful animal heard his master's words, and without more ado, he silently set off in quest of the flock: meanwhile the shepherd and his assistant spent the night in scouring the hills for miles around, but could see nothing of the flock or dog. On their way home in the morning, they discovered a flock of lambs at the bottom of a deep ravine, and the dog standing in front of them, looking all around for relief, but still true to his charge; not one lamb of the whole flock was wanting.

A farmer residing at Halling in Kent was late one evening at market; on returning at night with his dog, he again stopped at Aylesford and drank so as to leave the place in a state of intoxication; his way lay over a brook, which was, in the best season of the year, a very dangerous one for a drunken man, but now the whole face of the country was covered by deep snow, and the frost was intense. By a sudden reel, he passed over a ditch on his right hand, and took towards the river, but having a high bank to mount, and, exhausted with wandering and the effect of liquor, he fell among the snow, in one of the coldest nights ever known, and turning on his back was soon overpowered with either sleep or the cold, when his faithful dog scraped away the snow so as to form a sort of protecting wall around him; then, mounting upon the exposed body, rolled himself around and laid upon his master's breast, for which his shaggy coat formed a most seasonable covering, and eventually, protection, during the dreadful severity of the night, the snow falling all the time. The following morning he was found by a person gunning, who perceiving an uncommon appearance, ventured to approach, when the dog got off the body, shaking himself, and encouraging the sportsman to come near by actions of the most significant nature: upon wiping the encrusted ice from the face, the countenance was known, and by the means adopted, life was restored; when the grateful master ordered a silver collar to be made for his faithful servant, recording the fact.

A friend had a terrier which he was sometimes in the habit of confining; he frequently missed the dog's collar, and at last discovered that the animal carried it off in its mouth, in order to hide it, being aware that it was one of the instruments of his confinement. But

this is not more extraordinary than what might be seen at the zoological farm on Kingston Hill, where the buffalo, who has a strong ring passed through the cartilage of his nose, to which is attached a chain about two feet in length with a ring at the end about 3 or 4 inches in diameter, is in the practice, to prevent himself from treading on it, of putting his horn through the ring and then shaking his head until the ring is made to rest at the bottom of the horn; and at any time the ring may be seen in this position.

"One of the fine deer hounds in Richmond park, instead of seizing the deer by the ear or neck, as is usually the case when they stand at bay, always takes it by the skin of the forehead, between the antlers—a difficult place to hold it by, and one of peculiar danger to the dog.—On slipping a puppy of this particular hound at a deer for the first time, when it was only nine or ten months old, it immediately seized the deer when brought to bay in the same manner its mother had done, and still continues to do so.

A gentleman was shooting by the side of a hill, and shot at and wounded a hare, which ran through one of the several holes made at the bottom of the wall; the dog leaped the wall, caught the hare and returned with it in his mouth, but finding he could not leap the wall with the hare in his mouth, pushed it with his nose as far through the hole as he could, leaped over, and dragging it through the hole, brought it to his master.

It was a dark night, and as the mail-coach was travelling at its usual rate, a dog barked incessantly before the horses, and jumped up to their heads. The coachman, fearful of some accident, pulled up, and the guard got down for the purpose of driving off the dog, which ran a little way and then returned, with such gestures as induced him to take one of the lamps and follow the dog, when at about the distance of 100 yards, he found a man lying drunk across the road, and his horse grazing by the side of it!

A friend, while shooting wild-fowl with his brother, was attended by a sagacious Newfoundland dog; in getting near some reeds by the side of a river, they threw down their hats and crept to the side of the water when they fired. They then sent the dog for their hats, one of which was smaller than the other: after several attempts to bring them together in his mouth, the dog at last placed the smaller hat into the larger one, pressed it down with his foot and thus brought both together.

A gentleman in Sussex had an old spaniel which, if the day was rainy, would remain perfectly quiet in the house, but if fine, he became restless at the usual time for his master to go out with his gun, and would try to

draw him out by the flap of his coat; and when the door was open, he would immediately run to the lodge at a considerable distance, when the game-keeper knew his master was ready; and then he would return quickly to the house. Another gentleman, being a bad shot, when he has missed his game several times together, the dog gets provoked, and has sometimes attacked his master in a manner not to be misunderstood.

Mr. Edward Cook, after having lived some time with his brother at Togsten in Northumberland, went to America, and took with him a pointer dog, which he lost soon after, while shooting in the woods near Baltimore. Some time after, Mr. and Mrs. Cook, who continued to reside at Togsten, were alarmed at hearing a dog bark in the night; they admitted it into the house, and found it was the same their brother had taken with him to America. The dog continued with them until the return of their brother, when they mutually recognised each other; but Mr. Cook was never able to trace by what vessel the dog returned from America, or in what part of England it had been landed.

A lady residing in the vicinity of London had a terrier dog which was much attached to her; she gave this dog to a friend who was going to reside at Bremen, (Germany.) In about a week after her friend's arrival, he wrote her word that the dog, after pining and appearing completely wretched, had disappeared, and, that after a most active search, nothing could be heard of him. In a little time, however, just as she was retiring for the night, a loud barking was heard under her window, and a pushing at the door; on opening it, the dog sprang in, rather thinner than when he left, but still in good plight: how he got back could never be ascertained. During the late wars in Europe, instances occurred of dogs being found on the fields of battle protecting the dead bodies of their masters from being devoured by beasts and birds of prey, watching over them with the utmost care, and uttering howls, which showed alike their misery and affection.

A farmer lived in a very lonely situation, no house being within two miles of his dwelling. He was in the habit of drinking deeply, and would frequently remain at the market many days: his family therefore did not sit up for him at night. On one occasion, however, when they had gone to bed, they were alarmed by the violent barking and howling of the house-dog, which always rested in the kitchen. His mistress and two men-servants got up and endeavoured to appease the dog, but the animal rushed with the utmost violence against the door, and used every endeavour to get out, biting at the wood-work, and at the same time sending forth most pi-

teous howlings. The people in the house apprehended an attack of robbers, but at length they opened the door and the dog rushed out; but within an hour, the voice of the farmer was heard, and upon the door being opened, he appeared, attended by the dog. He said, upon returning from market drunk, he fell from his horse into a deep dyke, and was wholly unable to get out, the water being up to his neck: he clung to the bank, and there held on till he was almost frozen to death, and he remembered crying out loudly for help; and just as all hope had left him and he was nearly exhausted, he found himself seized by the collar of his coat by his noble and faithful dog, who succeeded by his exertions in extricating him from the ditch, and with the utmost difficulty he reached home. He was a mile from home when he fell into the water, and the supposition is, that the dog, lying with his head on the ground—the earth being a conductor of sound—was enabled to hear the cries of his master for help during the stillness of the night, and was thus the means of saving his life!"

For the Farmers' Cabinet.

The Flower-Pot Bee-Hive.

MR. EDITOR,—After all that has been said and written on the proper construction of the bee-hive, and the praises which have been sung in favour of the palace of several stories, the non-swarming, self-ventilating, moth-preventing, life-preserving structures, to the tune of more than twenty dollars a-piece, perhaps there is one which will at length take the lead of all, in the march of bee-breeding, and that is *the common garden flower-pot!* It is strong, warm in cold and cool in hot weather, cheap, simple, convenient, and particularly neat in appearance; it is only necessary to take one of the largest size for a breeding-pot, and when it is desired to add to the hive, to choose one of the next size, the mouth of which shall exactly fit the bottom of that below it, and open the hole; and immediately it becomes an elegant and neatly-finished compartment, which might in this way be added to, forming a pyramid of most exact structure and elegant proportions, to any height required. A hole of entrance could easily be cut in the edge of the lower pot, or two holes pretty near together may be better; it might be placed close to the bottom-board, or raised half an inch all round by small wedges, which might be preferable in hot weather—any how you might wish to fix it—and all, comparatively, at a very trifling expense; the taking away the upper pot, in case of its becoming full, requiring only a cork with which to stop the hole of communi-

cation with the lower pot. Now, I calculate this plan of a hive will prove better adapted for the health of the bees than many highly-finished domes of expensive workmanship, which, I have reason to know, the bees do not value a cent; for, after being at the expense of erecting one which I thought would win the heart of the most fastidious bee that was ever created, and placing in it a swarm of the present season, they all immediately left it; but being determined that they should stay, *volens volens*, they were returned, merely to give them another opportunity to show that they were determined to have their own way: after this they were placed in a common home-made box, where they are industrious and happy. A person who has fifteen hives told me this day, that his strongest swarm inhabits the half of a salt-meat barrel, the only substitute for a hive which he possessed at the swarming of the bees, but which they have since filled with the choicest honey. Now, as I have taken no patent for the *flower-pot hive*, it is at the acceptance of any of your numerous readers, only requesting those who make trial of it, to afford the Editor the means of judging of the flavour of the honey made in an earthen pot instead of a box, which I have a notion will be found very superior. JOHN STARKEY.

June 19, 1842.

Gardening.

THERE is not in life a more delightful occupation than gardening. To breathe the pure mild air of spring, to prepare the beds and borders for vegetables, plants and flowers; to sow the seed, and set out the various slips and cuttings, arranging every thing with order and taste; to look earnestly for the first leaf and bud and flower; to watch their growth, to enjoy their beauty and fragrance, to show them to one's friends, to talk about them, to have them admired, and to know that all is the work of your hands or directions—this is an enjoyment, scarcely to be equalled, and accessible, in this country, to all. Let none then fail to secure it. We always thought it evidence of a good wife, to see her often in the garden, and fond of inspecting and attending to its proper cultivation and management. Depend upon it she is a blessing to her husband and family. We would advise our young friends, who want to marry, and they are, in truth, a goodly number, to avoid those young ladies who seem to have an aversion to the primitive, useful, and beautiful art of gardening. We never knew a lady or gentleman, who was extremely fond of flowers and shrubbery, who had not a warm heart and generous disposition.—*Miss. Guard.*

Germination of Plants on Rocks.

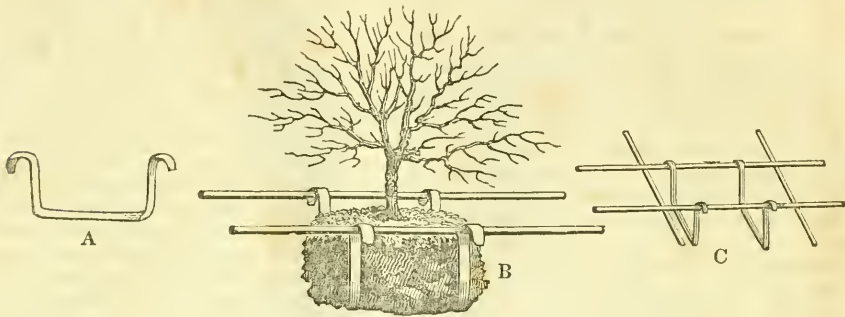
VEGETABLE PHYSIOLOGY.

THE family of lichens seem, as it were, chained to the rocks on which they grow, and which they labour to improve for the benefit of others. The mode in which they prepare the sterile rock for the reception of plants which require a higher kind of nourishment is most remarkable; they may be said to dig themselves graves for the reception of their remains, when death and decay would otherwise dissipate them to the winds: for, whilst living, these lichens form a considerable quantity of oxalic acid—which is a peculiar compound of carbon and oxygen—and this acts chemically upon the rock, especially if limestone, forming a hollow which retains the particles of the abraded structure, when their term of existence is expired. Then the moisture, which is caught in these hollows, finds its way into the cracks and crevices of the rocks, and when frozen, rends them by its expansion into minute fragments, and thus adds more and more to the formation of soil—successive generations of these continuously and indefatigably perform their duties, until at length, as the result of their accumulated toil, the barren and insulated rock, or the pumiced lava of the volcano become converted into fruitful fields; for where Flora's standard has once been planted on tracts thus claimed, they are soon colonized by plants of other tribes; the mosses, ferns, and other cryptogamia follow, and at last, by the growth and decay of successive generations of plants, a sufficient thickness of soil is produced for the nourishment of luxuriant herbage, and the support of the lofty forest-tree. And thus, by the labours of these apparently very insignificant plants, men are enabled to reap a harvest, and to supply themselves with timber from the forests; and cattle increase and multiply on what was originally a naked and desolate rock! One of nature's truest delineators thus described such a process, as it occurs on ruined buildings:—

"Seeds, to our eyes invisible, will find
On the rude rock the bed that fits their kind;
Then, in the rugged soil they safely dwell,
Till showers and snows the subtle atoms swell,
And spread th' enduring foliage. Then we trace
The freckled flower upon the flinty vase;
These all increase, till, in unnoted years,
The stony tower as grey with age appears,
With coats of vegetation thinly spread
Coat above coat, the living on the dead.
These then dissolve to dust, and make a way
For bolder foliage, nursed by their decay.
The long-enduring ferns in time will all
Die, and depose their dust upon the wall,
Where the wing'd seed may rest—till many a flower
Shows Flora's triumph o'er the falling tower."

CRABBE.

To stop the effusion of blood, apply cobwebs, and bind them on the wound.



TRANSPLANTING TREES.

FROM JESSIE'S GLEANINGS.

"I HAVE adopted a method of transplanting trees, which I consider more generally to be depended upon, and much cheaper, than that invented by Sir H. Stewart. On an experiment upon a large scale, and under many disadvantages, I have not lost a single tree out of many hundreds, some of which were of large size, and showing their blossom at the time of their removal. The plan I adopted was as follows. In the first place, the earth must be excavated at some distance from the tree, leaving all the principal fibres and the earth adhering to them, in a compact ball, undermining it as much as possible, and taking care not to shake or injure the ball by twisting the stem of the tree, or using it as a lever to loosen the tap-roots; when this has been done, and a corresponding hole made at the place to which the tree is intended to be removed, the following method of taking it up and conveying it, is to be used.

Two pieces of iron must be previously formed, of the breadth and thickness of a common cart-wheel tire, three or four inches wide, and rather more than half an inch in thickness, and about six feet long, bent in the form shown at A, which will reduce it to three feet across. This size will do for trees requiring from two to four men to lift them; but a size, larger and stronger in proportion, will be wanted for trees which will require from eight to ten or more men to carry them. Put these irons under the ball of the earth as near the centre as possible, leaving a space between them of about two feet, and for larger trees a little more; then, run two strong poles, about eight or ten feet long or more, stout in proportion, and smaller at each end, and apply them as shown at B, to each side, passing them through the bends of the iron, so as to form a complete hand-barrow; then the tree may be lifted easily. Cross levers may be used for larger trees which require more men, as at C, so that as many as are wanted can apply their strength, without being in each other's way. The whole is fixed and unfixd without any loss of time, and requires no tying; nor is there any danger of slipping off. One of the chief advantages of this method is, that the tree is supported on the ball of earth instead of the earth being supported by the fibres of the roots, as is usual in most cases; for even in moving large trees with trucks, sledges, &c., most of the mischief is done in loading and unloading, and adjusting the tree to a proper position: all which can be done by the above method, without in the least injuring the fibres &c. The roots which extend beyond the ball of earth must be cut off at the *outer* side of the trench, and be left projecting; and in taking up, it is advisable to go much wider with the spade from it, than the ball of earth is intended to be; the ball being afterwards reduced, if need be, by a pick, so that a single root need not be injured by it. In removing very large trees, the tap-roots which cannot easily be got at, may be separated readily, by a long chisel applied under the ball of earth and driven by a mallet; but in moderate-sized trees this will not be found necessary. This mode of transplanting trees is much cheaper and more successful than that of Sir H. Stewart; more generally applicable to every description of tree, and shrub, particularly to many whose fibrous roots cannot be exposed without destruction to the tree; by taking them up in the manner above described, and when in leaf and even blossom, they do not appear to feel the removal; and again, trees thus removed do not require support from stakes, as the hole dug for their reception might be made to fit exactly the bottom of the large ball of earth, which will then be found to steady them very sufficiently."

For the Farmers' Cabinet.

Frequent Stirring of the Soil.

MR. EDITOR,—Nothing strikes me as more just and rational, than the remarks of a subscriber, at page 353 of the last number of the Cabinet, on the “pulverization of soils.” There was a time, when a system of fallowing for this express purpose, recommending to give as many as from four to nine different ploughings during the year, was as rigidly preserved, as the want of all that relates to it, is now the order of the day; but I begin to see that here also, the middle path is the best; for, whether it be that the crop draws its chief nourishment from the air, or the earth, or both, the due pulverization of the soil must still be of importance, to enable the crop to seek its pabulum in the pasture of the earth, as Jethro Tull terms it. And although I am sure I am no fallowist, yet I am as sure that to properly pulverize certain descriptions of soils, requires fit times and seasons, and the labour of the hands—all which is costly and troublesome perhaps; but unless we do something for the renovation of our soils in the way of returning to them what we have taken away, they will go on to deteriorate, instead of improve, as, with good managers, land ought always to do; and there is no way in which this can so easily and profitably be done, as by oft-repeated stirring and pulverizing the soil.

A book has lately fallen into my hands, in which the subject is considered in a very just and lucid manner; and although it was published at a time when the doctrine of fallowing was believed in and practised rigidly, yet the excellent sense and sound reasoning of the writer have enabled him to choose that middle course, which, even now is, I consider, perfectly in season. The work is entitled, “Observations on Husbandry,” by Edward Lisle, residing in the county of Hampshire (England), a part of the kingdom which has always ranked high in the estimate of agricultural knowledge; printed in the year 1750. In his chapter on ploughing, the author says:

“The ancient writers on husbandry lay a very great stress on making the ground fine by frequent ploughings; the Romans conceiving that they could not give their lands too much tillage, especially if it be of a rich nature, so as to hold water; then it ought to be turned up so often and reduced to so fine a powder, that the track of the plough-share may be scarcely distinguishable in it. The sun and air are thus enabled to operate fully upon it, by which the soil is benefited more than by a coat of dung. Besides, the water sinks more easily through pulverized earth,* so that the roots of the plants are in less dan-

ger of being suffocated by too much moisture, or of becoming injured and destroyed by the cold. And there is this further advantage in it—by admitting the air more plentifully into the vessels of the roots, it gives them a freer respiration, which is no less necessary to plants than to animals. Those, therefore, labour under error, who fancy that the turning and stirring of land frequently in the winter, before it is employed for a crop, causes it to exhale and spend itself; there being, in truth, no compost or dressing comparable to this continual motion, for it evaporates the malignant impurities of the imprisoned air, loosening the parts, and giving deliverance to these seminal salts and rudiments, which, wherever latent, are free to move and exert themselves: more benefit is thus ascribed to repeated stirrings, opening and ventilating the earth, than to dunging. But if to pulverize the soil were the only end in ploughing the land, without regard to opening it to the emanations of the sun, a frosty winter-fallow would do this and make it as friable as a summer-fallow; but the difference is great, for the sun, as has been already said, improves the earth as much as dung does; therefore, the more you open the land to the influence of the sun by ploughing, the greater the benefit. In Asia and other burning countries their grain does not scorch; and this is owing to the fineness to which their land is reduced by pulverization: they having such dry seasons for fallowing, the soil falls down much closer about the roots than it does here, and does not bake and crack by the heat, but by reason of its mellow parts, drinks in abundance of the dews, which our land, less friable, does not. But, beneficial as is the practice of repeatedly stirring the soil, it is better to omit it altogether than to turn up the ground while it is wet, and in a state of mortar, or even when it is only partially wet, after a long season of drought; for if you touch it while in this wet and dauby condition, there will be no working it after for the whole year—it must lie useless; and if you plough it up when the surface only has thus been thoroughly wetted, it will be injured for three years after. The best season for stirring the land is, certainly, when it is neither too wet or too dry, for by too much moisture, it will stick together and be like mortar; and after a long drought, and although a little moistened at the top, the ploughshare will either not be able to penetrate it at all, or if it should enter, it will not render it fine but turn it up in large clods, which will be a continual hindrance to the next ploughing, and at last be left unbroken and in impenetrable lumps on the field; and add to this, the part which lies deepest is always the least fruitful. One great use in fallowing is, to

* Another authority for the use of the subsoil plough.

cause the weeds to grow, that they may be turned down at the next ploughing: I summer-fallowed a field when one part of it was burning-dry, the other part dry also, but somewhat moister than the former; at Michaelmas, that part which had been ploughed burning-dry had ten times more weeds on it than the other; from whence I infer that the dryer you fallow, the better for the destruction of the weeds. Again, I fallowed part of a field burning-dry in July, immediately upon which came a very hard rain, which made the land, although ploughed dry, to fall flat and hard, and in which at Michaelmas very few weeds appeared—for the soil was by the rain so completely bound and fastened, that the seeds of the weeds could not vegetate and find their way through it. On sound experience, I am thoroughly convinced that no land, especially that which is heavy and cold, ought to be stirred while it is wet; for although the ground may work to appearance mellow, as to the temper of the earth, yet being stirred while wet and heavy, the grass will grow so as to clod it together, and it will become too close and impenetrable for any crop to flourish on it. The air and watery parts in earth ought to have a free circulation, as in our human bodies; otherwise, a corruption and poison of humours arises; and the case is the same in earth ploughed up wet, which clings together and confines the watery body, which then becomes very great, until it becomes corrupt, and can imbibe no fresh air, dew, &c.; but the earth, like our bodies, should be always *taking in and perspiring out*. If, then, your land be cold and clayey, take care to plough it up while it is in a perfectly dry state, as well as *dry over head*; and stop, when either of these cases is wanting—giving your oxen play, or contrive other work for them; and when your land is worked in this state, it will always turn up again mellow, rotten, and in good order. And by such methods, of never working your land while it is cold and wet, it will in a few years become marvellously sweetened, healthy and kind to all crops, and you will obtain a dominion over the weeds and natural grasses of the soil, so that after it has lain to clover for a season, the land will turn up in fine style and perfectly friable, which is an auspicious temper to promise a good crop.”

A.

THE neatest way to separate Bees-wax from the comb, is, to tie it up in a linen or woollen cloth or bag with a pebble or two to keep it from floating; place it in a kettle of cold water, which hang over the fire; as the water heats, the wax melts and rises to the surface, while all the impurities remain in the bag.

To the Editor of the Farmers' Cabinet.

The Honey-Bee.

IN that very interesting and entertaining book, “*Jessie's Gleanings in Natural History*,” there is an extremely curious account of the operations of the Queen-Bee, which is as novel as it is entertaining; and as the attention of the public has been drawn to the business of bee-breeding, by the many works and essays that have lately been published both in the Cabinet and elsewhere, I think it probable that your readers would be pleased with an extract or two from one of the most pleasing works that has ever appeared on that universal topic, “*The natural history of beasts, birds, and fishes*”—speaking of the honey-bee, the writer says, “I have some experimental hives, which enable me very accurately to inspect the operations of my bees; from the construction of these hives, the combs are necessarily built between two panes of glass, so that on drawing the sliders, the two surfaces of a comb are exposed to view. In this way I am able to see almost every thing that is going forward. And I have observed, that when the queen-bee has an inclination to deposit her eggs, she goes forth, accompanied by six or eight working bees as a guard, whose stomachs are filled with honey. She is very deliberate in her motions, and seems to proceed with great caution; she first looks into a cell, and if she finds it perfectly empty, she draws up her long body and deposits an egg. In this way she slowly proceeds till she has dropped ten or twelve eggs, when, perhaps feeling exhausted, she is fed by one of the attendant bees, who have surrounded her the whole time; and this is done by the bee ejecting the honey from its stomach into the mouth of the queen; when this has been done, the bee goes away and another takes its place. The operation of laying her eggs again goes on, and is again succeeded by the same mode of feeding, the attendant bees frequently touching the antennæ of the queen with their own. When the operation of laying the eggs is completed, and it generally occupies some time, the queen retires to that part of the hive which is most filled with bees. During her progress, the surface of the comb is very little intruded upon, and the space seems purposely to be left unoccupied; some few of the cells, however, in a brood comb, are passed over by the queen, and afterwards filled, either with honey or farina; these serving as deposits of food, from which the neighbouring brood may be fed more readily, as such cells are never covered with wax. I have for many years watched my hives with the greatest care and assiduity, but have never yet seen the queen-bee leave the hive, except at the time of swarming. Her person

is so easily distinguished from the other bees by any one at all conversant with them, that if the queen absented herself from the hive in the way that Huber describes her as doing, it seems next to impossible that she should not have been perceived, either on her departure from, or her return to the hive.

The vision of bees seems very imperfect; I have frequently turned a hive, so as to make the entrance about two or three inches from its former position, and have then always found the bees at a loss to gain admittance; indeed, they seem rather to *feel* their way than to *see* it, after they have once landed themselves on the platform of their hives. Their progress through the air is always made in a direct line to the hive, and the instinct which enables them to find it amongst forty or fifty others placed in a row, and so nearly similar to each other, is very striking. Mr. Rogers, in his "Pleasures of Memory," has a pretty idea on this subject—

'The varied scents that charmed her as she flew,'

he thinks might point out the way of her return to the hive.

The summer of 1818 was unusually dry and hot, and in July, flowers of almost every description had entirely disappeared; I observed that the bees, in consequence of this, seldom left their hives in search of honey, although the weather, one would have thought, would have tempted them out; they seemed, indeed, to be perfectly aware that their labours would be useless. I recollect meeting with an account of a hive of bees being transported from a distant place to a spot by the side of a mountain in Italy, where they could procure honey all the year round; and finding this to be the case, they soon gave up stocking their hive, and only went out to collect honey as they wanted it; and the same observation has been made on bees taken from Europe to the West Indies, who, the first year, stored their hives as usual, but never afterwards; merely supplying themselves with food from day to day.

The lower orders of people in some places have curious superstitions respecting bees; a poor widow told me she had lost all her hives, and on enquiring the cause, she informed me, that on the death of her husband, she had neglected to inform the bees of it by tapping three times at each of the hives with the key of the house door! this being thought necessary to their preservation. It is also deemed necessary to put the bees in mourning on such occasions, by attaching a piece of black cloth to each hive; and the person who made the remark, mentioned a case in point, when, from the neglect of the custom, every bee in the apiary had perished! Mr. Loudon mentions, that he was informed of an

old man who sang a psalm in front of some hives that were not doing well, but which, he said, would thrive, in consequence of that ceremony. I observe, that when a hive is fixed over a swarm, the bees will generally go into it of their own accord, uttering, at the same time, their satisfied hum, and seeming to be aware of the purpose for which it had been placed; but how the queen-bee is made acquainted that so convenient a place for her to retreat to is near at hand I know not, but so it is; for surrounded by thousands of her subjects who press around her, she makes her way through them all, and enters the hive, followed by the whole swarm; and here the work of preparing future cells is instantly commenced; and I have found that, although a swarm has not been able for two or three days to quit the hive after they had taken possession, a considerable number of cells had been nearly completed; and that, even as soon as the *foundation* of a cell has been finished, the queen-bee will sometimes deposit an egg upon it, the sides being afterwards built up. As the cells increase in number, honey and the farina of flowers are stored in them.

Nothing can be more melancholy than the appearance of bees in wet weather, some of them will come to the mouth of the hive, as if to take a view of the passing clouds, and others who quit the hive, return to it with the greatest difficulty. A sunny day in May is their delight, and it is then that the bees seem most active and most joyous, as well as every other living creature!"

"Blest power of sunshine! genial day,
What balm, what life is in thy ray!
To feel thee, is such real bliss,
That, had the world no joy but this,
To sit in sunshine, calm and sweet—
It were a world too exquisite!"

T. S.

Carbon, Oxygen, Hydrogen, and Nitrogen.

OF the 55 simple substances into which the solids, fluids, and gases of the inorganic world may be separated, vegetables are principally made up of four; and of these, only three exist in any large proportion; these three are carbon, oxygen, and hydrogen. Of these, *carbon* is by far the most abundant; it is nearly identical with charcoal, which consists of the carbon of the wood mixed up with a small quantity of earthy matter. If this charcoal be burned, it passes off in the form of carbonic acid gas, leaving a minute portion of white ash, which is principally of a mineral nature. It is chiefly to the carbon which it contains, that the hardness and solidity of wood are due; and in so large a portion does it exist in that tissue, that when the other elementary bodies—the oxygen and

hydrogen—have been separated, the carbon retains the form of the tissues in great beauty and perfection, so that a piece of charcoal will indicate the character of the wood from which it was made, nearly as well as would a section of an unburnt branch. On the other hand, in proportion as the tissues of the plant are defined in carbon, do we find them deficient in firmness of structure. When, therefore, we consider the large quantities of carbonic acid extricated by the respiration of animals, and by the immense amount of combustion of coal which is constantly going on in our large towns, there would seem no difficulty in understanding how it may be supplied to plants; but so vast is the extent of the atmosphere through which the carbonic acid has to be diffused, that any given bulk of air only contains about 1-1000th part of this gas. Hence, it might be supposed impossible for the gigantic mass of carbon contained in the wood of a wide-spreading forest to have been derived chiefly, if not entirely from this source, and such is seen to be the case; for although the soil may contain carbon, none of it is taken up in a solid form; and its quantity rather increases than diminishes in the course of years.

Oxygen is contained largely in plants; and the presence of it in the air which surrounds them, is very necessary to their healthful existence, chiefly as affording the means by which, as already explained, the superfluous carbon is removed. This element is equally necessary to animals, and it constitutes about a fifth part of the air we breathe. A portion of this air is dissolved, as it were, in water, and it is in this manner that fish and other aquatic animals as well as plants are supplied with oxygen. Most, if not all, however, of the oxygen which is contained in vegetable substances, is taken up by them, either in combination with carbon, or in unison with hydrogen—a body with which it forms water.

Hydrogen is also contained largely in plants; and in most of the substances into whose composition it enters, it is combined with oxygen nearly in the same proportion as in water; although it is probable that a small quantity is introduced with nitrogen in the form of *ammonia*—the pungent gas which gives strength to hartshorn, smelling salts, &c.—we may regard the water introduced into the substance of plants by their roots, and also in part absorbed by their general surface, as the chief source of this element, as well as if the oxygen continued in the vegetable structure.

Nitrogen has not been commonly regarded as an important element of the vegetable structure, but it has been lately shown to exist largely in the growing parts of plants;

and there seems reason to believe its presence to be essential to the increase of their fabric by the formation of new parts. It is an important ingredient in the substance called *gluten*, which exists largely in the seeds of the various kinds of corn or grain, and most of all, in wheat; and it is in part on this account that wheat-bread is the most nutritious of all vegetable substances ordinarily used as food, since it approaches nearer in composition than almost any other to animal flesh, which contains a much larger proportion of nitrogen than exists in most vegetable substances. It is, indeed, on account of their entire deficiency in nitrogen, that gum, sugar, and other similar products are not fit to maintain animal life by themselves. Nitrogen constitutes four fifths of the atmosphere, but it does not seem to be taken in by the plant in its simple form; but this gas with hydrogen, forms *ammonia*, of which a minute quantity always exists in the atmosphere, being chiefly supplied to it by the decomposition of animal matter; and this is absorbed by the soil and taken up by the roots; and it is in the supply of ammonia which they yield, that the principal benefit of animal manure seems to consist. *Treatise of Veg. Physiology.*

Free accession of Air necessary to Decomposition.

THE decomposition of the vegetable matter of the soil requires the free access of air to every part of it; for if any substance, however rapid its tendency to decay, be completely secluded from the atmosphere, little or no change in it can take place: it is on this principle that various articles of food are now preserved for subsequent use in tin cases completely closed, and possess their perfect flavour after exposure to every variety of temperature for several years. Every particle of the soil needs to be surrounded with oxygen for the production from it of carbonic acid; and to procure this condition is one of the chief objects, which is effected by tilling and loosening the soil; in this respect, therefore, it is manifest that a tenacious clayey soil is inferior to all others, and its injurious character can only be remedied by admixture with other substances, or by laborious cultivation. This necessity of unimpeded access of air to that part of the ground through which the roots of plants are distributed is shown in an interesting manner, when trees are planted too deep in the soil, or when their roots have been covered with an additional quantity of earth, when, if the tree be old or sickly, it generally dies, but if young and vigorous, it sends out a new set of roots nearer the surface, and the extension of the old ones ceases.—*Veg. Phy.*

Growth of Vegetables in the Living Bodies of Animals.

ANIMALS, as well as plants, are liable to the growth of fungi within their bodies. There is a species of wasp in the West Indies, of which individuals are often seen flying about with plants, of their own length, projecting from some part of their surface; the germs of these having been originally introduced through the breathing pores at their sides, which greatly resemble those of plants, and taking root, as it were, in their substance, so as to develope a luxuriant vegetation. In time, the fungous growth spreads through the body and destroys the life of the insect, when it grows more rapidly, the decomposing tissue of the dead body being still more adapted than the living structure, to afford it nutriment. A very curious example of the growth of fungi within the living animal body has lately been detected, and the knowledge of it has proved of great importance. The silk-worm breeders of Italy and the south of France, especially in particular districts, have been subject to a considerable loss by a disease termed *muscardine*, which sometimes attacks the worms in large numbers just when they are about to enter the chrysalis state. This disease has been ascertained to be due to the growth of a minute vegetable of the fungus tribe—nearly resembling the common mould, within their bodies; and it is capable of being communicated to any individual from one already affected, by the introduction beneath the skin of the former, of some particles of the diseased portion of the latter; and it then spreads in the fatty mass beneath the skin, occasioning the destruction of this tissue, which is very important as a reservoir of nourishment to the animal when about to pass into a state of complete inactivity. The plant spreads by the extension of its own structure, and also by the production of minute germs, which are taken up by the circulating blood and carried to distant parts of the body: the disease invariably occasions the death of the silk-worm, but does not show itself externally until afterwards, when it rapidly shoots forth from beneath the skin. The caterpillar, chrysalis, and moth are all susceptible of having this disease communicated to them by the kind of inoculation just described, but it is only the first which usually receives it spontaneously. The importance of this disease to the breeders of silk-worms led, as soon as its true nature was understood, to careful enquiry into the circumstances which favour the production of the fungus; and it has been shown, that if the bodies of the caterpillars which, from various causes, have died during breeding, be thrown together in heaps and exposed to

the influence of a warm and moist atmosphere, this fungus almost invariably appears upon them, just as other kinds of mould appear upon other decaying substances; and it is then propagated to the living worms by the diffusion of its germs through the atmosphere. The knowledge of this fact, and the precautions taken in consequence, have greatly diminished the mortality.—*Veg. Phy.*

To the Editor of the Farmers' Cabinet.

A Country Cow.

ESTEEMED FRIEND,—As I know it will be interesting to you, and I believe to many of your readers, I send you an account of the butter obtained from a cow—which you will remember to have seen when last I had the pleasure to see you at Allerton,—known as the “M'Elroy Cow,” and which, considering that she had only the common feed of the rest of the dairy, is, I think, to be considered rather extraordinary. This cow is well known in this vicinity as the “M'Elroy Cow,” from the name of her former possessor, who was a tenant on the farm of Samuel Worth, of whom I purchased her for sixty dollars, and who assured me she had, with additional feed, made sixteen pounds of butter for several successive weeks; the capacity of her udder being oftentimes so great as almost to deprive her of the means of rising, when lying down. She is said to be nearly related to the Guernsey breed, which, if dairy properties alone are regarded, without reference to shape, size, and feeding, stand probably unrivalled. These cows, from their being small, and occupying little room, are often brought over by vessels from Europe as ship-cows, for the use of the passengers, being selected on account of their superior yield of milk in proportion to food consumed; and it is, therefore, more than probable that the “M'Elroy Cow” is descended from such importation, for she is as homely an animal in these and some other respects as can well be conceived.

I have succeeded in obtaining from her two heifer calves, which fell on the 1st day of April, 1841 and '2, respectively; these are sired by “His Grace,” my imported Durham bull, and give fair promise of proving themselves worthy their claim to *noble blood*. The amount of butter made in one week is within two ounces of fourteen pounds, the milk averaging about thirty quarts per day; the yield of butter being only one and a half pounds short of that of my imported Durham-cow Bessie; and I have reason to believe that with moderate feed, in addition to pasture, the two cows would make from thirty-one to thirty-two pounds of butter per week.

Allerton, June 8, 1842.

PASCHALL MORRIS.

The Pleasures of a Country Life.

“I HAVE but one word more to add to the advantages of husbandry, which is, that of all professions, none is more innocent or more pleasant. The business of it goes on in a known and certain course from season to season, from year to year; the gains from it are most satisfactory to a scrupulous conscience because our goods are sold in open market; are set up together with those of our neighbours, and of the same kind and species, whereby the ignorant may make the better comparison of their worth. We do not grow rich by jobbing or by buying and selling again, the profit of which too often consists in outwitting and preying on one another, but our advantages arise from the gifts of our beneficent mother the Earth, whose gratitude generally requites the tiller's care, and by whose increase we hurt no one. Our dependence, next to God's blessing, is on our own skill and industry, and though the season disappoints us sometimes, yet that is neither so often, so great, or so fatal as the disappointments of those in other professions, whose trust and dependence is upon man. What miserable calamities fall out from the necessary trust in trade which one citizen must give to another and to his customers! whereas, the farmer sells for ready money. He may thrive also, without supplanting his brother, which the courtier or tradesman can rarely do. And certainly, that person must live a pleasant life, whose death every one desires to die—and there are very few of any art or employment but who propose to themselves, if they are able, a country retirement with at least some little of husbandry, in the last stage of their lives: if so, although other occupations may be in themselves innocent, yet this almost universal desire in men to quit them before they die, looks as if they found it difficult to discharge their consciences in them.—They must be sensible that they can make no great figure as *husbandmen*—but there is some delight, even in negative virtue, in being awake and doing no ill. And, as I have had some taste and relish of these pleasures, I am desirous to propagate the sense of them as universally as I can; and it would greatly add to my satisfaction to have partakers with me in the enjoyment of it.”

EDWARD LISLE.

Root Culture.

To make the raising of roots profitable, the business ought to be conducted on a considerable scale and with the best and most careful management. By preparing the land in season—the first ploughing being given in the autumn—and stirring it frequently to cause

the weeds to vegetate, that they might be destroyed by the harrow or plough, thus rendering the soil loose and mellow and thoroughly pulverized, and then soaking the seed that the plants may be up before the weeds, there will be little labour in the after cultivation of the crop.

There are different opinions relative to the value of the several crops usually raised for stock; the ruta-baga is not so generally raised as formerly, as it is not now regarded as so valuable for stock as the beet and carrot; the sugar-beet being also a surer crop, less liable to injury from insects and drought; it is equally productive, and excellent for all kinds of stock, although some cases are cited in which they have been considered inferior; but these are exceptions of rare occurrence: yet the ruta-baga claims attention, as it may be sown later than any other root except the common turnip, and has been found productive in seasons when the longer tap-rooted plants have suffered from drought. But on light sandy soils the carrot is one of the most valuable roots; it is excellent food for all kinds of stock; yields well, keeps in good condition through the winter, and is one of the very best kinds of food for milk-cows, never having been known to disagree with any kind of stock. This root has received less attention than the ruta-baga and the beet, but its excellence is becoming known, and will lead to a more general cultivation. The parsnep is regarded as one of the most profitable crops that can be raised, as well as attended with less labour in the cultivation than the carrot, but as it has hitherto received little attention for this purpose, but few experiments have yet been made.—*Far. Jour.*

Pii orant taciti.

THE turf shall be my fragrant shrine;
My temple, Lord, that arch of thine;
My censor's breath, thy mountain airs,
And silent thoughts, my only prayers!
My choir shall be the moonlight waves,
When murmuring homeward to their caves;
Or, when the stillness of the sea,
—E'en more than music—breathes of Thee!

I'll seek by day some glade unknown,
All light and silence, like thy throne!
And the pale stars shall be, at night,
The only eyes that watch my rite!
Thy heaven, on which 't is bliss to look,
Shall be my pure and shining book,
Where I shall read, in words of flame,
The glories of thy wondrous name.
I'll read thy *anger* in the rack,
That clouds awhile the day-beams' track
Thy *mercy*, in the azure hue
Of sunny brightness, breaking through.
There's nothing bright, above, below,
From flowers that bloom, to stars that glow,
But in its light my soul can see
Some feature of the Deity!
There's nothing dark, below, above,
But in its gloom I trace thy love,
And meekly wait that moment, when
Thy touch shall make all bright again!

Notices.

WITH the present number, the sixth volume of the Cabinet closes. On this occasion, the Proprietor and Editor would renew the hope that their labours have not been unavailing. They feel pleasure in adding, at no time have the assurances of their friends been more cordial, nor has a more general expression of satisfaction been evinced by their subscribers.

The first number of the 7th volume of the Farmers' Cabinet will be published on the 15th of the 8th month, (August) and it will be the earnest endeavour of all connected with it, to render the work worthy the attention and support of its friends, and an agreeable vehicle for the interchange of communication between their valued correspondents, upon whose future favours they rely with much confidence; with grateful acknowledgments for past favours.

"The Farmers' Land Measurer."

TO JAMES PEDDER, Editor *Far. Cab.*

THY little volume denominated the "Farmers' Land Measurer or Pocket Companion," a copy of which thou wast good enough to present to the Chester and Delaware County Agricultural Society, was referred to a committee, consisting of the subscribers, for examination and their expression upon its merits—

The committee have great pleasure in recommending it as a valuable "companion" to the practical farmer; in which he will find easy methods of ascertaining any given parcel of land—of measuring grain in bulk—of ascertaining the size of measures, and other useful information on matters within his practice, of frequent recurrence.

JABEZ JENKINS.
LOUIS P. HOOPES.
PASCHALL WORTH.
PASCHALL MORRIS.

THE noble cattle, seven in number, bred and fed by Edward Tonkin, of Clarkesboro', are now on exhibition at Cooper's Point, Camden, opposite Philadelphia; having been purchased by a company of gentlemen of Jersey for this express purpose. The public have now, therefore, an opportunity of viewing a herd of animals such as were never before exhibited in this country, or perhaps in any other, for the very low price of 12½ cts. And it is confidently expected that many thousands of our friends from the far West and the extreme South, as well as the intelligent breeders of the North and the

East, will avail themselves of the opportunity, while in Philadelphia on business, of stepping across by steamboat to Cooper's Point, where they will find them in a pleasant shady garden, in convenient apartments fitted up for their reception. An engraved portrait of one of them, "Jersey Independence," is given at p. 241 of the Cabinet for March; and many of our readers have now an opportunity of judging of the qualifications of our draughtsman and engraver, for the delineation *from life* of those animals committed to their care and execution—the resemblance will be found on examination to be PERFECT. Unforeseen circumstances, beyond the control of the Proprietors of the Cabinet, have hitherto prevented us from fulfilling the promise of embellishing our pages with the remaining portraits of these splendid specimens of improved Short Horns; to be able to fulfil that engagement, will be exceedingly agreeable to us.

By the hands of Luther Tucker, Esq., the Secretary of the State Agricultural Society of New-York, we have received their volume of printed "Transactions for the year 1841."—It is a highly interesting work of more than 400 pages, containing many very valuable papers in answer to statistical enquiries, &c., and on other subjects of the first importance to the agriculturist and husbandman; admirably arranged and very elegantly printed, it forms a record of "transactions" highly creditable to the "State Agricultural Society of New-York."

OUR readers will recollect that Messrs. Sharp and Zollicoffer imported from England a few bushels of the Red Cone-Wheat the last season, for experiment in this country. It was sown on stiff and cold land as recommended, and we are happy to inform, that present appearances fully justify their expectations; it has come true to character, the straw stout, the ears very long, well filled, and showing no signs of rust, although the crop will be late in ripening, as was also expected. No opportunity has been afforded, the present year, to judge of its character of being fly-proof. Samples, when ripe, will be exhibited at our office.

The quantity of rain which fell during the 6th month (June), 1842, was three inches and one fifth of an inch 3.2 inches.

Pennsylvania Hospital, 7th mo. 1, 1842.

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work will be furnished; including the first five volumes half bound, and the sixth volume in numbers. Copies returned to the office of publication will be neatly half bound and lettered at twenty-five cents per volume.

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