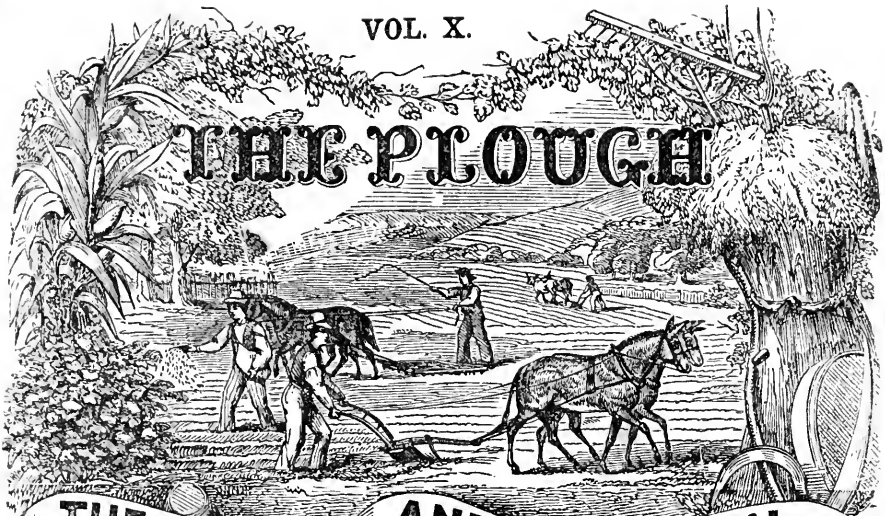
VOL. X.

THE PLOUGH



THE LOOM AND THE ANVIL.

AN AMERICAN FARMERS' MAGAZINE

AND MECHANICS' GUIDE.

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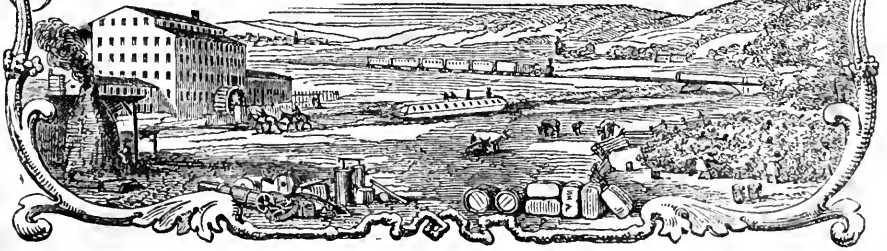
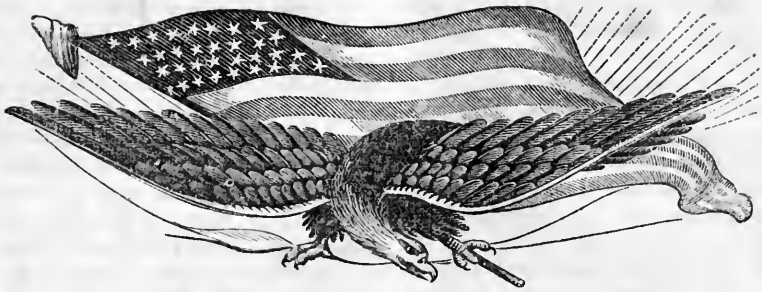
J. A. NASH & M. P. PARISH, EDITORS & PUBLISHERS.





AMERICAN FARMERS' MAGAZINE.

VOL. XII. MARCH, 1858. No. 3.

Agricultural.

HINTS FOR YOUNG FARMERS.

MARCH is an active month in the south; and at the north even, nature begins to wake up and call the farmer forth from his winter quarters. During the previous month, little could be earned, but much could be saved by a careful husbanding of the last year's crops. We suppose you have been using the hay-cutter, by hand, or horse, or steam power, as you found most economical for the extent of your farm operations; that each bushel of feed, or each ton of fodder, from the best of June-cut hay down to the poorest of straw has, by a proper mixture of food, and by giving the right kinds to each animal, been made to tell for its whole worth, be that large or small; and that your stock are coming out at a little cheaper rate and in a little better condition than results from careless feeding.

If it is so, then keep on in the same way, and not lose in March what you gained in February. There is more than fifty per cent difference in the profits of wintering stock in the worst way and the best. Some would allow us to say one hundred per cent, and would justify the opinion by saying that, taking one year with another, there is a fair profit in wintering in the right way, but none in wintering in the wrong way, because the feed in this way is worth more in the fall than the increased weight of the animal in the spring. At any rate it is safe to say that a farmer may almost as well not have crops, as not to expend them with care and good judgment.

Let the stock be gaining this month, and then again in April, and for whatever stock you have for summer beef, the butcher will be paying you the cash in June or July. That farmer generally gets the advantage who has his summer beef ready for the market earliest. It gives him the quickest return; it enables him to have plenty of feed in autumn, and it gives him an opening for other animals when they can be bought to advantage.

Do not fail to air the cellar, and to keep it sweet and clean. Not a particle of decaying vegetable matter should remain; and the windows should be open as much as consists with safety from frosts. Let the housewife see to this. She should remember that close cellars, unventilated, except so far as they steam through the door into the kitchen or

other occupied rooms, cause more deaths by fever in this country every year than the Mexican war caused by cold lead and gleaming bayonets; and what is more, these fevers that come from decaying vegetables in an impure cellar, kill so slowly, so long time after the poison is inhaled, that neither the victims nor their friends have the satisfaction of knowing the cause. They think it a visitation from God; and so it is, but it is through the cellar. Look out for this part of the premises, in March and April and May, and then keep looking out for it as you value life and health. If there are not windows on the opposite sides of your cellar for the wind to drive through, so as to purge the air of effluvia from decaying vegetables that may have escaped the notice of even the neatest housekeeper, make them before this month goes out. Whether the sash slides or swings, have it so that it may easily be fastened wide open, partially open, or closed; and our word for it (and every sensible doctor in the land will tell you so) you will have removed a most prolific cause of lingering disease and premature death.

"The maids along the Ohio sing,
Of all the seasons in the year,
The sweetest season is the Spring."

So sang an Ohio bard thirty years ago—one, we suppose, who wanted the Yankees to come out there and buy his land, and so would have them understand that the maples there were abundant, and the lasses and molasses peculiar sweet, in both of which we suspect he was right, inasmuch as, in a new country as that was then, the girls are not as apt to be spoiled of health and merry mood by conventional usages against nature, and certainly no sweet, except that of maiden simplicity and worth, is equal to the flow from the sugar maple.

March is the time, and we must say a few words about making maple sugar. In tapping the trees, use a three-quarter bit, or one about that size. Let it be sharp, well adjusted to a good stock, and then turn it very rapidly, that it may cut the wood smoothly. From two to three inches is the best depth. Let the slope upwards be about 10°, less rather than more. Let the spout at its inner end taper as much as is consistent with firmness, that the pinch may be at the outer surface of the wood. Put two spouts, four, six or eight inches apart, on both sides of the tree if large, on one side only if small. The projecting ends should converge a little, that both may drop so near the center of the tub as not to allow the wind to blow the sap away as it falls. It is well to have the part from which the sap falls blunt, not pointed. The sap will then separate from it in large drops, and not be as liable to be blown outside of the tubs. It is a common practice, and a good one, to hang the tub on a nail driven into the tree, in such a way as to prevent the possibility of loss by wind. We never saw it done, but should think it would be well to fasten the tub by a cord drawn around the tree, as this would hold the tub as well, and would prevent the necessity of puncturing the tree, by which a small waste of sap is caused, and the tree slightly injured. Some hang the tub by means of a wire bail on the two spouts. This is a good way. The spouts should be notched where the bail is to pass across them.

The sap should be boiled soon after being collected, as otherwise, especially in warm weather, an incipient fermentation takes place, and the sugar crystalizes less perfectly. We have often made batches of maple sugar in April which would hardly crystalize at all, owing to this incipient fermentation in the sap. The molasses, in such a case, is of an inferior quality, not having that luscious maple taste which everybody loves. There are many varieties of sugar, of which cane-sugar and grape-sugar are the leading. The maple gives essenti-

ally the cane sugar, with that exquisite maple flavor. We believe that when the sap stands too long before boiling, the constitution of the sugar is changed from that of the cane to that of the grape; and, in the change, the maple flavor, as well as the tendency to crystalize, is partially lost.

We could write all day, and detail only our own experience in this matter, for fortunately we were *brought up* in the backwoods, the best thing that ever happened to us, and these woods were remarkably sweet in more senses than one. But we will only say, use your own good sense in your arrangements for boiling economically of fuel. We have seen some people boil down maple sap when we would have valued the fuel more than the sugar. Done economically, it is a fairly paying business for a season when other work does not press.

The sap should be kept clean. Let the kettles or the pan be so set that no sparks will blow into them. When the syrup is partially cooled, strain slowly through a thick cloth; and in *suguring off*, as it is called, let the heat be equable, that no burning on the sides of the kettles may blacken the mass. Nearly every impurity in maple sugar is occasioned by uncleanliness in collecting and boiling the sap, or by burning on the sides of the kettle. If the sap could be kept of that limpid pureness with which it comes from the tree, no straining nor clarifying would be needful, and you would have the purest sweet that nature affords. But as this is not possible, it is well to strain the sap through cloth before boiling, then to strain the syrup before sugaring off, and in both cases woollen cloth, of a pretty close texture, is best; and as even this will not separate every particle, it is well to put in a little milk—say one pint to 20 lbs. of sugar—and skim. The milk curdles; the particles remaining become entangled in it and are skimmed off.

We might say much about clarifying with bullock's blood, with the blood and bristles where hogs have been slaughtered, with a thousand other things, making the remedy worse than the disease; but it is all humbug. If you will boil clean, and add a little milk to the syrup, you will have as good an article as can be made. There will be a little color, more than in double refined sugar, but what of that. Those Ohio girls, thirty years ago, probably had a little color in the face and lips, but were none the worse for it.

Before this month expires, many of our readers will be speeding the plow. Shall we say, plow deep? Yes; but what is deep? One says six inches, another two feet. How extravagant these agricultural papers are, and how they differ, say some. We say no certain rule can be laid down for all cases. How land is to be manured, how it is to be tilled, its annual value, whether it is underdrained, and what is the composition and structure of the soil, are preliminary questions.

1. How is the land to be manured? If you have but ten loads of manure for the acre, and can get no more at paying rates, it would be folly to plow much deeper than before. But says some one, if you have no more than that, till but one-third as much, and make it hold out thirty loads to the acre. Hold friend; your advice is good enough for the farmers to think of, but let them think a good while before they follow it in all cases. As a general thing, less land under the plow, higher manuring and maximum crops, is good advice. But there is a great deal of land, that in the present state of the country, can not be so manured and tilled as to give 100 bushels of corn to the acre, or 30 bushels of wheat, or 3 tons of hay, which may better be cultivated for half these figures than turned over to no use. Undoubtedly, with a population of but ten to the square mile, giving 64 acres to each person, it is wise to cultivate some acres for

half the crop that would be sought by a population twenty-five times as dense. The way to do it is to plow but slightly deeper than the land has been plowed before, to manure as well as you can, to stir often, practice clean cultivation, and be contented with moderate crops and small profit.

2. How the land is to be tilled. Here, if the objector says, it is to be tilled well or not at all, we have not much to say. Still in a country where labor is plenty and cheap, but land scarce and dear, more careful weeding, and a more frequent stirring of the soil is advisable than in one where the reverse is true; and in our own country there are some who *will* have a neat, clean, oft-stirred soil; and where a farmer is bent on this course, he may plow the same land, with the same amount of manure, deeper than another who means to only half till it through the summer, because the first, by keeping his field clear of weeds and often stirred to let in the sun and air to warm and enliven his soil, will get paid for the extra expense of deep plowing, while most assuredly the second will not. The fact is shallow plowing is a part and parcel of bad farming throughout; and if all the rest is bad, that may about as well be bad also. As we would patch an old garment with old cloth, or wear an old vest if our coat and pants were very old, so we would recommend shallow plowing, as a part of a husbandry, of which all the rest is to be bad.

3. The annual value of land. If you pay $100 an acre for the use of land, as is done by some of our market gardeners, the cultivation must be good throughout or you can not get your money back. It would be only penny-wise to shrink from an extra expense of 3, or 5, or 10 dollars an acre to deepen the soil. But if you hire land at $2 an acre, it might be wise to cultivate in a cheaper way. In the one case you would want to plow deep enough to make two acres of one; in the other you might be contented with letting two acres go as one, that is, with half the crop which such land really ought, if it were in other locations, to produce.

4. Has the soil been underdrained? If so, it will better pay for deep plowing. One effect of underdraining is, by taking out the water to let in the air. This warms the soil. You need not fear to plow deep. Your crops are not in danger of being chilled by the turning up of soil that has long been hid from the sun. Unquestionably underdrained lands will bear deep plowing with less manure than lands that are not underdrained. Of course, we mean such lands as require underdraining.

5. The nature of the soil. There are lands which will not bear deep plowing. They are rare, but they do exist. Two things are necessary to a decision that deep plowing must not be adopted; one that the land consists of a thin soil, lying on coarse gravel, the other that it be located where there is nothing to give a special value to its products. We have seen such land. To plow through the subsoil, would be like knocking the bottom out and letting the whole fall through. The best thing that can be done with this land is to run over it and get two or three small crops once in five years. The cost is but trifling. A cheap dressing of ashes and a little plaster will give fifteen or twenty bushels of corn, and a small crop of clover the second year, with a little pasturage the third. But say some, these are the very lands to plow deep. They would let in the plow to the beam, would subsoil, mix in the fine top soil with the coarse gravel below, put on plenty of manure, and thus make a pretty solid compact soil of it. Aye, that can be done. Money enough and labor enough will make good land of any thing. That would be good advice if such land lay in the suburbs of New-York, or any where else where it would be worth a thousand dollars an acre when made good, and

rent for a hundred dollars a year. There is land on Long Island, of just this character, and which should be treated in just this way—*made good* at a great expense. There are more than a hundred thousand acres on Long Island so situated and of such a character, that $100 an acre expended on them would make them worth $200 an acre more than they can now be bought for. Of course the man of small capital can not touch them. The man of large capital will not, though it would be one of the prettiest operations in the world, and so they are a wilderness, within three hours of this metropolis.

But we were speaking of such land, so situated that it would not repay a large outlay, and we are very sure there is such, and that the best use for it, as we have already said, is to grow small crops at a small expense.

Undrained lands, with an impervious subsoil, will not bear deep plowing. The soil is too cold to be turned up. Some land of this kind will even give better crops with shallow than with deep plowing. The way is, first to underdrain, and then to plow deep. But do all lands require underdraining? We might just as well be told that all coats need scouring, the unsoiled as well as the soiled.

If the water passes down freely, so as never to accumulate and become stagnant, that is enough, and such is the case with more than half the land we have yet seen. Lands that are cold and sour by reason of stagnant water, or by its too slow passage through them, are doubled, quadrupled, and sextupled in value by underdraining; but the majority of acres in this country, so far as we have seen, would not produce enough more to pay the cost.

None too much is said in our agricultural journals in favor of deep plowing, but in our opinion it is said too indiscriminately. A consequence is, that some farmers are rushing into the depths without knowing the why and wherefore; while others know, or think they do, too well to be instructed, that all this talk about deep plowing is only a piece of modern tom-foolery.

To the young farmer we would say, if you can not manure highly, if you do not mean to cultivate well, if your land lies so far from a good market that its annual value is small, if it needs draining but is not drained, if it has a thin soil lying on a treacherous subsoil, be cautious in any of these cases how you plow much deeper than you have seen the substantial old farmers plow.

But if none of these causes prevent, if you mean to manure highly and till well, especially if your land is so situated with reference to markets as to possess a high annual value, if you mean to make something by farming, and are as willing to be paid in the increased value of your land as in money returns, then put in the plow eight, ten, or twelve inches deep, if you are growing the staple products far back in the country, and twice those depths if your are growing fruits and vegetables near a large city.

The soil of an acre, one foot in depth, weighs, in a moist state, all of 2,000 tons. It costs something to stir, hustle about and mix so much soil, but it will pay. If you do it in all the cases where we have recommended, and abstain in all others, we think you will have nothing to regret.

We have tried to be discriminate and to recommend nothing which a young farmer, or any other, might not follow with safety.

THE CATTLE OF NEW-ENGLAND.

The red cattle of New-England came over with the emigrants from England and Wales, and other countries in Europe.

The first emigrants or settlers in New-England came in colonies from the different regions or counties in England—

each emigration generally brought over with them their first stock of neat cattle. If a Pilgrim or emigrant had a favorite cow for milk, butter or cheese, he brought along the favorite animal as a *household god;* and when the governor of the clan started with the embarkation, he had the best bull of the shire selected to perpetuate the stock in the new world. Thus a superior stock of cattle, embracing the best from all parts of the mother country, and containing all the known different races, were landed in the New-England settlements when they first located. From all these fountains has arisen a new and peculiar stock of cattle in New-England, unlike any other ever known in the old world. The herds of New-England show strains from the very best stocks from England, Scotland, Ireland and Wales, as well as from Holland and the northern and western departments of France, and some other countries on the continent of Europe.

Varieties of Cattle in England.

In England from the earliest times it is said that three distinct races of cattle were found, and now several other races have been brought into the country.

1. The Long-horns. These were originally from Cumberland, Lancashire, Northumberland, and other high regions in the north of England. The old Craven bull was a type of this stock, and looked upon as the best. The race has also been spread over Ireland, in Tipperary, Limerick, Munster, and other counties. The breed has been greatly crossed and modified from the original. The first races were remarkable for the enormous length and bulk of the horns, and were large, strong and hardy. The general form rather coarse, limbs large and bony. But the cows yielded milk remarkable for its richness.

2. The Devonshires, Herefords, Welsh, and the Scotch Highland cattle. The horns of these cattle are of moderate size, fine, well turned, sharp pointed, limbs clean, animated countenance, figure compact, fatten readily. The cows yield rich milk, and are known as middle-horned cattle.

3. The Galloway and Angus ox, which were hornless, and are called polled cattle. The original country of this race is situated in the extreme south and western part of Scotland, next to the Irish Channel. The majority of this race of cattle are black, but I have seen some of a deep blood bay color. Vast numbers of these cattle are driven to Norfolk and Suffolk counties in England, and are fed for the London market, where they are highly esteemed for beef. It is this race which has been crossed on the native cattle of Norfolk and Suffolk, and have produced one of the best stocks in England. A cross breed is of a dun color. Another cross seems to have been made with the white Chillingham Park cattle, which are also found in Northumberland, Lancashire, Yorkshire, and Cheshire counties. The legs of this cross are mottled more or less with black, the roof of the mouth and tongue are spotted with black.

4. The Alderney cattle are known to be of a French origin, and are not one of the original races in England. The islands on the south of the English Channel, next to the coast of France, are called Jersey, Geurnsey, and Alderney. The Normandy and Alderney cattle were at an early day bred in Sussex, Hampshire, and other counties in England along the coast opposite to France. Inland the stock was much crossed on the English races, with the Devons and Herefords most successfully. The Alderneys and Normandys produce an excellent quality of milk, and being crossed with the English stock make good milkers and oxen, which put on fat readily.

5. The white Chillingham Park cattle are supposed to be an original race in England, but this type is found in India and in various parts of Europe, and was the favorite ox of the ancient Romans, even before the days of the Cæsars.

These cattle in England were earliest known to have existed in Lancastershire; and the waste lands in Craven in Yorkshire were formerly ranges for these white cattle, so also the highlands in England, next to the mountains in Wales.

6. The Durhams and the old Short-horns and Yorkshire cattle are said to have been imported into England from the continent at an early day. These cattle have been the stock upon which the improved Durhams or Short-horns have been raised by a cross on the Red Galloways. The Teeswater cattle in Durham and Yorkshire are descendants of this stock. They are all known at this day as *Short-horns.*

Scotch Cattle.

The Scotch cattle are of a mixed race. Many are black and hornless. Some are white, which appear to be the same stock as those of Chillingham Park in England. The mountains of Scotland were originally a nursery of a race of black cattle, of mild aspect, beautiful symmetry, vigorous, hardy, patient of hunger and cold, fattening rapidly, and were closely allied to the ancient Welsh cattle. These cattle are mostly middle-horns, and are called Kyoles. They are also found in the Hebrides and Western Islands. In the Orkney Islands, at the extreme north of Scotland, the same race is found, but stunted by cold and want of food. In Argyle these cattle are, many of them, models of beauty, and seem to have been descendants of the old Caledonia stock, which were in early times a mild race. In Ayreshire in Scotland is found the Ayreshire Cow, an admirable breed of milkers, as well a good stock for the butcher. This is an improved breed, and a cross on the Durham or Holderness, or perhaps the Alderneys.

Irish Cattle.

In the north and middle parts of Ireland the English and Scotch cattle have been extensively introduced. But there is a native stock found all through the southern and western highlands of this country. It is a middle-horned stock, and better known as the Kerry Cow. The animal is generally of small size, active and vigorous, of a variety of colors, some black, red, white, brindle, and mottled colors. The cow yields a fair proportion of excellent milk, according to its size, and fattens quickly. The cows when fed prove excellent milkers. This breed now partakes of many of the traits of the early English cattle, which were small, hardy, healthy, good and spirited for work. It is now looked upon as an inferior breed, as all the original races in England were in the days of the Edwards and Henrys. Many of these cattle have come into Maine.

The *Holderness* cattle are an ancient race which existed from very early times on the western coast of Europe, extending from the Baltic Sea to the confines of France. They were celebrated for the great quantities of milk which they yielded, and some of them had an extraordinary aptitude to fatten. They were introduced into the northern and eastern parts of England at a very early period.

Durham Oxen and Cows.

This race of cattle have been called the Teeswater cattle, from the river Tees in the north of England. The breed were brought into the north and eastern parts of England before we have any historical accounts put on record. The counties of York and Durham in England were the original location of this breed. The old Durhams were said to be slow feeders, but since 1801 the race has been crossed on the Red Galloway or Scotch or polled cattle, and is now called the best stock of England. One of these oxen weighed 3,780 lbs. live weight, and when slaughtered the carcase was supposed to weigh 3,180 lbs.; these are among the largest cattle now in England. The original Durhams were said to have been first crossed on the wild white breed of cattle of Chillingham Park in the

county of Northumberland and in Lancashire; also they were formerly much crossed with the bulls and cows from Holland. At this day the new Durhams are a recent and artificial race of cattle, with very few of the original types remaining. Holderness is in Yorkshire, England, but this section of England was formerly more mixed with Dutch cattle than any other. Great bulls were formerly brought over from Holland and esteemed the criterion of perfection for cattle. These Dutch cattle were used to improve the breed of Short-horns coming down to 1790; this was before the improved Durham cattle made their appearance. The white cattle were known in Jutland, Denmark, Hanover, Olenburgh, and Holland, from the earliest periods. They are of a *Danish stock;* the Danes ravaged the continent of Europe from the Baltic Sea to France for more than a hundred years, from A. D. 850 to A. D. 950. In A. D. 875 they conquered Northumbria in England, which comprised amongst others the countries of Yorkshire, Durham, and Northumberland, and held it for nearly 200 years. Prior to the year 1235 the Short-horn cattle are known to have existed in the north of England. The White cattle and the Short-horns are believed to have come from the continent to England at the same time, and this accounts for the fact that very many of the Durham cattle are almost a *pure white;* and the fancy race of this day is mottled, red, and white in equal portions.

The Yorkshire Cow.

The Yorkshire Cow is a native of Yorkshire, England, and came from the early race of Short-horns. These animals are the best milkers known, and have given (in rare instances) 36 quarts of milk a day; it is by no means uncommon for them to give 30 quarts a day. This cow is a great favorite; she yields more milk in proportion to the quantity of food consumed by her than can be found in any other race. This cow occupies almost exclusively the best dairies in England.

Leicestershire Ox.

This race are long horned, and are one of the earliest races in England—healthy, strong, and hardy.

The Cheshire, Derbyshire, Staffordshire, Oxfordshire, and Wiltshire cattle all wear long horns. They are properly called the "*Long-horned race.*" Westmoreland, Cumberland and Lancashire in the north-west of England was the native land of the *long-horns.* Bakewell, in his time, selected this race to breed from, and he succeeded in an *eminent degree.* Bakewell was born at Dishly, in Leicestershire, in 1725.

The Derbyshire and Cheshire cattle, as well as the Shropshire cattle, were originally *long-horned*, and by being crossed with the original Short-horns, they have made a very fine race of cattle—docile and giving great quantities of milk. The stronghold of the long-horns was in Craven in the West Riding of Yorkshire and Lancashire and Northumberland, but at this day they are not so often seen as formerly. From the Highland counties in the north of England the race was carried south towards Wales, and into the southern counties in England.

Sussex Cattle.

The old Sussex ox is one of the best in England. It has always found a ready sale in the London market for beef. This is a large animal, well formed, with a fine head, neck and horns. When crossed with the Herefords, produce a large, strong ox, vigorous, good and obedient workers. The Sussex cow is principally kept for breeding. The milk is in small quantity, though excellent in quality. She is therefore not a favorite amongst the dairymen. The males of this race are amongst the best for working oxen in England and America, and the females for breeding. The stock are much found also in Kent and Surrey counties. Sussex is a county in the ex-

treme south-east part of England on the English Channel, bounded west by Hampshire county and north by Surrey. The prevailing color is a blood bay. The barrel well formed, capacious, back straight, hips wide and well covered, and the hide mellow. I have noticed many oxen of this type in New-England; in Connecticut and on Connecticut River in Massachusetts. Many of this stock were brought into this country by the New-Haven colony. The original race of Sussex appear to have been much allied to some types of the *Devons*, but they had not so fine horns, nor were they possessed of the agility of the Devons. Many of the feeding grounds in Sussex are *rich* marsh lands, but the Devonshire stock are from mountain districts.

Cheshire Cattle.

These cattle are from the extreme west of England, near Liverpool. These were originally the Long-horned cattle from Northumberland, crossed on the Scotch, Lancashires and other races. The stock has been long known as good milkers—cows had large udders. The belly deep, with prominent milk veins. Some of the cows have been known to yield 24 quarts of milk a day, and 10 quarts a day during the whole season. Cheshire has long been known and renowned as a dairy county in England. There are complaints that the cheese in Cheshire is not what it formerly was. Indeed, American cheese is now sought for and used in the Cheshire hotels. The artificial grasses, cabbage and swedish turnips deteriorate the milk, and we are sure that this kind of food will not compare with the Indian meal for fattening beef. The English beef is spongy, dull flavor, and is far behind the beef made from Indian meal, both in flavor and substance. It is said that the Cheshires cross well on the Short-horns; but it is doubtful whether a total alteration of the old breed is beneficial. Inured as it is to the climate and pasturage of the native hills, modified as it has been by a combination of circumstances in such a manner as to meet the views of the farmer and dairyman.

The Welsh Cattle.

These are said to be from the original native breed of cattle which existed in the country before the *Roman Invasion.* They are represented at this day by what is called the "*Pembroke Cattle.*" Great Britain does not produce a more useful animal than the Pembroke cow or ox. It is black. It is one of the ancient stock.

Glamorgan Cattle.

These cattle are from the ancient Welsh cattle. They have a great aptitude to fatten. They are stout and active, strong for husbandry, and seem to be closely allied in their habits to the Devons.

Devon Cattle.

The Devons prevail in the south and south-western counties of England. They are a deep red color, beautiful in the highest degree, in activity for work and aptitude to fatten altogether unequaled. Great numbers of these cattle were shipped by the Pilgrims from Plymouth, Bristol, and other ports in the south of England, to Plymouth, Massachusetts, Boston Harbor, Martha's Vineyard, to Rhode Island, the mouth of Connecticut River, and to Milford, Connecticut, and the mouth of the Housatonic. With the Devons came also the Herefords, which are usually of a darker red than the Devons. There came also to New-England formerly Sussex cattle, as well as the *Norfolk* and *Suffolk* races. They were originally a *middle-horned ox.* Many of the first settlers in New-England brought their cattle from *Surrey* and *Kent* counties, situated south and east of London, and from Southampton; along with these came many of the Alderney cattle. At a later day cattle came into New-England from Coleraine and Belfast in Ireland. The west highland oxen came in along with these, the Gal-

loways and the Ayrshires. At the present time the New-England cattle are a *mixture* of *mixtures*. In 230 years they have become an entire new race, in another country, in another climate, in another field of vegetation—strong, hardy and healthy in a remarkable degree. I never knew one of them to die of catarrh, consumption or gout. The per centage of mortality is less among the New-England cattle than among any other race.

The *Leicestershire* cattle were brought into Massachusetts in 1629 by Francis Higginson, Esq., who brought one hundred and fifteen head of neat cattle. In 1626 a bull and twelve cows were sent from England. These were supposed to come from Wiltshire to Cape Ann. In 1625 the Dutch West India Company imported from Holland into New-York one hundred and three animals, with horses and swine for breeding.

The east end of Long Island, including the county of Suffolk to Hempstead, was first settled by people from Boston in Massachusetts; they brought in the New-England cattle with them. The town of East Hampton was first settled in 1649 by about 30 families from Lynn, Massachusetts. The town of Huntington was settled by a colony from New-Haven in 1646. Smithtown was first settled in 1641; the people first came to Boston, and were originally from Gloucestershire in the south of England. Southampton was settled in 1640 by about 40 families from Lynn, Massachusetts; these people originally came from Southampton in England. *Fishers' Island* and Plum Island were settled with people originally from Hingham, Norfolk county, England. They came in by the way of New-Haven. This colony came from near 100 miles north-east of London, not far from Lynn on the sea coast. The first neat cattle brought into Massachusetts was by Edward Winslow, who came in the ship "Charity" from Plymouth. He brought a bull and three heifers; this was in 1624. Probably these were of the Devon stock.

The people who first settled Salem, which was in the year 1625, came from Dorchester in the county of Dorsetshire, England, which is in the south-west of England. Another colony in 1629 came from Leicestershire in England, bringing with them 115 head of neat cattle, said to be mostly Leicestershire stock. Hence we find in the early settlement of Salem and the adjacent towns races of Devons and Leicestershire cattle. The inhabitants of the town of Rowley are descendants of *Yorkshire colonists*. They came in first from England in 1638, bringing with them the *old Yorkshire* and the old Short-horns, and some of the white Chillingham Park cattle, while the inhabitants of Newbury, Massachusetts, in the same county of Essex, came from the county of Berkshire in England. This is one of the middle counties in England. This settlement was made in 1634. The race of cattle here are the middle-horns. The people in Bristol county, Massachusetts, as well as those in Rhode Island and the Eastern part of Connecticut, many of them came from Bristol, England, and from Wales. Swansea was at one time a great port of embarkation, as well as the whole of the country round the Bristol Channel. The Black Welsh cattle and the Pembrokes, Glanmorgans and the Anglesey ox, and the Devons, seem to have come into Rhode Island, the eastern part of Connecticut, and the southern part of Massachusetts. The Devons, however, were the favorite stock. They soon reached Worcester county and the central part of Massachusetts.

The town of Hingham in Norfolk county, Massachusetts, was first settled by a colony from old Hingham in Norfolk county, England, in 1632. These people brought their cattle with them, which were the middle-horn cattle. Some of the towns in Norfolk county were first settled from Devonshire and

Plymouth. Many families came by the way of the Bristol Channel. Braintree was settled from Devonshire. The great-grandfather of John Adams, President of the United States, came, as he said, from "THE DRAGON PERSECUTION IN DEVONSHIRE," to New-England.

The counties of Suffolk, Norfolk and others on the eastern coast of England, in that day was possessed of a race of cattle known as the "*Suffolk Dun*," a middle-horned cattle. The cow was very much sought for on account of the extraordinary quantity of milk which she yielded. This cow was celebrated for her milk in almost every part of England. Many of this race of cattle were brought into the counties of Middlesex, Norfolk, and Essex in New-England, and were preserved as great milkers by the dairymen.

This stock has spread its progeny very much over the southern part of Massachusetts and New-Hampshire and Maine, but it has been crossed by the *long-horns* and the Yorkshire types.

These cattle in the counties of Norfolk and Suffolk in England have been a good deal crossed out by the Galloways, and are looked upon as furnishing a new stock. The new race are now polled cattle. The colors are red, red and white, brindled and a yellowish cream color. The Suffolk cow is not inferior to any other breed in the quantity of milk that she yields.

The cream colored cattle are also found in Maine. They generally excel both for milk and beef. The yellow cattle are good workers, quick for the plow and cart.

The first white inhabitants of Lynn, Massachusetts, came from *Lincolnshire* and brought cattle with them. Here we find representatives of the old Lincolnshire ox, with a cross of the early Short-horns. The first colony came in 1629; they were farmers; but one of the most prominent men amongst them was Edward Ingalls, who was a tanner. He erected a tannery, and from that day to this Lynn has been noted for its shoe and leather trade. In 1637 another colony came from the town of Lynn in Norfolk county, England. They were also principally farmers, possessed a large stock of horned cattle, which they kept in one herd, and had a man to keep them. These people cut their grass in the meadows and marshes, which proved very serviceable to feed their cattle on. There were more farmers in Lynn, Massachusetts, at that time than in any other of the early settlements. Their grain was Indian corn. One of the historians of that period says, "Let no man make a jest of pumpkins, for with this food the Lord was pleased to feed his people to their good content, till corn and cattle were increased."

At this day the middle-horned cattle mostly prevail in New-England, but there still remain strains of the long-horns, as well as the short-horns. The Anglesey ox is also frequently represented.

In the year 1638 the New-Haven colony was planted. They first came from London after having sojourned at Lyden in Holland. The inhabitants of Milford and Guilford, and other towns in New-Haven county, came out the year following from Kent and Surrey, bringing cattle with them; but very many of the inhabitants of Connecticut came by the way of the *Bristol* Channel, bringing with them the Devon cattle in great numbers, also the Sussex and Herefords; but there are more pure Devons in Connecticut than in any other part of New-England. An early writer says, "that the first planters in New-England were plain men, bred to tillage and keeping cattle; that a great deal of the same spirit has ever remained among these people." There is, says this writer, "A certain niceness and delicacy which still continues amongst their posterity wherein the perfection of husbandry consists." These remarks will apply to the present

inhabitants of New-England with many addititional favorable items. In 1635 the first colony from Plymouth, Massachusetts, came across the country to Windsor, on Connecticut River. They brought a drove of cattle and other domestic animals with them. Before they got over the Connecticut River the winter set in; the cattle lived in the woods and on the meadows without shelter. These fed as well as those which were housed, but many cattle perished during that winter. The Dorchester people who made up a part of the colony lost £200 worth of stock. The next spring came many settlers to Windsor, Hartford, Wethersfield, Farmington, and the towns along the river, from the Plymouth colony, bringing great numbers of cattle with them. The first inhabitants of Dorchester, Massachusetts, came chiefly from Devon, Dorset and Somersetshire in the extreme southern and western part of England, bringing with them their cattle. These were the Devons and Alderneys; but the Devons were the prevailing stock.

In 1636, Messrs. Hooker and Stone started from Cambridge, Massachusetts, with a colony for Connecticut River; the company consisted of 160 persons, men, women and children; they brought with them 160 head of neat cattle—the cattle fed upon the buds, leaves, and grass found on the way, the people subsisted on the milk of their cows. This colony came to Hartford—they passed over mountains, through swamps, thickets and rivers, they slept on the ground, with nothing to cover them by night but the heavens, and passed through trackless forests, overhung with high and thick branches and green leaves, with grape vines which canopied the whole, extending from tree to tree, *fragrant with flowers.* Mrs. Hooker was sick, and was borne through the wilderness upon a sedan chair, made by fastening two poles on the outside of two horses, one horse being placed ahead of the other with a chair between the two; the horses were each guided by two men, and a boy on the back of each animal. They all came safe; but the planters in Connecticut had but few working oxen or instruments adapted to husbandry when they first landed in the wilderness. The deep red color was a favorite in early times for cattle, and they were very much brought to New-England. The Herefords formed a very fine breed for fattening. Many of them were a deep red, with not a white spot on them—the cows were said to have been excellent milkers, some of them yielding 17 lbs. of butter a week. The Devons were better adapted to this country than most of the other races—they were full of activity, healthy, full of spirit and courage, broad foreheads, clean limbs, with a pleasing vivacity of countenance, full of agility, sure footed, capable of traveling at a high speed, with a disposition to fatten unequaled by most other races. Coming from a mountain country in England and Wales, the breed suited the soil and climate of New-England; they readily acclimated. These cattle are quick and honest at work, docile, and not inferior milkers. The race of pure red cattle, however, seemed to prevail more in Connecticut than in any other of the New-England States. The middle part of Connecticut is now distinguished for a fine breed of improved Devons. Such a great variety of races being introduced into the country at its early settlement, many of the original stocks have been crossed out, forming an entire new race, superior to the animals of any other country. I have seen the Leicester and the Irish lopped horns—the Galloway ox with its progeny, mixed with cattle from Suffolk and Norfolk counties, England—the Shropshire, the Derbyshires and many others of the long-horned race. These occasionally show strains with an enormous growth of horns. The Yorkshire cattle in New-England have undoubtedly been the stock from which the best milkers

are obtained. I have seen a small herd of cattle, mostly red with a small band of white around the middle. My brother, now living in Hampshire county, Massachusetts, is working almost the best pair of cattle I ever saw; they are a white, with every mark of having descended from a cross on the Chillingham Park Cattle; black noses and black inside of the ears. Many of these crosses of color are found in Maine, and north New-England, and put on an orange or cream color.

After the Battle of Bunkerhill, in 1775, seventy-five patriots at Farmington, Connecticut, started for Boston, 110 miles distant. They took an ox team and cart loaded with salt provisions, peas, bread, camp utensils, with a puncheon of rum to cheer on the soldiers and to wash their sore feet. They came to Roxbury in nine to ten days—the oxen stood travel better than the men.

In 1778, the inhabitants of Durham, in Connecticut, sent to General Washington, at Valley Forge, two oxen, driven almost 500 miles through the country, greatly exhausted of its forage. These cattle furnished a dinner for the officers and soldiers of the American army. One of them, a steer, five years old, weighed when slaughtered 2,270 lbs.

The Welsh cattle seem to have been very much crossed out in New-England. The Reverend Mr. Buckley, of the town of Colchester, Connecticut, presided over the church of that town from 1703 to 1731. A church in a neighboring town was much afflicted by dissensions; they applied to Parson Buckley for advice; he wrote them an affectionate letter, told them to heal all their dissensions, and live in peace; but while the parson was writing the letter to the church he found he had to write one also to his tenant, who occupied one of his farms in another part of the town. He sealed his letters, and in superscribing them, the one for the church was directed to the tenant, and the one for the tenant to the church. The afflicted church convened to hear the letter from Parson Buckley read, which was to heal all their difficulties. In due form the Moderator broke open the letter in the presence of his assembled brethren, and read as follows:

"You will see to the repair of the fences, that they be built high and strong, and you will take special care of the *old black bull.*"

This letter was deemed mystical. One of the elder brethren got up and said, this is just the advice we need. The *old black bull* is the Devil, and we must watch him thoroughly. The fences must be built high and strong to keep out all strange cattle off our fold. Go home said the elder, obey your Divine Master. The meeting was forthwith adjourned, the people departed, the animosities subsided, harmony was restored to the afflicted church.

We are of the opinion that the *old black bull*, was one of the black native stock of Wales. Indeed a person traveling through New-England will see individual cattle which strongly represents every type found in England or along the western coast of Europe.

Some of the people called the *Puritans* originated in the north of England and the south-east part of Scotland. In the year 1607, some of them were driven from the north of England—they first settled in Amsterdam; two years afterwards they went to Lyden, where the colony increased with numbers from London and the South of England, and remained until 1640. In 1621, the first colony came to Plymouth, Massachusetts; these were a portion of the Lyden congregation, and other portions of the congregation afterwards came to Massachusetts; finally the last portion of them came to New-Haven in 1637 to 1640. On the 3d of November, 1620, King James signed a patent incorporating the Duke of Lennox, Sir Ferdinand Gorges, and thirty-eight others, styling them the "*Council established at Plymouth, in*

the County of Devon, in England, for planting, ruling, ordering and governing of New-England, in America." This company granted New-Hampshire to Captain John Mason, and the Province of Maine to Gorges. The first permanent settlements in Maine were begun in the year 1607, in the extreme southwestern part of the State, next to New-Hampshire. The colony of Maine, was originally a grant from the Plymouth Council in Devonshire, England. The colony remained under the Plymouth Company till 1677, when it was sold to the Massachusetts colony, and remained under Massachusetts government till 1820.

In 1622, Mason went to New-Hampshire, and a son of Gorges to Maine, as governor. Mason established himself at Portsmouth, and Gorges made settlements at various places along the coast, to Machias. Governor Mason imported a large breed of cattle from Denmark, and when he died some of his stock were carried to Penobscot, and some to Nova Scotia. In 1658 Francis Norton drove 100 oxen, a part of Mason's herd, from New-Hampshire to Boston, and sold them for 125 dollars per head. This was the current price for the best cattle in New-England at that time. New-Hampshire remained, with but few intervals, under the jurisdiction of Massachusetts till 1749, more than 100 years, when the two colonies were separated. Gorges had been an officer in the British navy, under Queen Elizabeth, and James, in 1604, appointed him Governor of the island of Plymouth, in England. Mason had been a merchant in London, but became a sea officer. The first people to settle in New-Hampshire came from London, Bristol, Exeter, Plymouth, Shrewsbury and Gloucester, and was called the Company of Laconia in England.

In 1623 Daniel Thompson, a Scotchman, and Edmond and William Horton, fishmongers in London, came over with a colony furnished with all the necessaries to carry on their design in forming settlements in the country. Some of the earliest settlers were of good estates; some of great account in religion.

In 1638 a company came from Norfolk, England, and settled Hampton, New-Hampshire. The Norfolk and Suffolk dun cattle were brought into New-Hampshire and Maine at an early date of their history.

Mount Desert Island, in the county of Hancock, State of Maine, as well as many other islands about the mouth of the Penobscot river and on the coast, were formerly much settled with French colonists, who came from St. Malais and other parts on the north of France, bringing with them the French cattle. Many fishing vessels came from Marseilles in the Mediterranean Sea. The race of Huguenots afterwards came into Maine in great numbers. It is said that Talleyrand, the great French minister under Bonaparte, was born of a Quaker mother on the Penobscot river. The cattle of northern and western France were originally well represented in many parts of Maine, as well as the western Highland cattle of Scotland. The fishermen of the west coasts of Ireland and Scotland were for a long time engaged in the fish trade of Maine. The New-Hampshire and Maine colonies started with the best of stocks of cattle from Norfolk, Leicestershire and Devonshire, England, and afterwards obtained herds from the Massachusetts colony, which first started at Salem, with cattle from Norfolk, Leicestershire, and Yorkshire, and other parts of England. The Puritans were well acquainted with the value of the shorthorns; and the Yorkshire and the old Norfolk dun cattle, were all great milkers.

Large numbers of these cattle have been at various times brought into New-England. The Yorkshire and the Norfolk and Devon types are found scattered over the best dairy districts in north

New-England, and our best milkers retain many of the Norfolk and Yorkshire forms of the original animals. These have been crossed with the Devonshire stock. A large portion of the cattle in Maine are descendants of the Yorkshire, Leicestershire, Norfolk, and Devonshire races.

The working oxen in Maine are mostly red, with a strong cross of the Devons, and Yorkshires, and Leicestershire, and Scotch cattle. The *lumbering business* has trained up a race of oxen, possessing all and more than the original agility and fleetness and intelligence of the Devons; while the carcase has been improved to a great size and strength, both for work and for beef. The whole race of mountain cattle in New-England, is vastly superior to the original stocks of the old world. There are no dairy regions so good as those on the highlands of New-England and the State of New-York, where the pastures are full of red and white clover.

The Galloway cattle are now a horn-less race, but formerly were a middle-horned animal. They have lost their horns by debility or deterioration. New pastures—the buds and flowers of the grasses, shrubs and trees—yield the phosphate of lime and ammonia abundantly, which are necessary to form the bones and horns of cattle, and to give them a large, healthy and strong carcase. Old pastures and feeding grounds soon become exhausted of ammonia and phosphate of lime; hence the horns of cattle pastured on such soils become small and feeble; the horns fall off or do not show themselves; the animal loses its health and hardiness, and does not make a large, strong and healthy race. This is the case with the Galloways and polled cattle in England. These cattle can never equal the long-horned races for beef, milk, or work, and are not much grown or cultivated in New-England.

The long-horns of Cumberland, Wiltshire, Lancashire, were originally brought into New-England, and from these strains the long-horn cattle show themselves. These cattle being crossed on the north of England cattle, generally produce the "*middle-horns*," which prevail in north New-England.

In passing through New-England, a person can not but observe fine specimens of every type of cattle known in the west of Europe, and occasionally he will see oxen with horns of enormous length.

The domestic ox, as well as the original wild ox, are naturally a mountain animal—they seek highlands; they like the clear, cool air and pure spring water. When turned into a pasture to graze they go to the top of the hills, and at night select a little valley sheltered from the winds to herd themselves. The best butter, milk and cheese, and the sweetest beef come from the mountain ranges. There are no cattle that a man can own to so good advantage as the New-England mountain cattle. A feeder can make more beef out of them according to his outlay, than from the best foreign stocks. When we import cattle we throw away our money, except when we import bulls into the country to cross on our native cow. The cattle from the old world have not constitutions adapted to our climate. Our native cattle have been acclimated for two hundred and twenty years. The cattle of Europe lose caste by importation; they can not stand the extreme climate of winter and summer.

In the winter of 1799 the cold in New-England was excessive. During the preceding summer, from the 28th July to the 1st September the heat was intense, the mercury was from 86° to 93°; vegetation failed, drought was excessive, many trees shed their leaves in August, and many cattle perished in the cold winter following for want of food.

The town of Goshen, in Litchfield county, Connecticut, is on the most ele-

vated land in the State. This and the adjacent towns is one of the best tracts for the dairying business. Cheese and butter are made here in large quantities, the fame of which is widely and justly celebrated. We are all familiar with the butter and cheese brought from Jefferson, St. Lawrence, Herkimer, Delaware, Sullivan, Orange, and other mountainous counties in the State of New-York. This butter and cheese is equal to any in the world, but no better than that made in New-England.

The cattle in New-England are well housed, especially in the winter. They are more docile than the original herds from Europe, healthy, hardy, and many of them are of a very large size, full of agility, and put on fat very fast when at the summer pastures or fed in the stalls. Many of the cows are excellent milkers; some of the best progeny of the Yorkshires yielding in many instances from from twenty to thirty-four quarts a day. The New-England oxen are great travelers on the road. Wherever the New-England people have emigrated to, they take their cattle with them. The cattle which make up the trains for California are mostly descendants of the New-England stock. Their ability to travel and endure privations render them almost invaluable. The largest cattle in England weigh no more than 3,180 lbs. per carcase; while some of the largest carcases of the New-England cattle have weighed from 3,500 to 3,600 lbs. after being slaughtered. Indeed, there are no better cattle for milking, fattening and work. The grazier, the feeder, and the butcher and dairy-man can find no better stock. The health of the New-England cattle is exceedingly good; their horns and bones are strong, the horns set strong and well on the head. The true blooded Devons, Sussexes and Herefords are better preserved in the State of Connecticut than any other part of New-England, indicating that these were the original favorites.

If our people bestowed half of the pains in breeding our native cattle, that the English do, we would have a far superior race to any in the old world. The following are some of the qualities of the New-England cattle.

First.—They are very hardy, free from disease and epidemics of every kind in a remarkable degree; with less mortality than occurs to stock in the old world.

Second.—The cows are more prolific in healthy progeny than any other class of cattle known.

Third.—The geldings and bulls when put under the yoke will perform more labor by the day, and continue labor for a greater length of time, and keep in better condition, than any other stock of cattle.

Fourth.—These cattle have more agility, more strength, more size, and will work better with the plow, harrow, or cart, than any other race of cattle of their cost and expense of keeping.

Fifth.—The bulls and geldings travel well with large loads. The geldings are strong, patient, steady, and honest to a remarkable degree. It seldom requires more than the plowman to drive and govern his team.

Sixth.—When fed they put on fat speedily. Their beef is of the sweetest and healthiest kind, juicy and marbled, and flavored better than any found abroad.

Seventh.—The cows are the best of milkers, acclimated for 220 years, and the breed have been thoroughly crossed. The breed now is found suitable both to the soil and the climate—qualities demanded by all stock growers.

Eighth.—A breeder can make more money by the native stock to breed upon, according to the expense or capital, than from any other known race. They are profitable alike to the graziers, the breeders, and the butchers.

Ninth.—The flesh and beef, when killed, is of the best flavor, easily cured for

barreling, and can be preserved with little care and skill, without much expense. These cattle are good and healthy feeders, and there is a greater yield of milk and butter from them than from any we have seen of the foreign cattle.

Tenth.—The quantity of milk which cows give when running on pastures during the spring and summer, must vary to a considerable degree, according to the feed and milking qualities of each animal. Fair cows, fed on a new pasture, and a small supply of Indian meal, will produce from 10 to 24 quarts of milk per day. Many of the New-England cows put on the lineal Yorkshire type, with large udders, fine teats, clean head, shortish necks, deep chests, large carcases, straight backs, full thighs, strong legs, yielding from 20 to 30 quarts of milk per day. The best milker in England is said to have given 36 quarts per day, yielding 372 lbs. of butter in 32 weeks, averaging 20 quarts per day for 20 weeks. Some of the cows from the mountains in New-York and New-England, have done equal to this. But then a cow must be in thorough health, full grown, of a large size, fed on a new pasture, and with Indian meal, to enable her to come up to this point.

Until within the last 300 years, the cattle in England were small, generally not well fed or housed in winter, furnishing but little good and fat beef. When the stock was transferred to New-England it improved wonderfully in size and quality.

The fresh, clover pastures, fine hay, grown on the newly cleared lands, the Indian meal, all made a feeding to which the cattle in the old world were strangers. The hills and mountains in New-England yield the richest pastures of any in the world, while the thousands of valleys along the rivers and streams yield hay and Indian corn unequaled in quantity and excellence of kind. It is on this keeping the New-England cattle are fed and fattened, and it is this keeping and feeding which has given them their superior characters for beef and milk, unequaled by anything of the kind found in the old world.

The cold, damp climate of England and Scotland is not so favorable to stock as the pure, dryer air, clear skies, and summer vegetation of the New World. The snow in New-England commences to fall the first of December, and continues to the 20th March, generally. It is dry and mealy, the climate is cool, dry and bracing, seldom damp and chilly. The mountains and hills furnish pastures for cattle, such as are unknown to the Old World.

Cattle bred here grow to the largest size, their lungs and chest become expanded, their bones and muscles strong, the barrel of the carcase large, full and round. The geldings have borne the yoke in their youth, and have experienced the good effects of it. Hence the working oxen are stronger, larger and better than any other, and make the best of beef when fattened.

The States of Maine, New-Hampshire, and Vermont have as fine animals as any other. Their stock originally came in from Plymouth, Bristol, Norfolk, Cumberland, Yorkshire, Denmark and Scotland, and from New-England.

Many of the French cattle, the Scotch cattle, the English cattle, and the Irish cattle have been introduced into Maine.

The Massachusetts colony began at Salem in 1621, and continued till 1692. They brought along with them the "Yorkshire," the early "Short-horns," the "Lincolnshires," the "Norfolks," the "Suffolk Duns," the "Leicestershires," the "Devons," and the "Welsh Cattle."

Many settlements were made in New-Hampshire and Maine, from the Massachusetts colony and the towns on the Merrimack river.

The first grant of a patent of Maine extended from latitude 40° to 48° clear to the bay of Chaleur in Canada, and

from the Atlantic to the Pacific ocean. The grantees subsequently united merchants with them from London, Bristol, Exeter, Plymouth, Shrewsbury, and Dorchester, England.

A great many ships came out to Maine in the spring, year after year, bringing from various ports in France, England, Scotland and Ireland, more or less emigrants and cattle, and taking back a cargo of fish in the fall and winter. These ships would introduce cattle from almost every seaport in the realm. Thus we find the cattle of New-Hampshire and Maine a more thoroughly mixed race than those of any other part of New-England. They are the best of oxen for heavy work, and when fed well, for beef.

BREEDING CATTLE.

In order to do this with success, the parents should be full-grown, selected of a good size, from 4 to 10 years of age, living in a healthy country. A hilly country is much the best; neither the bull nor the cow should be stabled, nor be ringed. Both bull and cow should run at large, the bulls be accustomed to the yoke while they are calves, and kept fairly and moderately to work under the yoke in the open air, fed on fresh grass, hay, Indian meal, with boiled turnips, potatoes or carrots—stabled only during the winter. These bulls make the best working teams; strong, full of enterprise and courage—will plow deep furrows, draw heavy logs, cart good loads, make heavy stone wall. Indeed a breeding bull ought to be a working bull, and then they never have the catarrh, consumption or gout to afflict them, or to render their progeny feeble or sickly. The calves should come in the month of February and on to May. They should take the whole milk of the mother the first 6 to 12 months, constantly handled to keep them docile. They will gradually wean themselves when their teeth and stomach become adapted to other food. After the first 3 months a calf ought to run in the pasture. When they begin to wean they should be fed with fine hay, fresh grass, and a small quantity of Indian meal. In the winter the cow is frequently injured by drinking cold water. It produces constipation of the bowels, and cholic. Two pailsful of warm water, with a half peck of rye or wheat bran during the day will keep the bowels free and open. I have known cows dried up by drinking cold water immediately after calving, with violent symptoms of inflammatory fever. In the winter season the cow had better drink warm water from the temperature of 55° to 64°, kept in clean, warm, and well-ventilated stables. The calf needs a warm stable, with straw or chaff to lie on. The food must be upland hay. Cattle never do well on wet, swampy land, nor will they feed to advantage on hay grown in marshes, nor put on flesh when they lie down in damp, cold places. Nor can cattle be fattened in the winter in the northern climates, without warm and dry stables, and a full supply of food of the best kind.

The cow should never be milked or suckled during gestation. All the milk drawn from the cow at this period of time is furnished at the expense of the growing fœtus. Hence the calves of the great milkers are generally feeble, poor and bad milkers. The first-born calves are the best. Primogeniture in raising stock is a law that *works well.*

The farmers of New-England have much neglected the breeding of stock. They do not seem to realize that they have the best stock in the world to improve on. It took all the best people out of the four kingdoms of the mother country to produce the institutions of New England. The cattle came along with the first settlers, and the cattle were the best that the old world afforded. The number of milch cows in Maine by the last census were 133,556; working oxen, 83,893; other cattle, 125,890. While the butter made yearly is 9,243,811 lbs.; cheese, 2,434,454 lbs. The town of

Bangor on the Penobscot river sawed and exported in 1850, 200,000,000 feet of lumber. Vermont had by the same census, cows, 146,128; oxen, 58,577; other cattle, 154,143; Massachusetts, milch cows, 130,099; oxen, 46,611; other cattle, 83,284; Connecticut, cows, 97,277; oxen, 59,027; other cattle, 114,606.

Foreign cattle are not suited to the New-England climate, and when introduced lose caste. When brought into the country they are much like foreign trees and grape vines.

ALANSON NASH,
36 Beekman St.

For the American Farmers' Magazine.

SOME OF THE EVILS OF A SUPERABUNDANCE OF LAND.

MR. EDITOR:—Among the many useful topics introduced into your magazine to interest and employ the thoughts of your readers, will it not be seasonable and to the purpose that some should have their attention called, for a moment, to an inquiry into the economy of duly proportioning the extent of farms to the ability of their occupants to put them to the best possible use? Are there none within the reach of your journal who are infected, to some extent, with that insane appetite which has inflicted ruin on many, and has been the bane of multitudes, of multiplying the number of their acres beyond the capacity or means they have for rendering them valuable?

Has not the proper time at length arrived for reminding such, they being actual incumbents of the soil, that the land justly belongs to those only who can appreciate the obligation they are under, to use what has fallen to them and come under their supervision, so as to carry forward and ultimately accomplish the design of the Creator in the bestowment of such an inheritance? It is not sufficient that there is enough for all, unless each one, in the general partition, can be allowed to take and enjoy his rightful share. It was never intended by the great Father of the human family, in making provision for them out of his ample domain, to countenance invidious distinctions by allowing some to engross that they may waste what others need, so that the supply should not be equable and impartial. Though the abundance be ever so unlimited and overflowing, yet this is no valid plea in extenuation of prodigality in any quarter. When a miracle had fed thousands from a few small loaves and a residue had been left after they had eaten to their fill, yet the fragments were not to be thrown away. So the ground we inclose for ourselves, to have it under our own eye and subject to our own particular and exclusive management, should be made to produce all for which it is available, or which our best industry and skill can elaborate from it. When it is otherwise, do not manifest evils and egregious wrongs show themselves as the effect of miscalculation or misarrangement in the conduct of affairs?

Let us look into this matter a little, and inquire if something can not be done to put things in a better condition, that we may realize more from the exertions and expenditures we employ, and that others, the community to which we belong, may reap benefit from the better course we are induced to take.

Modern experiments in agriculture have abundantly demonstrated the good effects of labor judiciously bestowed on small parcels of ground in the production of returns vastly beyond what has been usual, in times past, under other systems of cultivation, requiring large tracts for the attainment of small crops. Now, what does this prove, but that more land has heretofore, and is still, put under tillage than is necessary for a given amount of produce, and that a little land made fertile by the skilful hand of tillage, is of more value than a much larger quantity put to use with inferior results? Are there not then evils to be

deplored which must inevitably attend the practice of making farms consist of more land than can be worked, so as to insure proceeds in some approximation at least, to the susceptibilities which nature has given them?

One obvious evil is, that a great amount of time and labor, together with other domestic comforts and enjoyments, is wasted, thrown to the winds, and accounted as nothing. And who is disposed so to undervalue life, vigor, ease, leisure, abstinence from perplexing care, and the satisfaction of finding that his energies are wisely applied, as to double his expenses in all these things by assigning himself a large area for his operations when a much smaller would better answer his end?

Another evil, not unworthy of consideration, attendant on the division of a neighborhood into few farms to make them large, is that the population is necessarily sparse beyond what is desirable for convenience and comfort. Public expenses by this circumstance become burdensome. Where the people are few, taxes for the support of necessary public institutions, if such appendages to a prosperous and happy community are enjoyed, must be high, though the payers of them may be straitened in their means proportionably to their nominal wealth, predicated on the number of rods covered by their claims. If, by cutting down farms to a moderate size, a people, few in number, separated from each other by inconvenient distances, could be doubled or trebled in number, and be brought into compactness as near neighbors, who could fail of seeing that such an arrangement must greatly contribute to the prosperity and comfort of those who should become partakers of its fruits?

Another evil which should not be quite overlooked and disregarded, results from the fact, that one man's having too much land occasions another's having too little. Is it not an obvious defect in society as it exists at the present time in our country, and more so perhaps in others, that in assigning places to all that none should be deprived of opportunity to exercise the talent they have for active usefulness, too few are retained on the soil to act the part of husbandmen, while the larger portion fly to unproductive employments, or to such callings as leave them dependent on others for their daily bread? It is not pretended, however, that though the earth was given to be the grand storehouse from which supplies of material good are to be drawn for the subsistence of all, that therefore all should be limited to following the plow, or to obtaining a livelihood by some other laborious means of extracting from the earth its nutritive virtues. Man is not to live by bread alone. But as this is at least one of the indispensables in what goes to nourish and sustain human life, enough of human thought and energy should be always at hand and in actual service to produce a sufficiency for all. But to what result is the known tendency of the popular taste, in these days, as respects the matter of obtaining food to eat and raiment to put on? Do men, as they grow up to see the need of doing something to obtain what is needful to the body, covet a spot of earth on which they may pitch their tent and ply the implements of agriculture, until they have learned by their own experience what is meant by eating one's bread in the sweat of his face? Is it not more common to see other expedients looked to and seized upon as promising pleasanter if not more remunerative methods of laying up treasure on earth and basking in the sunshine of worldly good? And what is the effect of this antipathy to plowing, sowing, and reaping, and the various rural labors which fill up the hours and exhaust the powers of the man who lives on the fruits of his own toils? To what causes, in like manner, may it be attributed?

Among the many influences which go to produce and nourish anti-farming propensities, and to swell the ranks of merchants, and mechanics, and the indolent tribes, not the least, in my opinion, is the scarcity of land, made so in particular localities by the greediness of proprietors in holding possession of all they can grasp, though of scarcely any worth to themselves in real profits. Could it be parceled out in such minor portions as would require an increase of labor, and would insure a still greater increase of profit, many landless traders and artisans would find themselves accommodated, if not with large freeholds, yet with snug auxiliaries and helps to a living. The evils to them of not having been thus favored many have unquestionably suffered in the embarrassment and privations which for months past have lain with oppressive weight, on those especially who have not been protected by their relation to the earth as its cultivators. Oh! how blest the farmer in those days of destitution and suffering, who can open the door of his storehouse and there be met with the sweet smiles of plenty.

It is not in the heart of the writer of the above to dictate to any one, nor even to sketch a plan or give advice for the disposal of lands to enhance their value. His only object has been to offer hints and suggestions, and leave it to the discreet and prudent to consider and act as their own judgment shall prescribe.

CHARLEMONT, Jan., 1858. J. F.

AGRICULTURE, HORTICULTURE, ETC., ETC.

BY A PENNSYLVANIAN.

I HAVE received the first number of the *American Farmers' Magazine*, and am much pleased with its form, *appearance* and *contents*. I think it is worthy of the patronage of every farmer and mechanic; and the minister, doctor and lawyer would not be harmed by a careful perusal of it monthly. I would most heartily recommend it to all.

But little grain was sowed in this part of Pennsylvania last fall; and owing to the dull prospects of the market and the scarcity of money, but little, comparatively, is doing in the *lumber* line this winter. The price of property has fallen very much. It is almost impossible to raise money on any terms. There is great retrenching in *family* expenses. The people, one and all, rich and poor, have been living too lavishly, in eating and drinking, and wearing, to live long, and be healthy, happy and prosperous.

Mankind seem to have lost sight of, or never to have had, a very fair or correct view of the end and object of human existence. It is true that a man, that anybody, that everybody should eat to live, and live to enjoy life, to be healthy, cheerful and happy, and to ripen for immortality hereafter.

Man should study the laws of his whole being. He should seek to grow healthy, wealthy, and wise as he grows older. Man, begotten in the image of his Divine Parent, should be ashamed, should consider it a *sin* to be *sick*. He has no business to be *sick;* and if he gets sick, he should anxiously seek for and remove the cause. The child should die, if at all, an hundred years old. Every one is the father of his own sickness. The man, or woman, or child that lives soberly, temperately, wisely, and righteously, will seldom be *sick*, if ever. Every one should strive to be wealthy, not only in money, but in that wealth which consists of a healthy, noble and divine humanity. There is no sin in money wealth, if it is obtained in a wise, honest and honorable way, and for a wise and honorable use, and not by fraud, deceit, and robbery one of another, but by honest labor, by cultivating the earth, and developing its resources, so that while the individual is adding to his own material wealth, he is at the same time adding to the wealth of all mankind.

Every one should strive to grow wiser as he grows older, by sipping the honey of truth from all the flowers of true knowledge in the domains of nature and revelation. I would like to see more, far more attention paid to the improvement, elevation, refinement, and perfection of humanity. The whole nature of man needs to be developed. It must grow up and bring forth fruit in abundance.

God speed the course of agriculture, and every kind of culture calculated to develop and improve the world and all its inhabitants.

I made a trial of the new Chinese sugar cane the past season. The season was a very poor one for the purpose. The spring was too late, and the autumn frosts too early for it to mature. I made about twelve gallons of very good molasses. It took about ten gallons of juice to make one of molasses. I had no seed get ripe.

We crushed the juice out with a pair of wooden rollers of my own construction, worked by a horse. I intend to try it again next season if all goes well. It will do well in a dry, hot summer; will mature its seed and make sugar.

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We think our correspondent speaks rather too strongly of the *sin* of being sick; but we suppose he means, that if we would all live according to the dictates of reason and an enlightened understanding, and not be governed so much by passion and appetite, there would be less sickness and longer life, which is certainly true.—Ed.

SORGHO SUCRE, OR CHINESE SUGAR CANE.

BY A MASSACHUSETTS FARMER.

Expectation has been so highly awakened by the proclamations made of the benefits to accrue from the culture of this plant, that I determined to ascertain, if possible, whether or not it was worth cultivating. Accordingly, I looked at it, wherever I found it growing, and have inquired of those who planted it, and the result of their culture, where it matured at all, was plants growing from 10 to 15 feet in height, and from 1 to 1½ inches in diameter.

As a forage plant, it is generally said to be less acceptable to animals than the stocks of good sweet corn, though cattle will eat it. I doubt exceedingly whether it is worth growing for this purpose, where Indian corn can be grown. Perhaps it will grow on a soil of poorer quality than corn, though I never have heard that it was prejudiced in its growth, by the application of good fertilizers.

Many of my neighbors grew small patches of it, say from one to ten square rods, and when it matured they cut it up, and have it now, waiting to learn whether any use can be made of it.

Some have undertaken to press the juice from the stocks after the leaves were peeled off, and in this way they have obtained from one to two gallons of tolerable syrup from a rod of land; but nobody thus far has realized any convenient benefits from its culture. To be sure it was *a new thing;* they had to learn how to grow it, and how to use it after it was grown. Some have produced seed that they think will come up another year; but no one that I have met has produced any *sugar*, and very few are yet satisfied that the plant is worth growing at all. It is said the season was so wet that it was not favorable for its growth, and that one trial is not a sufficient test of its value. I have not heard of any sugar obtained from it this side of Philadelphia; and from the experiments there as detailed in the *Tribune*, I doubt whether the sorghum is worth cultivating. I have seen beautiful specimens of loaf and other sugars made by the gentleman from Philadelphia; but it should be remembered that he is a *sugar refiner* by occupation and long experience, with all the conve-

niences at hand for the operation of *making of sugar*. I do not think, therefore, that what he has done begins to prove the expediency of the farmers at the north, embarking to any considerable extent, in the culture of the *sorghum*, or even of the imphee—a rival plant introduced by another gentleman, who professes to have discovered it in the interior of Africa. I am quite willing the African plants and African subjects should remain at home. We of America have enough on our own soil to engage our attention; and if we mind our own business we shall be better off than to be constantly hunting after "some new thing."

With many thanks for your polite attention, and an earnest solicitude for the prosperity of the cause you so ably advocate, I am, now as ever, faithfully yours.

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We fear our friend from Massachusetts, in his well known opposition to all sorts of fanaticism, is getting over cautious about new things. New things are not necessarily good things. We agree with him that Indian corn is an excellent forage plant, and that we have long doubted whether anything better would ever be found for our climate. When Hiawatha obtained the corn plant from the Great Spirit, rather when God gave it to mankind, it was a magnificent gift. Still there are other valuable plants, and we see not why the sorghum should not be thoroughly tried. If those who are adepts in sugar making have succeeded in making large quantities of sugar, and that of a very superior quality from the sorghum, as we have occasion to know that they have, that should be set down in its favor; and the fact that others have failed through ignorance of the process, or from the want of proper fixtures—causes that certainly are removable—that should not be put down against it, but charged to the true cause, one that will not necessarily be lasting. We would not advise any one to give up the staple crops of the country for the sorghum, but rather to hope for a better season and try again, but on such a scale as would not be ruinous in case of failure.

ON THE INTRODUCTION OF NEW VEGETABLE CROPS INTO THE UNITED STATES.

BY A FRIEND.

The importance of the introduction of new crops into a country possessing within its limits so varied a climate as the United States, is too self-evident to require arguments in its support. Much credit is due to the efforts that have been made by the Patent Office in this direction during the last three or four years; and we have reason to believe that it is to the personal exertions and intelligence of Mr. D. S. Browne since his connection with the department, that we are, in great measure indebted for the attention that has been paid to this subject.

The difficulties that surround its successful prosecution are much greater than would strike the casual observer; and it is of course that many well directed experiments have to give place to renewed efforts before success can be attained by the introduction of even one *really* valuable new family or variety of plant.

It is too early yet to speak positively, but the *sorghum* certainly bids fair to be one of the most valuable acquisitions that have been made for some years, notwithstanding the diversity of opinions relative to it that were prevalent not long ago.

We do not, however, propose, in the present article, to review the character of recent introductions, but to throw out some suggestions upon the most probable mode by which the search for new plants may be advanced.

The subject is one that all those who have relations or friends traveling or resident in other continents should direct

their attention to; for by the simple collection and transmission of seeds, much may be done. It is desirable, however, that the subject should be prosecuted in a more systematic method, and governed by scientific principles, as to the direction in which the search for novelties is made.

The constitution of plants is, beyond certain limits, fixed and unalterable. Different families of plants, as we know, vary greatly in their powers of endurance of drouth and moisture, heat and cold, light and darkness. Most families will submit to considerable variation in each of these respects, when transferred from their native habitat to other climates. But *what* the amount of that variation will be can, in each case, be only known by experiment.

Much has been said and written upon what has been called "acclimating plants." It is too lengthened a discussion to enter upon at present; but the remark may be made, *en passant*, that there is no doubt that many an assured fact of "acclimating" has had no foundation beyond the discovery, from experiment year after year, of the amount of cold or heat that the particular plant could bear without destruction to its vital power, in the locality to which it has been introduced.

But, the constitution of plants being fixed, it follows that we may reasonably expect those plants to succeed in this country that are found, indigenous, in climates the most similar to it.

In considering again the question of *climate*, it may be remarked that too much regard is frequently paid to the question of latitude taken alone; and too little to two other considerations that should always be taken into account in connection with latitude, as indicative of climate, namely: the elevation of the locality above the level of the sea; and its vicinity to, or distance from, the ocean or any large inland lakes. To any one who is familiar with the climates of the several Middle and Northern States, this, on reflection, will be evident; and a reference of a map of this continent that is marked with isothermal lines, will demonstrate it at a glance.

It is from the circumstances referred to in the preceding paragraph, that the Himalaya Mountains have been so prolific of horticultural riches to Europe.

There is another circumstance connected with climate as affecting vegetable life that also deserves the attention of the plant collector. It is found that the eastern sides of different continents are much better adapted to the development of the flora of either than are the western; and *vice versa*. For this reason it is highly probable that China will one day be found to possess many plants that will thrive luxuriantly in these States that will not succeed in Europe. Nor does this apply to the Southern States alone. For there is in the northern and southern districts of China a greatly varying climate; and, although not to the same extent as in the northern parts of this continent, yet the difference of summer temperature in the north of China, as compared with its winter, bears a much nearer relation to the same changes in this country at the same season, than to those in Europe. Consequently it is not at all unlikely that many of the plants of Northern China that may not submit to the vicissitudes of winter in many of the more western parts of Europe, may yet find themselves quite at home here in the Northern States.

China, therefore, presents a promising field to the enthusiastic botanist and vegetable physiologist. And we hope that our neighbors who have friends in the celestial dominions, will call their attention to this interesting subject.

It can not be expected of course, that those who have not paid attention to matters connected with agriculture or horticulture, should have that degree of accurate information which would be

requisite to enable them in a foreign country to make those discriminations necessary for the researches of the botanist. It may, therefore, be at first sight supposed that it is a difficult, if not impossible matter, for the traveler for business or pleasure successfully to take up. But this is not so. For whoever he may be, he carries with him at least the recollection of the vegetable productions of his own country, by which he has himself at home been surrounded. He knows the fruits he ate, and the kind of cereal from which his bread was made. When, therefore, he finds in China, or elsewhere, fruits and vegetables for food, or used in commerce or the arts, with which he is unacquainted, it is highly probable that they are not yet introduced to his own country. He can, therefore, at all events, make inquiries about them, and if practicable, (which often if not always it will be,) he can procure seeds or plants for transportation to his friends at home.

With regard to the transportation of seeds from distant parts of the world, it is now well ascertained that they preserve their vitality much better packed simply in paper or in linen bags and exposed to the air, than when shut up in boxes, or in tin cases. But it is essential that the packages or bags be kept dry.

Roots (and frequently cuttings for moderate periods of time,) will retain their vitality if packed in dry earth or sand, but they should always be packed and forwarded at the time of year when they have their natural season of rest.

DAIRY MANAGEMENT.

BY A FARMER.

In consequence of the very destructive ravages of the weevil or wheat midge for some years past, it is highly probable that not a few in wheat-growing districts will be induced to abandon wheat-raising, for a time at least, and to devote their time, attention, and lands to dairying, stock raising, or some other branch of agricultural industry. In the case of some of those who may make this change in their mode of farming, it is likely to be accompanied with a few difficulties and perplexities, which may be all the more annoying from being unexpected and unprepared for. There may be some, for example, to whom the business may be so unfamiliar that they have no idea of what number of cows or other stock can be summered and wintered on any certain number of acres in pasture and in meadow. An error in either direction, that is, either by over-stocking their farms, or by under-stocking them, would be a source of annoyance and loss. In the one case the stock would suffer in condition, or the dairy produce be diminished, in consequence of the want of sufficient supplies of food; and in the other case, (of the frequent occurrence of which, however, there is no great danger in this country,) the source of the loss is too obvious to require to be mentioned.

If any one desirous of avoiding errors in regard to this point, were in pursuit of information so as to enable him to determine the amount of stock his farm—that is, so many acres of pasture, so many of meadow, and so many of corn and other grain, with roots, etc.—would carry, and resolved to determine this matter, not by mere guess-work, but accurately and by the light of the experience of farmers in dairy and stock-raising districts of country, he would find considerable difficulty, so far as our memory at present serves us, in finding such information on record in any of the agricultural journals which have for some years come under our eye. The most accurate source of information to which such an inquirer would be directed, we think, would be the Patent Office Report, (Ag.) for 1856. There he would find, for example, that in Gloucestershire, Eng., where nine-tenths, often, of all the land on dairy farms is in pasture

and meadow, twenty-five cows, at least, are ordinarily kept to each 100 acres, besides the usual number of heifer calves to maintain a full supply of milch cows. One and a half acres of pasture is the usual allowance to each cow, exclusive of all other stock, from May 1st to Dec. 1st. During the winter and spring months, hay is almost the only food given; and as each cow will consume two and a half tons of hay, it requires about the same extent of land—one and a half acre—for the winter as for the summer keep. In Cheshire, another famous dairy district in England, only twenty cows are kept to the 100 acres, or in that proportion, instead of twenty-five as in Gloucestershire. This, too, is exclusive of young heifers to keep up the stock of cows.

Further details may be found in the Report named. In making calculations based on these facts, allowance must be made for the fact that the climate of England is more favorable to the growth of grass than that of this country.

MORE ABOUT NATIVE STOCK.

BY J. W. PROCTOR, ESSEX CO., MASS.

EDITOR OF FARMERS' MAGAZINE:—I thank you, sir, for the kind expression of confidence, in my judgment, as to the value of the "old red cattle of New-England." From my earliest years, when a boy in my father's barnyard (say 55 years ago) to the present time, my attention has been particularly directed to this class of animals. It was a favorite idea of my old master, *Timothy Pickering*, that our best chance to obtain good stock on our farms, was to select the best animals we could obtain, and breed therefrom. It was in this way he said that the best improvements had been made in the herds of England. This was before animals of the improved breeds had been imported. I do not remember to have seen many of these until after the late war with England, that commenced in 1812. About 1820 they became quite common with those gentlemen who had most enterprise in these matters; still Col. P. held the opinion while he lived, that our best hopes were in rearing the best calves from the best cows in our stalls, provided bulls of like character were used as their associates. My intimacy with this gentleman led me to adopt these notions; and my observations and inquiries since, chiefly in my own county of Essex, have confirmed these impressions.

Essex is not a stock-raising county. Most of our heifers are brought in from Maine, New-Hampshire, and Vermont. Not moulded with a pedigree attached, but still moulded in form to meet the wants of an experienced eye, which is better than any pedigree. In this way is their selections made when the droves come along in the autumn; and if the heifers do not prove as expected after one year's trial, they are shoved off or turned over to the butcher. I have known many such selections. I particularly recollect the heifer selected by my neighbor, Benj. Goodridge, then an inholder, which afterwards proved to be the far-famed *Oakes Cow*, second to none that has been owned in Massachusetts for butter-making ability, more recently the Huntington Cow, now owned by my friend, R. S. Fay, President of our Society, scarcely inferior to the Oakes Cow. And this last season her calf, owned by P. L. Osborne, which, for one year next following her first calf, gave an average of between *ten* and *eleven quarts* of first-rate milk per day, on common feed only. I mention these instances because I know the facts stated to be so.

Far be it from me to speak disparagingly of any other classes of stock; but I do know those of best experience in this vicinity have best hope of good milkers and good butter products from the *old red stock of New-England*—what I am disposed to call *Natives*, until some more appropriate name can be found.

Pardon these hasty, off-hand suggestions. If they should chance to find favor in your sight, I will endeavor, at a convenient opportunity, to give you some views more elaborately digested.

RAIL FENCES.

BY W. TAPPAN, BALDWINSVILLE, ILL.

On the prairies of Illinois the people have commenced raising thorn fences, but I still express my admiration for rail fences. Long experience has proven them to be the best fences we can put on our farms. Let a good rail fence be built seven or eight rails high, with sizable stones put under the corners, rails eleven feet long—not too large nor too small—laid up with the desired zigzag crook. That is the kind of fence for the farm and for the people.

It is durable; it is tidy, and presents a fine appearance; it is a portable fence, and will long stand the storms and winds of our northern and southern climes. A rail fence sometimes blows down, so do board fences. Stake a rail fence down, with two stakes at each corner, with wire or wood binders, and it will stand even the howling tempests of the sea-like prairies of the west. Chestnut rails are not everywhere to be found, nor are ash rails everywhere abundant, but almost every country furnishes some kind of timber out of which rails can be made, and therefore I do approve of laying them up into good, straight and well-built rail fences. Not that board fences are not good do I thus speak, but that rail fences seem to last, are movable, and are usually considered proof against cattle, horses and sheep.

We all, perhaps, have our peculiar tastes and notions about fences, but I never did really fancy a stone-fence, and yet there are many good ones, particuticularly those which have been laid up with selected, flat lime-stone. I have seen some very fine fences of this kind in Steuben and even in our own county. On the farm of the Hon. Geo. Geddes you will find some nice and creditably built lime-stone fences. But there is one serious fault that can be urged against stone fences, which is that they make a great and long nest for elders, briars, and noxious weeds. By prudence and labor these pests might be prevented from springing up, but really it seems to be their most natural harbor —around a stone fence.

Rail fences are the cheapest fences in the long run that can be built. They will last a life time, though the kind of timber must be taken into consideration if we are to judge of their durability. Usually good chestnut rails, perhaps, are preferable, though there are other kinds of timber that have proven very valuable for rail timber.

One thousand rails will build nearly, if not quite, sixty rods of fence. Count your rails, delivered on the spot, worth $40 per thousand, and then your fence will cost you about 67 cents per rod. A board fence will cost in New-York State more money than this, and yet will not last half as long as the former kind.

Sandy land soon rots a post, whether that post be cedar or chestnut, "or what not." Along the road board fences usually look very pleasant, and therefore, as as a matter of taste, very many people use them.

I have recently seen a new contrivance for fences. It is a kind of board fence with panels, and can be put up or taken down in a great hurry. It presents a zigzag appearance when up, and hooks or ties are used for staying it. Of course it is a patent. Like all fences that are made of boards, it is quite expensive, though its agents insist that it is decidedly the cheapest fence yet brought into notice.

But fences considered in any light are very expensive. They cost an immense sum, and the annual repairing done upon them is an item which would build up many fine palaces and ornament scores of parlors and bed-rooms.

Many parts of the world are forced to do without them, and then trouble many times follows as a consequence. They are, above most everything else in agriculture, of the most importance, and yet thousands upon thousands of our farmers pay but a very little attention to their fences, and then comes on the tug of war—crops are destroyed, quarrels ensue, law-suits take place, profane language is heard—all in consequence of board fences put up in a bad way.

For the Farmers' Magazine.

FARM ECONOMY.

A FEW months since I saw the question in your paper, Why should the animal products of a farm equal its vegetable products? As no one has furnished an answer, I send you a few thoughts upon the subject. The most profitable farming in the end, is that which keeps the soil in the most productive state. This needs nourishment to sustain it, as well as the animal system. When in its native state the amount of vegetable matter that decays upon it, annually compensates for the fertilizing properties abstracted in its growth, and thus an even balance is preserved in nature. But by removing the products of the soil from year to year, without some compensation in return, we remove so much of its vitality, if I may so speak. This balance is destroyed. We subtract from its ability to produce, and the consequence is, it soon becomes exhausted of fertility. I speak of ordinary soils. There are places in our country where the soil will produce from year to year without any apparent exhaustion. But this is not true of a large portion of it. The soil, by being compelled to employ her strength for the production of annual crops, without any renovation of it, like the ill-fed and over-worked beast, soon fails. Compensation must in some way be made for what is thus taken from the farm. The soil must be fed, to keep it in a healthful condition, as well as the tillers of it.

The question then arises, How shall this be the most efficiently, and the most easily effected? In what way can a sufficient quantity of manure be obtained, to keep the land in a proper state of productiveness? It is believed that this can be accomplished in no way so surely as by having the animal and vegetable products of the farm suitably proportioned to each other. With proper care, a farmer may, in this way, make a great amount of manure, and an article too, that is much more reliable, than that obtained from any other source. If he procures it from the stables in a city or village, he usually gets an article that is firefanged, and much poorer than he can manufacture on his own premises. If he purchase concentrated manures, he is liable to be duped, and humbugged, and cheated out of his money, and thus left to future disappointment. But the intelligent, thinking farmer, knows what dependence can be placed ordinarily on that which he produces himself, and can make calculations accordingly.

In a wheat growing country, the straw and chaff may be left on the ground. But this, in its native state is comparatively valueless. It adds but little to the fertility of the soil. But by being cut, and mixed with meal, and then passed through the bowels of an animal, its value is greatly increased. I consider the animal stomach a better laboratory for the manufacture of manure, than those from which issue the so-called superphosphates of lime. By keeping animals on a farm, a vast amount of refuse matter, which in its native state is of little value, may be made of great utility. Straw, if not wanted for feed, may be used to litter stables and yards, and thus not only be made conducive to the comfort of the stock, but become an absorbent of liquid manure, which is by far the most valuable part of that produced by animals. Muck, forest leaves, potato tops, refuse cornstalks, and the like, may also in this way be turned to good

account, in keeping the soil in a healthful and productive state.

The pig-sty is also a laboratory for the manufacture of manure, of the value of which many of our farmers seem but little aware. The small number of hogs necessary to be kept for family use, may, if rightly managed, be made to pay in part for their keeping, by their labor. Swine are excellent composters, if you will furnish the materials for this. Give them plenty of refuse straw, chip manure, decayed vegetable matter, turf from the road-side or corners of the fences, the reeds and decayed vegetable tops from the garden, and other refuse matter which may easily be collected in moments of leisure, and at the end of the season you need not send to the city for the patent humbugs called fertilizers. You will have a mine of wealth on your own premises, that will render your soil productive.

Farmers who live at a distance from market, may consume an amount of vegetable products, in fattening animals, or in feeding the cows in the dairy, or the young stock on the farm, which would otherwise be lost. In this way, with the aid of a little labor, much may be turned into cash, that otherwise would be employed in some barter trade, or wasted. A mixed husbandry may thus be made productive of more gain than one single branch. The several departments act as aids to each other. They seem dependent—each being necessary to keep up the fertility of the soil, and to yield the greatest income. Without the aid of the manure produced by animals, the farmer may plow and hoe to but little purpose. The soil by being constantly robbed of its strength, refuses to yield its increase, and the cultivation of it must soon be abandoned. Mixed husbandry also affords variety of employment, and employment for all seasons of the year. In the winter months when the frost and snow claim possession of the soil, the farmer may be busy in caring for his stock, in collecting materials for manure, and preparing it for future use. Thus he will be constantly kept in a healthful activity. He will find employment for both mind and body, which will act reciprocally on each other, to preserve an even balance between them. Monotony soon tires, but variety gives zest to the spirits, and thus contributes to health and prosperity. HUBERT.

There are but two thoughts in the above from which we would dissent in the least, and hardly from these, as the writer has very guardedly expressed them.

One is, where he speaks of straw to be used as an absorbent, but immediately recommends other substances, equally good for that purpose, but, unlike straw, valueless for feeding. Our idea is—and we presume he does not differ from us a single shade—that straw is worth something for the stomachs of cattle, and therefore should not be used for their bedding, but should be cut, moistened and mixed with Indian meal; or given in alternation with a little good hay, and a plenty of roots, and thus be made a valuable help in getting the stock cattle through the winter.

The other point is that of "mixed farming." We quite agree with the writer, that it is desirable, and we fully appreciate his arguments. Still we believe, as we have no doubt he does, that where the nature of the farm, its location, or the genius of the owner, point to a particular branch of husbandry, the general rule may give way, and the farmer may better turn his attention to that branch or those few branches, which circumstances seem to indicate.

We seldom meet with an article more to our liking than this of Hubert. May we not hope to hear from him again and often.

DIMINUTION IN WOOL!

THE *Wool Growers' Reporter* states the decrease of the wool crop in Ohio in 1857, as compared with 1856, to be two

hundred and twenty-seven thousand three hundred and seventy-three sheep, or six hundred and eighty-two thousand one hundred and forty-two pounds. The clip of 1856 was ten million five hundred and eleven thousand and twenty-eight pounds, and that of 1857 nine million eight hundred and twenty-nine thousand eight hundred and nine pounds.

TESTIMONIALS, QUERIES, REPLIES, &c., &c.

From and to Correspondents.

A FARMER, whom we have not had the pleasure of seeing, says, among other sensible things, the following:

MR. ED.:—I have just received the February No. of the *American Farmers' Magazine*, or more familiarly *Plough, Loom and Anvil*. I am much pleased with the improved appearance of the work, though *before* the change, it was second to no journal, in matter and appearance.

I have got all the volumes—10 of them—of the *Plough, Loom and Anvil*, that have ever been published, and there are no books in my library that I value more highly. In your prospectus for 1858, you propose to furnish the *Knickerbocker* and *Atlantic Monthly*, together with your own monthly, at reduced rates. I shall take both of them, when I renew my subscription.

My subscription to your magazine has been paid to May 1858, I think, but I am not certain as to that matter. Will you inform me, and I'll be on hand with a renewal? I think you are right with your terms. "Cash in Advance" seems to be the only true principle of publishing a newspaper or periodical.

—

A DIFFERENT LETTER.

The writer of the following treats us to a whole volley of questions; and that is all right, provided he will look into our past and future numbers for replies, and be contented with short answers for the present. He seems to be a sort of city farmer as yet, but when he gets into the thick of it, we hope he will make out better than the celebrated Mr. Sparrowgrass did; and there is some reason to think he will; for it can not be denied, that while some of these citizens are rather green when they get into the country, others do first-rate, even outdo the old farmers themselves.

MR. EDITOR:—Your "hints to young farmers" in the February number of the *Farmers' Magazine* just received, are the very thing I wanted, and I am sure many more as well. This encourages me to write to you for information, that I can not get from books. You tell us to read agricultural books, and I lately have done so, because I have been getting a little place in the country for my children to run about in, and I mean to farm a bit to help keep down expenses. But although I find a great deal in books about manures, and many other things that I don't understand now, whatever I may do by-and-by, I can not find out things that I *do* want to know; and as you are willing to teach us "know-no-things," I am encouraged to write.

As I have all my life kept a store in the city, it seems not very wonderful that I should have to ask, although you farmers may laugh at my questions. However, here they are:

I mean to keep a horse and a cow, maybe two. Now, of course, I want to grow my own keep for them; and as I see you farmers all now recommend cows to be fed in the yard all the year round, I mean to adopt that plan.

Now I want you to tell me how much hay I shall want for the horse, and how much for each cow. Then how much corn. And how much straw, or sedge, or something for bedding, etc. And how much land it will take for the corn, as near as you can say. They tell me my land gives about two tons of hay to the acre; so when I know from you the quantity for each animal, I can tell what land it will take to grow it. Then again do you advise me to feed any root crops,

and what to the cows? And how much land for them?

You see, Mr. Editor, all these things may be like A B C to an old farmer like you, but unless you tell me something about it, I am as likely as not to grow only half what I want, or if I grow enough, to sell too much off the land, thinking I shall not want it.

Excuse the trouble; I may be wrong, but I think it is this kind of every-day knowledge that publications like yours are wanted for. I mean just what we can not get out of books.

A City Trader.

—

Let us see; "keep a horse;" that is well if you can afford it; "a cow, maybe two;" you may better say two, and then take care to get such good ones and keep them so well, that the profit will encourage you to keep a couple more; "want to grow my own keep;" certainly, or you will find it a poor business. As to keeping them in the yard, that depends upon circumstances—maybe well for small farmers near the city; but that the great mass of cattle in this country will perform the labor of gathering their own forage in summer, and charge their owners less than two dollars a day, or one for the work, till labor among us is cheaper than at present, is quite certain. Let us say to you here, if you keep two or three cows, keep as many or more swine. It would be well to have a few sheep, and don't fail to have a poultry-yard.

"How much hay to keep a horse?" Why, about as much as you please. If you give a horse the first best hay, and you should give him no other, and if at the same time you feed him nothing else, he will consume a hundred dollars' worth of such hay in a year, as prices range about here. But if you will give your horse four quarts of oats a day, and a peck of carrots, to be increased a little when he works steadily, he will eat less hay and be in better order, and will do more work. We should think, that with cut straw for a part of the feed, moistened and sprinkled over with Indian meal, and the oats and carrots above, you might get a horse through the year with two tons of hay, and that the whole expense of the keeping would be a little more than a dollar a week near the city, and considerably less, far back in the country.

If your land has been wont to give two tons of hay to the acre, that is pretty well. Two tons of good hay to the acre is a large income. But if the land is strong, and withal rather moist, we propose that you undertake to cut two tons early in July, one or one and a quarter at the end of August, and have a pretty good growth to feed off in autumn. You can do this, and when you have done it, we would like to hear from you again.

"How much to keep a cow?" A cow of good size, and giving milk freely, requires three tons of the best hay in a year, and more if you give nothing else; but could be got through the year with a trifle less, if you feed a plenty of roots, and a little Indian meal, as we would by all means advise you to do. Some have taught that oat or rye meal is better for the production of milk than corn meal; and if you estimate milk solely by the quantity, we think it is; but if you look at the real value of the milk—to make butter, or cheese, or to feed children with, or use for cooking purposes—June-cut hay, bright and clean, and 2 or 3 quarts of corn meal a day, are what you want; and we would recommend carrots rather to keep down the expenses of hay, than for any other purpose. They have no tendency to deteriorate the milk, and in the absence of corn meal perhaps improve it.

If your stalls are warm and conveniently constructed, you will use very little straw, sedge or anything of that kind for bedding, and that mostly for your horse. But remember to use large quantities of dry leaves, leaf mold,

swamp muck, or partially decayed turf, for absorbents in your yard, pig-pen and stable, if you would raise the corn you will need on the smallest possible piece of ground. If you will look over our Magazine, you will find where we have told you how to raise fifty bushels of corn on an acre, and from that all the way to a hundred, according to the land, at a cost which leaves a handsome profit. This latter has often been done, and you can do it, without making your cultivation so expensive as to leave no margin for profit, if you will follow our advice, and depend mainly upon the home fertilizers for enriching your ground. Buying manure from the Chincha Islands, and neglecting to make it from your own resources, is bad policy.

"Grow more than I want!" There is no danger, A man's wants are like a piece of India rubber in a lazy schoolboy's fingers. They will stretch to any measure, and besides you can consume, or find animals to consume, all you will grow. "Or only half what I want." No danger there either, if you husband the manure heap well, and practise deep and thorough tillage. Why man, if you have 25 acres of land, or even 20, or 15, if it is of a fair quality, and if you can begin with 1 horse, 3 cows, 5 swine, 10 sheep, and 20 hens, and will husband the manures, not only saving all the excreta, but adding about three times as much of something else every day in the year, in the way of a divisor and absorbent, your land will be growing better all the while; you may gradually increase your stock; and you will always have enough.

We advise you to have an eye to the old farmers, not to do as they do in all respects, but to do as well at any rate, and better if you can.

Another correspondent, on a subject so important in agriculture that we do not like to reply hastily, about which we here solicit the experience of practical farmers, inquires:—

"I hope you will excuse the liberty I take in writing to you, and if it is not too much trouble, I would like you to answer me a few questions on the subject of clover.

"Which is the best way to cultivate it? How much seed does it take to sow an acre? What does the seed cost? Is it a good manure for cotton land? When must it be sowed? And what kind of manure must be used in cultivating it? By answering the foregoing questions you will greatly oblige a reader."

A single word, on the last question, and then we leave the subject unbroken for our agricultural correspondents.

Clover is peculiarly a lime plant. It will not grow well unless there is carbonate of lime in the soil or manure. Hence, ashes are favorable to clover, because they contain a great deal of this compound. There is carbonate of lime, as well as all other substances required by plants, in the barn manures, and hence we should want no other for clover nor for anything else if we only had enough of these.

Shell or stone lime applied to previous crops is good for clover. We do not think that lime applied to the clover at the time of sowing, would help the first year's growth much. It requires time and exposure to become assimilable by the plant. Many farmers tell us that lime does no good on their soil. In some cases undoubtedly this is true. It does no good because there was already lime enough in the soil, or enough had been applied in the manures. But in far more cases this bad opinion of lime arises from expecting the effect too soon. The best effect of lime is not to be looked for till the third year; and the whole effect, in not less than ten years. But we have known men to apply it in May, and because the corn looked no better in June, to say lime does their land no good.

To show the slow but sure action of lime on clover, we will state a fact. A

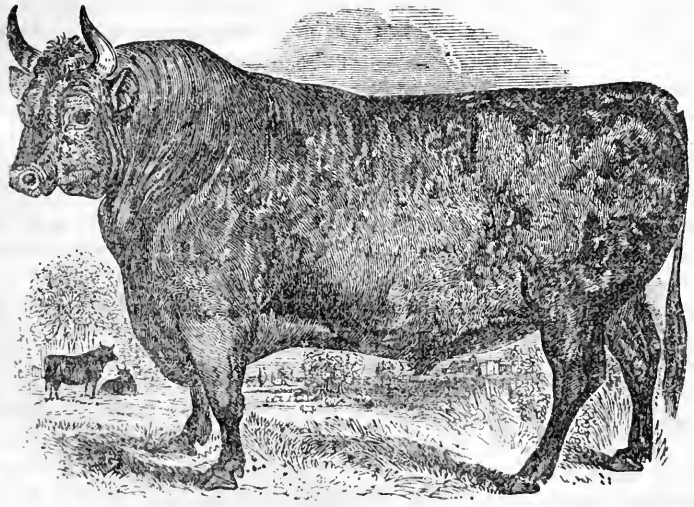
friend of ours was plowing a field in August, where a careless farmer, twelve years before, had applied a few bushels of lime to the acre, spread when wet, in lumps. The field had not been depastured that year, and yet nothing had grown upon it except in spots. Here and there, amid the general barrenness, were monstrous tufts of clover, so tempting to his cattle, that they could hardly be whipt by them, and the roots so rank and strong that the plow could hardly be drawn through them. Our friend dug for the cause, and found a lump of lime under every tuft of clover.

In plowing that whole field, and it was a large one, he found without a single exception, that wherever lime showed itself in the furrow there was clover, and where there was no clover no lime appeared. He drew the conclusion that lime is favorable to clover. He might have drawn another conclusion;—

That field had all the pabulum required for clover, except lime, but was destitute of lime, except where these lumps had lain unappropriated for twelve years. We draw another conclusion still;—

It is, that there is a great deal of land in the same condition. But we leave the field to practical farmers. Sound, practical farmers are better worth hearing on this subject than others.

BREEDS OF CATTLE.



DEVON BULL.

It was our purpose to have said something this month of the Improved Durhams. But our friend and namesake has furnished us so long an article on the Cattle of New-England, that we have not space even for a subject of so much importance.

The cuts in our last, as we then stated, were not designed to represent the Improved Devons, but rather to give the general features of the old Devons, which were the basis of the Improved, or North Devons, as they are called, and which we believe have diffused their blood more radically into the cattle of New-England, and of this country generally, than any other race.

The bull represented above we do not

consider a fair type of the North Devons, as they are seen in many American and English herds, but rather of a grado of the Devons in the way of a higher improvement. The swell forward of the shoulders, and the falling in of the hind legs below the round, are no part of the improved North Devon. If any of our herdsmen who have cuts of their finest, pure blood, improved North Devons, will send them to us, we will publish them in our next. We have no fear that the artist will have surpassed nature in the fineness of his picture, for there are scores of these animals in our own country, as well as in England, finer in their forms and proportions; and if more cuts are sent than we have room for without intrenching too much upon our reading matter, we will enlarge our next number for the purpose of giving them room. We should like to see a whole herd of pure North Devons, in the pages of our April number; and if the insertion serves as an advertisement of these cattle, we have no sort of objection. Why should we object to giving publicity to a good article? and such certainly are the North Devons.

Of course we do not agree with our friend of the long article, on New-England cattle, from whom by the way we hope to hear again, in every particular. We are not as fearful as he, that Americans will be humbugged by the English. It appears to us, that we *A*mericans are about as *smart* as Englishmen are *clever*, though we believe they have asked and Americans have paid a little too much, in some cases, for even their finest cattle. But we have only to refuse such prices, and they will come to their senses when they see we have. The competition among American breeders has been one of the main causes for keeping English cattle at fabulous prices.

Our friend has done a good thing in notifying us of what is unquestionably true, that England is not the only source of fine cattle. While some breeders are availing themselves and the country of cattle from abroad, that have had the benefit of correct breeding for generations, we have not the least doubt that others will bring equal, if not superior results from our own long-neglected cattle.

Whether cattle have ever been slaughtered in New-England, weighing as much, when dressed, as his article represents, is more than we know, and we believe nothing without proof. We *were brought up* to think 250 lbs. of beef to the quarter doing pretty well; and we shall leave it to the writer of the article to prove that an ox has ever graced the Brighton (Mass.) market or any other with about four times as much. But we regard his article as exceedingly valuable; and we believe that there is truth enough in it to lead to most valuable results, if candidly received and practised upon by the farmers of this country.—Ed.

ANIMALS IN WINTER.

Farmers do not sufficiently sub-divide their yards in winter. Large and small animals are turned in promiscuously together, and, as every farmer knows, the large ones are very ferocious and domineering towards those much inferior, but careful not to provoke the wrath of such as are nearly equal. Turn those together which are of similar size, and they will be more quiet all round. Calves generally are too much neglected, and come out small and puny in Spring. A good manager has constructed a spacious stable for calves in one of his sheds, moderately lighted, and well sheltered from all currents of wind. This apartment is kept clean, the calves fed on good hay, and supplied with good water. They present a very different appearance from other calves in spring.—*Tucker's Annual Register.*

☞ The autumn is the best time for painting all wood that needs this protection. Paint, therefore, soon, all fences, posts, gates, sheds and buildings that need painting, whether new or old.

Horticultural.

CALENDAR FOR MARCH.

FLOWERS.

As soon as the winter breaks up the flower borders should be dug up and manure added. Perennial herbaceous roots may at the same time be divided and arranged; and this is the time to obtain any new ones that are wanted from the nurseries.

Cuttings should be rooted under hand or bell glasses of many things that will add much in summer to the beauty of the flower garden, as *Heliotropes*, *Fuchsias*, *Petunias*, *Mimulus*, *Chrysanthemum*, *Pansey*, *Phlox*, *Antirrhinum*, *Verbenas* and others. These will root in a room window under a tumbler glass in any light garden soil to which a fourth of coarse sand is added. The glass should daily be taken off and the inside of it wiped dry, and then immediately replaced. Whilst the inside of the glass is found to be moist, no water will be required.

Tender or Hardy Annuals may be sown in a cold frame now, to remove afterwards into the borders, which will enable them to bloom earlier than those sown next month for general bloom.

Greenhouse.—The plants will be growing more rapidly, and therefore their young shoots will be more susceptable of frost, on which account fires must only be discontinued when that can be done with safety. But the more gradually the growth is made, the finer will be the bloom, on which account it is desirable to use as little artificial heat as possible. For the same reason, in mild, sunny weather, more air should be admitted in the day. At all times avoid winds and sharp currents of air.

More water will be required as the plants advance, and the syringe shou'd be used freely every day, except in severe weather.

Keep the new growth of all plants well tied out, which, by admitting light and air to their centers, encourages a strong growth and a bushy habit.

Fruit Garden.—Prune all fruit trees not yet done. If any are to be planted, let the ground for them be prepared, so that they be got in as soon as the spring weather is sufficienaly advanced to render it fit to remove them.

Strawberries may be planted the end of this, or beginning of next month, according to the situation and the weather. Old beds that were covered over in the fall, should be uncovered as soon as the severe weather is past, and the earth between the plants should be stirred three inches deep with a garden fork.

Raspberries laid down in the fall should be uncovered, and the canes tied up for bearing.

KITCHEN GARDEN.

As soon as the frost permits, according to the locality, the ground should be dug over and manured, preparatory to getting in the crops. But it is better, if the ground is very wet, to wait a few days, for it works to better advantage when not saturated with water.

Unless seed has been sown in frames for early crops, that should now be done immediately; especially Lettuce, Early York, and Early Ox-heart Cabbage.

Radishes may be sown in a warm border as soon as it can be got ready.

In a hot-bed, Tomatoes, Egg-Plants, Peppers, and other things that may be wanted early, may be sown.

Cabbage and Cauliflower plants that have been kept in frames through winter, should be thinned out to give them room, and the earth between those left stirred an inch or two deep. The plants taken out may be put into another frame to stand a few weeks, till they can be planted out, or they may be put in rows six inches

apart, and be protected at night with boards or some litter scattered over them.

Potatoes for the early crop may, in many places, be planted towards the end of the month.

Spinach, Turnips, Radishes, Peas, Mustard, Lettuce, Cabbages of various sorts, and Parsley, may be sowed in small quantities for first crops, or to follow plants now in frames of same sort.

Asparagus beds may have a good dressing of salt, (a pint to every square yard,)and the litter or manure laid on in the fall should now be forked in under the surface; but with care, so as not to injure the crowns of the plants.

Rhubarb beds not forcing, may be treated in the same way, (except the salt.)

Herb beds may be sown. Sage, Summer and Winter Savory, Thyme, Sweet Marjoram, Mint and Pennyroyal, as the most useful.

All Kitchen Garden seeds whether to stand where sown, or for transplanting, should be sown in rows, and not broadcast. The plants will be much stronger, better in quality, and earlier at maturity by adhering to that plan.

If it is wished to have Celery very early it may now be sown in a hot-bed.

THE GARDEN, ORCHARD, FLOWER YARD, ETC.

We copy the following from the *Cotton Planter and Soil of the South,* one of the very best journals of the kind that comes to our table. In that climate the suggestions are adapted to January, but if our northern readers will attend to them in March, or even early in April, they will do well:

Garden Work for January.—At the expense of telling an "oft told tale," we begin our year's gardening again. Truth loses some of its force by repetition and new discoveries in horticultural science are too rare to fill up a monthly Journal like this. The fact is, the true principles of culture, are as yet, so little understood and practised by the multitude, that there will be novelty for a long time to come, even in making a garden. The vegetable garden should now be highly manured and the manures well turned under, coarser manures may be used now than at planting time. At the extreme South, hot-beds may now be got ready for starting early lettuces, radishes and early cabbage. Let the ground work be fresh stable manure, cover this with good garden mold, and place the sash and frame over. A common window sash will answer. The box or frame should slope towards the sun. Some straw or matting should be convenient to cover the glass in very cold nights. Plants as hardy as cabbage, lettuce, cress, etc., may be advanced so as to come into the transplanting bed nearly as soon as the seeds sowed in the open ground have sprouted. Those who have garden plots that are all clay, should now cart on sand, and those whose plots are all sand, should cart on clay. The clay will bind the sand, and the sand will loosen the clay. Both are as essential to the productiveness of a garden as manures. The constant cropping of a garden is very apt to exhaust some quality of the soil that manures do not supply again. In this case, where it is convenient cover the whole surface with virgin earth from the woods or swamps.

New Asparagus beds may now be made; select a locality with a clay subsoil, excavate the bed as large as it is to be, two feet deep, fill this in with old, well rotted manure, until nearly full, then cover with good mold and set out the roots; seeding roots of one year, are preferable; plant them about eight inches apart each way; let the roots spread as they originally grew, and cover the crown bed about two inches. The second year, the bed will yield a fine cutting for the table, and continue to improve, with good management, for twenty years to come. We look upon asparagus as the most delicious vegetable grown in the garden. It is simple and easy of culture. The bed properly made, most of the work is done. Onion sets, buttons and bulbs, should now be planted. Plant all the shallott tribes, both by the button and dividing the roots. Hen manure is especially adapted to the onion family; pulverize it well, spread it evenly over the surface of the ground and spade it under; plant the button or set in drills wide enough for

the hoe to go between, six inches apart in the drill.

Irish potatoes may now be planted under straw. Plow the ground well, open furrows two feet wide; in the bottom of this furrow scatter wheat bran, on this drop the potatoes a foot apart, level the ridge down and cover the whole surface two feet deep, with wheat, oat, pine or straw or oak leaves. The rains will beat down the loose straw to a few inches, but there will be a moisture between the straw and leaves, and good mealy potatoes will be grown.

THE FLOWER YARD.—This will be a cold month for flowers, but preparation must be made for Spring and Summer flowers. Lose no time in planting out all hardy shrubbery; imported flowering bulbs may yet be planted. All bulbs bloom best in a sandy soil. Early blooming bulbs, like the hyacinth, tulip, crocus jonquille, polyanthus, narcissus and the lily, may be planted on borders in the shade of shrubbery and trees, without detriment to their bloom, as they bloom so early. Their bloom has come and gone before the trees need all the moisture, or have put out foilage enough to shade them. Late flowering bulbs, such as the Amaryllis and Gladiolus, want all the sunlight and air they can have. Chinese Peonias may now be taken up, separated and replanted. In separating, take care to leave a bud with each root to be planted; these are very desirable and showy flowers, and bloom best in a sandy soil; some of the varieties are perfumed like the rose. Dahlias that have not been taken up, should now be taken up and placed in a dry place, secure from frost, until planting time in March and April. Cuttings of all kinds of shrubbery may now be planted. Virgin earth should be worked in around roses and hardy vines. The earth may be made too rich for flowers producing a large growth of wood and foilage, with but few flower buds. Beds for annuals should now be manured and well spaded under; well rotted cow manure is the best animal manure for flowers. Hardy annual seeds may now be planted. Applications of liquid guano around the roots of flowers after they have budded, will increase the size and brilliancy of the bloom.

THE FRUIT ORCHARD.—We do not mean when we head this article, to only converse with those who have acres in fruits trees—but to all who have a single apple, pear or peach tree. It is a good time this month to look over the trunks and limbs of the apple, pear and peach tree. If the bark of the tree is rough and mossy, there is something at fault in the food. The earth should be carefully removed from the roots, and its place filled with rich virgin earth, with some strong wood ashes. If this can not be got, fill in with old, well rotted manure. Take an old knife and scrape the trunk clean of moss, and all parasites, and give it a rubbing with soft country soap. Examine the limbs of the Pear; if they are found wilted or shriveled, cut them back to sound wood. Remove the earth around the base of the Peach tree, and if a black gum is found oozing from the roots, scrape it carefully away and probe the wounds with a sharp knife, a long white flat worm will be found, which has caused the gum; pour boiling water into the holes where the knife can not reach, and on the gum removed, to kill any of the worms that may be concealed; fill in around the tree with fresh earth. There are many fruit trees standing in yards and gardens, that yield but a poor return of fruit, from the fact that their falling leaves are carefully swept away, and they have none of nature's food to feed the next crop of fruit. All the leaves that have fallen in the orchard, should now be worked in the soil; they may be worked in with a light plow, but near the tree should be turned under with a pronged fork to prevent cutting the roots. If the soil is poor around fruit trees, there is no crop that will pay better for manure. The question will be, how to work the manure under, without mutilating the roots, for it is the surface roots of trees that feed for the fruit, hence the importance of planting fruit trees in a soil naturally rich. But art will overcome almost every obstacle; fork up the soil around the tree as far as the roots extend, (and they run horizontally, as far as the limbs extend from the ground,) and apply liquid manure; this may be applied at any season with safety. No time should now be lost in planting out fruit trees. More than half of the trees planted, are ruined by being planted too deep. Deal only with such nursery men as take them up with care, preserving all their roots, and plant them just as they stood in the ground, with all their latterals spread, and not one inch deeper than they stood in the nursery.

If an orchard is to be planted, it should be well sub-soiled, and the holes for the roots dug twice as large as the roots extend; good surface mold should be filled around the roots. All bruised roots should be cut clean before being inserted in the ground, and if the tree has lost much of its roots, the top should be cut back to correspond. Do not be anxious to plant large trees. A tree as large as the little finger, is more certain to live, and if a grafted tree, will produce fruit quicker than one as large as the arm. Plant the tree firmly at once, and not rely on *ramming* it afterwards. If the soil is well sifted around the roots, it cannot be rammed too firmly at once—the little rootlets which are to be its feeders, will find something to hold upon, and will go to work immediately.

The Strawberry Bed.—There is no better time in the year, to plant out strawberry vines than this month. The pistillate varieties should be planted in the vicinity of the staminates. Hovey's Seedling is a pistillate, and will not produce fruit without being impregnated with a staminate. Every tenth row of staminates will impregnate the Hoveys well. Our new Hautbois is a staminate, and is a good impregnator for pistillate varieties. This plant being a vigorous grower, requires more room than most strawberry plants. The ground designed for the strawberry bed, should be covered with vegetable matter, with a coat of ashes, either bleached or unbleached, the whole well turned under; the Hautbois should be planted two feet by three; other varieties may be planted nearer. As the plants begin to run, the soil should be kept mellow that the runners may take root freely. When cultivated entirely for fruit, the runners should be kept down; as fast as the runners appear pinch them out; this is easily done when they are young and tender, with the thumb and forefinger; when the plant begins to bloom, unless it rains often, water freely just at night; frequent watering will cause the fruit to set, swell rapidly and ripen quick. When the strawberry is cultivated on a large scale, new fresh land should be selected if possible. All animal manures should be discarded in strawberry culture when the plant has once got possession of the ground; all the space between the plants should be mulched with decomposing leaves. Chip manure from an oak or hickory wood pile is one of the best of fertilizers for the strawberry.

Shade and Ornamental Trees.—There are many trees indigenous to the South, suitable for shade and ornamental purposes. It is not alone the flowering tree that is ornamental, there are deciduous and evergreen trees, highly ornamental; the live and water oak, are both shade and ornamental; the tulip tree and sweet gum, are gems in the leafy coronet. Among the evergreens, the magnolia, cedar, holly and wild olive are perpetual emeralds, and even the common pine of the country is not to be despised. All these evergreens grow readily from seed; they may be planted on dry upland, and will grow and flourish where they will not bear transplanting. There are some beautiful evergreens being introduced from abroad, but not one that we have ever seen, that will compare for beauty with the wild olive. It is beautiful as an evergreen, with its dense glossy foilage and graceful form. It is beautiful in flower, showing its myriads of white blossoms among the glittering foilage. It is beautiful when in fruit, producing thousands of bright black berries, which clustering among the green foliage gives winter the air of summer. It is easily propagated from the seed. The seeds of all evergreens should be planted in the fall. When trees are removed from damp localities to dry uplands, the earth in which they grow should be carried with them, so that the roots may be embodied in it, until they have taken hold of the ground. The *fancy* pruning of an ornamental tree, is bad taste. It is folly for man to attempt to improve upon one of the most perfect and beautiful creations of God. Lose no time in planting out trees; plant them on the road side for shade; plant them on the avenue for shade and ornament too.

FRUITS WHICH SUCCEED WELL IN NEW-JERSEY.

BY D. PETIT.

The following, which we take from the *New-Jersey Farmer*, will be valuable, as embracing the conclusions of the American Pomogical Society, especially to such of our readers as live in the latitude of NewJersey; and the remarks of the writer respecting the influence of climate

and location on fruits will give it a high value for all:

At the American Pomological Society, second session, held at Philadelphia, in 1852, "The Committee for the State of New-Jersey report the following list of fruits that have been tested by us, or under our immediate notice, and have produced well; are good varieties of their several classes, and are worthy of general cultivation in our State:"

Apples.—Bough, large yellow, Early Harvest, Fall Pippin, Hagloe, Red June Eating, Monmouth Pippin, Maiden's Blush, Newtown Pippin, Rhode Island Greening, Sheepnose, Striped Harvest, Tewksbury, Winter Blush, White Seeknofurther, Woolman's Summer Rose.

Apricots.—Burlington, Peach, Moorpark.

Currants.—Black Naples, Large Red, Knight's, Large Red, Wilmot's, Sweet Red, Knight's, White Dutch.

Grapes, Native.—Catawba, Isabella, Elsenborough.

Peaches.—Alberge, Early Tillotson, Early Red, Troth's, Early York, (Seratte,) Large Early York, Late free, Ward's, Late Heath Cling, Late Malecaton, Morris White, New-York Rare Ripe, Oldmixon cling, Oldmixon free, Red Cheek Malecaton, Harker's Seedling, Tippecanoe, Cling, White Malecaton, Coles.

Pears.—Andrews, (American,) Bartlett, Beurre Bosc, Beurre d' Anjou, Beurre d' Aremburg, Beurre Easter, Beurre Golden, of Bilboa, Bloodgood, (American,) Doyenne d' Ete, Duchesse d' Angouleme, Elizabeth, Mannings, Flemish Beauty, Fondante d' Automne, Glout Morceau, Lawrence, (American,) Louise Bon d' Jersey, Winter Nelis, Dearborn's Seedling, (Am.,) Seckel (American,) Tyson, (American,) Urbaniste, Washington, (American.)

Plums.—Drap d' or, Golden Drop, Coe's, Green Gage, Imperial Blue, Large Yellow Gage, Orleans, Smith's, Washington.

Quinces.—Apple Shaped, Pear Shaped, Portugal.

Raspberries.—Antwerp Yellow, Antwerp Red, Fastolf, Franconia,

Strawberries.—Late Pine, Furner's Methven, Scarlet, Hovey's Seedling.

At the third session, held at Boston, in 1854, Wm. Reid and Jabez W. Hayes, for the northern part of the State, have added the following to their list:

Fall Apples.—Orange Pippin, Gravenstein, Fameuse.

Winter.—Hubbardson's Nonesuch, Wine Sap, Baldwin, Roxbury Russet, Northern Spy, Bellflower.

Thomas Hancock, for the locality of Burlington, added:

Lady, Autumn Pearmane, Smith's Cider, Monstrous Pippin, Cooper's Redling, Roman Stem, Summer Pearmane.

Reid and Hayes adds:

Peaches.—Early Newington, or Honest Johns, Crawford's late.

Thos. Hancock added:

Yellow Rare Ripe, Columbia, Early Malecaton, Crawford's Early, Imperial, Honest John, or Geo. IV., Nonpareil, Scott, Red Rare Ripe, Stump of the World.

Reid and Hayes add:

Summer Pears.—Madeline, Early Catharine, Dearborn's Seedling, Beurre Gifford.

Fall Pears.—Belle Lucrative, St. Ghislain, Marie Louise.

Winter Pears.—Vicar of Wakefield, Beurre Diel.

Hancock adds:

Early Catharine, Lemon, Henrietta, (Edwards,) Rostiezer, Stevens' Genessee, St. Ghislain, Oswego, Muscadine, Osband's Summer Trimble, Echassery.

The fourth session, held in Rochester, in 1856, adds but few to the list.

Having no published list of fruits suited or adapted to the southern counties of New-Jersey, I am induced to send the following list, comprising such as have succeeded well with us; though there are many other kinds of pears and apples which promise well, but have not been sufficiently tested to place on the list, but may be added at some future time:

Summer Apples.—Woolman's Summer Rose, Lippincott Early, Early Harvest, Prince's Early, Bough, large sweet, Summer Queen, Bevan.

Fall Apples.—Codling, Spice, Vandyne, Blush, Fall Pippin, Cabbagehead.

Winter Apples.—Roman Stem, Turn of Lane, Winter Queen, Lady, Lambert, Smith's Cider, Sweet Can, Wine Sop, Ridge Pippin, Tewksbury, Winter Blush, Jersey Russet, Gray House, Rhode Island Greening, Cooper's Redling, Lippincott Sweet.

Summer and Fall Apples.—Summer Pearmane, Jersey Sweeting, Hagloe, Holland Pippin.

Fall and Winter Apples.—Hay's or Wine, Redstreak, Morgan, Cumberland Spice, Fall Brown, White Seeknofurther.

Summer Pears.—Madeline, Catharine, Bartlett.

Fall Pears.—Duchesse d' Angouleme, Seckel, Finne d' Naples, Urbaniste, Bon Louise d' Jersey, Grashn, Epine Damas, Flemish Beauty, Napoleon, Doyenne Boussock, Beurre Bose.

Winter Pears. — Gratolege Jersey, Knight's Monarch, Duchesse d' Mars, Beurre Easter, Glout Morceau, Passe Colmar, Chaumontel.

Peaches.—Froth's Early, Early York, Geo. IV., Red Rare Ripe, Oldmixon, Cling and Free, Malecaton, Mignone, Ward's Late Free, Cook, Petit's Imperial, Crawford's Late Free, Mammoth White, Smock, Lateheath.

Cherries.—May Duke, Early Richmond, Kentish or Pie Cherry, Black Tartarian, White Heart, Bleeding Heart or June Duke, White Begarreau, Napoleon Begarreau, Carnation Elton, Belle d' Choicy, Bullock Heart, English Black Heart.

The Newton and Green Pippins, Spitzenburgs, Bellflowers, and some other apples, which do well at the North, fall from the trees too early in this latitude to make good winter fruit, except in cold seasons, when they have done well The Gilpin or Carthouse has not borne well for several years, and the fruit has been defective. It was formerly one of the best bearers. The fall Seeknofurther, formerly one of the best, appears to have run out—trees very defective in growth. The fall Pearmane does not keep well. The American Pippin does not bear well. The Bevan, which originated near Salem, is thought to be the best of all summer apples, for baking—will keep longer, and will command as high a price in the Philadelphia market as any other early apple. The Holland Pippin—the largest of all summer apples—has borne well lately. The Codling bears well—fruit is sometimes defective or knotty. The Spice is a flat apple—very fair and good for drying—trees bear abundantly. The Vandyne is one of the best apples known. It is yellow with a blush—a good size and very tender—in season about a month; trees grow well, with yellow shoots. The Blush and Fall Pippin are too well known to be noticed here, except the Fall Pippin sometimes passes under the name of Golden Pippin. The Cabbagehead is a flat apple, from yellow to very yellow, when fully ripe, very crisp, rich and juicy—a good market apple. The Wine, Hay's or Redstreak, is a popular apple. The Morgan is a good one. The Cumberland Spice is good, but rather a shy bearer. The Fall Brown is always fair and good. The White Seeknofurther, when in perfection, has not a superior. The Roman Stem is A., No. 1, in all respects except size. Turn of Lane and Winter Queen are both small and good—good bearers. The Lady is a good fancy apple. The Lambert is a new fruit, and promises to be second to none, when considered in all respects. It is a large red good keeping apple. The Cider is a great bearer—fruit large. The Sweet Can is good for apple-sauce and cider—an excellent bearer. The Ridge Pippin is a large, ribby apple, and promises well. Jersey Russet is one of the best, though small. The Gray House is a great bearer, even when others fail—this fruit is better than none.

Pears.—The White Doyenne, Brown Beurre, and some other varieties, crack so badly that they are hardly worth cultivating. The Rouselit Hatif of Downing, or Early Catharine, is a well known pear in this section, better than the Bartlett with me—which is somewhat astringent, though the tree grows and bears well, particularly on the pear stock. The Duchesse d' Angouleme is very large, and a first rate pear in all respects; so is the Bon Louise d' Jersey. The Graslin has reached ten feet in height, in three years, on the quince, and has borne excellent fruit. The Beurre Bose is large, and a first rate fruit on the pear, almost equal to the Seckel, but will not grow on the quince without double working. The Duchesse d' Mars, of Downing, is a small pear or nearly medium; flesh very melting and juicy, somewhat buttery, with a rich and perfumed flavor—October to November. I have a tree from France, under that name, which bore fruit last year larger than the Bartlett, and very handsome. They are later than the Beurre Easter, as I have not succeeded in ripening them yet in a stove room, and it is now Christmas; the tree is a strong grower. So is the Chaumontel and bears large and good fruit. The Bloodgood is recommended elsewhere, but what I purchased under that name proved a fall variety.

Peaches.—The Cook peach is one of the best. It is a large white and red free stone, ripens about the time of Ward's late free. It received its name from Joseph Cook, of Philadelphia, who furnished the buds from a seedling tree

in that city. "Petit's Imperial," is of the first size—is considered here the best colored and richest peach known. It has sold higher in the Philadelphia market than any other peach ever placed the side of it. The tree is a strong upright grower; it originated here, and first came into bearing in 1843.

Salem, N. J., 12mo, 25, 1857.

Mechanical.

ADJUSTIFIABLE SELF-RAKING REAPER AND MOWER.

We call attention to Manny & Co.'s advertisement of this machine, the model of which we have examined with great care, and we see not why it may not prove all that the patentee and manufacturers claim for it.

Our opinion has heretofore been that the self-raking apparatus must necessarily make a mower and reaper more complicated than is admissable for a machine to be subjected to such "rough and tumble" usage.

But our examination of this machine leads us to doubt the correctness of our former judgment; and if the self-raking operation can be made to save the labor of a man in harvest time, it is an object. —Ed.

PLANING MACHINE.

We have examined a new planing machine, patented by H. H. Baker, of Newmarket, New-Jersey.

This machine seems to us to combine great simplicity with efficiency of action. The smallest size, for dressing sashes, blinds, small casings, etc., can be worked with the foot, and from samples dressed by it, we judge that it does its work well.

Machines for working larger stuff are moved by a one-horse power. The prices vary with the size, from $25 to $7 50. This machine is eminently portable, weighing but about 400 lbs., and very compact when put up for removal. It strikes us as the very thing for house carpenters, and others doing an itinerant business, as the cost is but trifling, and the machine dresses wood, goring, bevelled, or almost any shape, as well as the regular oblong form.—Ed.

WEST'S IMPROVED PUMP.

There are but few places either in town or country where the aid of a pump is not required. Hence the large supply of them and the multiplicity of patterns. Simplicity and durability are essential requisites in a good working pump, if one is to have continued satisfaction in the use of it:

We have had in use for months past one of West's pumps, which has given us more satisfaction as a force or lifting pump, than any we have ever used. It is one of great power and well adapted for ship decks, mines, factories, greenhouses, graperies, &c. &c. The *Mining Chronicle and Railway Journal* says:

"It is commended for its extreme simplicity of construction, great strength and consequent durability, and cheapness of repair. Although it has but two valves necessary to its action, (an additional foot-valve being put in for greater security,) it is perfectly double-acting, throwing a continuous stream, with great force. There is no stuffing-box in this pump—the pressure being held by a cup packing, like that upon the working piston, working in a cylinder fitted for the purpose within the upper air chamber—which we think must be a great improvement, as stuffing is so liable to be deranged and to leak under a strong pressure, and to say nothing of the great loss by friction incident thereto. It also has two air-chambers—the one as before mentioned surrounding the upper cylinder and communicating with the pump above the valves, the other surrounding the lower or working cylinder, and communicating below the valves; thus the action of the valve is cushioned upon both sides by air—preventing water-hammer and vacuum thump, and ena-

bling a much smaller and less expensive pipe to supply the pump. The valves are very accessible, and simply and cheaply repaired. They work much easier than any other pump we have ever seen, the 4 inch cylinder size being worked by children in wells 100 feet deep, and as they are extremely cheap, as well as simple and strong, we freely recommend them. They are manufactured and sold only by A. W. Gay & Co., 118 Maiden Lane, at the Warner Pump Depot.—*N. Y. Observer.*

PATENTS.

Implement for Holding open Shoes, &c.—John Allender, of New-London, Conn.

Sewing Machines.—Benjamin J. Angell, Attleborough, Mass.

Pumps.—William Boyers, of Mount Carroll, Ill.

Hydro-carbon Vapor Lamps.—Robert R. Crosby, of Boston, Mass.

Cards for Currying Cattle.—C. S. Dickerman, of Lansingburg, N. Y.

Grinding Mills.—H. V. Duryea, Fulton, N. Y.

Railroad Car Axle Boxes.—George W. Geisendorff, of Indianapolis, Ind., and Jacob C. Geisendorff, of Cincinnati, Ohio.

Lubricating Apparatus for Journal Boxes of Railroad Cars.—Jacob C. Geisendorff, of Cincinnati, Ohio.

Machine for Cutting Tenons on Spokes.—Mahlon Gregg, of Philadelphia, Pa.

Shingle Machine.—William Gregor, of New-York City.

Potato Planters.—Edward E. Hawley, of New-Haven, Conn.

Stave Machine.—Elias Moore, William Clark, and James Lyndsey, of Shelbyville, Ind.

Mode of Burning Brick.—A. J. Mullen, and R. Hall, of Greensboro', Ala.

Musical Instruments.—Ureli C. Hill, of Jersey City, N. J., and Charles F. Hill, of New-York City.

Hominy Mills.—Philip Homrighaus, of Royalton, Ohio.

Washing Machine,—Edward Julier, of McConnellsville, Ohio.

Straining Reciprocating Saws.—G. P. Ketchan, Jr., of Bloomington, Ind.

Removable Window Sash.—Robert H. Kirck, of Utica, N. Y.

Scrapers for Grinding Mills.—Thomas E. Little, of Janesville, Wis.

Flour Bolts.—Samuel G. McMurtry, of Memphis, Tenn.

Operating Railroad Station Pumps.—William McVeigh, of Boone, Ill.

Attaching India Rubber Soles to Boots and Shoes.—Abram T. Merwin, of New-Haven, Conn.

Manufacture of Wrought Iron Railroad Chairs.—James Milliken, of Philadelphia, Pa.

Clamp for Holding Rectangular Pieces of Wood while being Bored, &c.—Henry Miller, of Grafton, Va.

Churn.—Enos Page, of Streetsborough, Ohio.

Machines for Cutting Brush from Cotton Fields.—Elias Peck, of Canton, Ill.

Pedals for Organs, &c.—Thomas Robjohn, of New-York City.

Lead Pipe Machine.—Charles E. Rockwell, of New-York City.

Joints for Sheet Metal Roof.—Stephen Scotton, of Richmond, Ind.

Washing Machine.—W. H. Tambling, of Berlin, Wis.

Painting and Varnishing Machine.—H. Thayer and L. L. Martin, of Warsaw, N. Y.

Collapsible Boats.—N. Thompson, of Brooklyn, N. Y.

Lap-Joints for Belting. Henry Underwood, of New-York City.

Grain and Grass Harvesters.—Aaron VanDuzen, of Goshen, N. Y.

Corn Huskers.—F. M. Walker, of Greensboro', N. C.

Plows.—George Watt, of Richmond, Va.

Machines for Planting Potatoes.—T. B. Whyte, of Greenwich, N. Y.

Bottle Stopper.—J. B. Williams, of New-York City.

Cotton Gins.—L. J. Chichester, (assignor to H. G. Evans, Saml. Barstow, and D. L. Winteringham,) of New-York City.

Corn Huskers.—A. R. Davis, (assignor to himself and B. D. Moody,) of East Cambridge, Mass.

Corn Huskers.—Daniel Lombard (assignor to himself and G. F. Richardson,) of Boston, Mass.

Fire-Arms.—F. D. Newbury (assignor

to Richard V. Dewitt, Jr.,) of Albany, N. Y.

Cane Gun.—John F. Thomas, (assignor to himself and Saml. Remington,) of Ilion, N. Y.

Hand Corn Planters.—Joshua Fairbank and E. C. Durfee, of Leon, N. Y., administrators of the estate of J. B. Fairbank, deceased, late of New-York City.

Hydrants.—Kingston Goddard, of Philadelphia, Pa.

Scientific.

SCIENTIFIC.

We are obliged this month to omit our Chemical article for want of space. It shall appear in our next.

For the American Farmers' Magazine.

THE ANALOGY BETWEEN PLANTS AND ANIMALS.

The analogy existing between plants and animals, in many respects, is very striking. In some instances the resemblance is so near that it is difficult to discriminate between them. The link which binds the two kingdoms together is so very small, that the most skillful physiologist can scarcely tell where animal life begins, or vegetable life ends. The spongi and other sea animals are instances. This connecting link seems to extend throughout the animal kingdom. Man and brute seem to be linked together in the monkey family; quadrupeds and fowls in the bat, etc.

Both animals and plants are possessed of a principle called *life*, which is essential to their existence, and distingaishes them from mere inert matter. All we know of this principle is that it exists—the cause lies hid, and must be referred to the immediate agency of an all-creative power. This life, or living principle, both in animals and vegetables, is sustained through the medium of organized matter. This matter or body must be fed and nourished by food adapted to its nature; and as long as the body continues in a state capable of being nourished, the life remains unimpaired; but whenever the matter composing the body becomes disorganized, and consequently incapable of assimilating its food, the life is endangered, and unless the functions can be restored or brought into proper action, the life becomes extinct. How important then is it to understand the whole organization of the system, and the *modus operandi* of food and medicine on all the organs, in order to keep the body in a healthy condition and prevent life from going out.

In the animal body there are certain organs whose office is to supply and receive nourishment and assimilate it to the various wants of the system. The stomach is the receptacle of food in the animal body. There, by means of the gastric juice, this food becomes changed into chyme, and then, by means of other secretions, it is formed into chyle, and finally, by coming in contact with the oxygen, inhaled into the lungs, a portion is turned into blood, which circulates through the arteries and veins into every part of the system. The food for the animal stomach, particularly in man, is prepared by artificial means.

In like manner the life of plants is sustained by food, different indeed from that necessary for animals, but such as is adapted to their nature; and they will grow and flourish, or they will languish and die, according as this food is given or withheld. But what is the food of plants? and how is it digested and assimilated, and made to circulate through the system, so as to become a part and parcel of the plant? We answer, that nature has provided for all these things

by a most beautiful arrangement. Their food consists of the soluble parts of the earth, and the numerous and small spongioles at the ends of the fibres or roots may be called the stomach. The food is digested—not *in* the stomach as is the case with animals, but *without* the stomach—by the rain and action of the atmosphere. In this way the particles of the soil that are too gross to enter the spongioles of the plant are decomposed, so that water can hold them in solution. The food is now in a state of digestion and can easily enter the spongioles of the roots, and thence by capillary attraction is made to circulate through the pores of the plant, as blood circulates through the veins of the animal. Now, as blood is said to be the life of animals, so this food or sap, as it is called, is the life of plants. By some mysterious or chemical action this sap is assimilated, and forms the bark, wood, leaves, and flowers of the plant.

Plants also, like animals, seem to have the power of *breathing*. The leaves supply the place of lungs, or rather they are the lungs of plants. As is the case with animals, when the atmosphere enters the lungs, it is decomposed; but with this difference, in animals the oxygen is retained, and the carbon is thrown off; in plants the carbon is retained and enters the circulation, while the oxygen is thrown off. In this way plants seem as a great purifier of the atmosphere. Plants and animals mutually assist each other, and contribute to each other's health and vigor—the one receiving as nourishment what the other rejects.

Another resemblance between plants and animals is, the *distinction of sex*. It is well known that the distinction exists in the vegetable world. All plants producing flowers and seed, have male and female organs, that is *stamens and pistils*. In most plants, these different organs are produced on the same blossom; but in many species, they are formed on different plants. These belong to what botanists call *diœcious*. Witness hemp, parsimmon, mulberry, &c. The pollen contained on the anthers of the stamens, is wafted by the wind, or carried by insects, from one plant to another, and fertilizes or impregnates the pistilate flowers. In this way, too, crosses are made and hybrids produced.

This is a curious and wonderful provision of nature, and answers many valuable purposes. It not only gives beauty and variety to plants, but, no doubt, has a tendency to perpetuate and strengthen the different species. We believe it to be a law of nature, however it may be accounted for, that extends both to the animal and vegetable kingdoms, that a cross is necessary to give strength and vigor to the system; and to propagate from the same species, for successive generations, without change, the offspring will degenerate, and die out, having lost their invigorating power.

Plants also, like animals, seem to be possessed of the faculty of *feeling* or *perception*. They feel the influence of heat and cold, of light and darkness. Some plants are so sensitive as to shrink from the slightest touch. Some will turn their tops to the sun, and follow his course through the day. Some will unfold their beauties to the light, and shut themselves up at night, as if to go to sleep and take their rest; and then in the morning, as if refreshed with sleep, they will expand their flowers to the genial influence of the sun's rays.

There are others, however, which reverse this order of nature, and like some animals sleep during the day, and are wide awake during the night.

There is something very curious, and to us short-sighted creatures very unaccountable, in plants. The food which they receive from the earth, becomes assimilated, and is carried up in the form of sap, and circulates through all the pores; and organizes every part of the plant. But how is it that the same nourishment produces some plants that are

pleasant to the taste, while others are exceedingly nauseous; some are harmless, others medicinal; some are wholesome as food, others are absolutely poison; some have hard fibre, some have soft; some have beauty of symmetry, while others are destitute of form; some are capable of enduring the rigors of winter, while others die at the approach of frost. And all these different results are produced, as far as we know, by one and the same cause, the sap or nourishment which they receive from the earth. This sap, as soon as it enters the circulation, undergoes some change, and accommodates itself to the peculiar nature of the plant. That the cause of this change exists in the plant, is evident from the fact that if a sweet apple be grafted on the stock of a sour crab, that sap which would have produced a sour apple, becomes so changed, as soon as it enters the grafts, that it produces a sweet apple. Again, how is it that the same sap, in its passage through different plants produces flowers of different colors? And not only so, but we often find that plants of the same kind and variety will have flowers of different colors; and even flowers of the same plant, and which we might suppose would be of the same texture in every respect, will have variegated flowers—spotted with every hue; and often these colors are placed upon the petals, in rings or circles, with as much regularity as if it had been done by the nicest pencil and the most skillful painter.

We know that everything is dependent on light for its color. The leaf is green, because it reflects the green rays of light; the rose is red, because it reflects the red rays, &c. Now, we might suppose that it was owing to some difference in the structure or texture of the leaf and rose that caused them to reflect rays of different colors; but what difference can there be in the same petal, to cause one part of it to reflect one color, and another part another? This is something that lies far beyond our ken. We simply know the *fact*, but the reason of it we do not know.

But from these inscrutable things, we may learn some very important lessons. 1st. How limited is human knowledge! 2d. How great, how good, and how wise must He be who has formed such a wonderful, beautiful, and harmonious system!

In all the works of nature, we see so many proofs of almighty power and infinite wisdom, that we may well exclaim with the Psalmist, "O Lord, how manifold are thy works! in wisdom hast thou made them all: the earth is full of thy riches." J. R. B.

Rosemont, Jan., 1858.

"CHEMISTRY FOR THE MILLION."

Read our articles, formerly under this head, but now under the shorter heading, "Chemical." We say this especially to young men. They will not fail to acquire a valuable insight into that most important science, even by what we can communicate on paper, with all the disadvantages of having no laboratory, no apparatus, no opportunity to look you in the face, to see your difficulties and remove them. A most sensible correspondent, one who has given many a valuable article for this journal, says:

"The articles on chemistry, that have appeared in the *Plough, Loom and Anvil*, and in the *Farmers' Magazine* for a number of months past, should be read by all. Those that have neglected to read them should do so now. They contain the very information that every person wants. I consider it very essential that a person understand the composition of the different gases and the relation they hold to one another, also to the soil and different farm products. The articles are plain and comprehensive, and adapted to the understanding of all classes."

FOR THE AMERICAN FARMERS' MAGAZINE.

THE WEATHER.

APPEARANCE OF BIRDS, FLOWERS, ETC., IN NICHOLS, TIOGA CO., N. Y., IN JANUARY, 1858.

By R. Howell.

Place of Observation, 42 degrees North, on a Diluvial Formation, about 40 feet above the Susquehanna River, and 800 feet above tide, according to the survey of the New-York and Erie Railroad.

Jan.	7 A.M.	2 P.M.	9 P.M.			REMARKS.
1	32	42	32	S.& N.	Cloudy.	Light rain in the afternoon.
2	20	39	30	South	"	
3	19	39	33	"	Fair.	
4	26	48	29	"	Clear.	
5	26	45	31	"	Cloudy.	[10 P.M. 6 inches fell.
6	31	36	33	"	"	Snow commenced about 12 A.M. and stopped at
7	29	26	20	West	"	
8	16	25	–0	N.& S.	Fair.	Bright aurora in the evening. At zero.
9	24	35	29	South	Cloudy.	
10	14	36	33	S. E.	Fair.	[P. M. Snow about gone.
11	36	53	43	South	Cloudy.	Rain commenced at 4 A. M. and stopped at 3½
12	37	39	24	N.& S.	Fair.	A few farmers plowing.
13	30	42	26	South	Cloudy.	
14	24	37	20	"	Fair.	
15	19	36	36	"	Cloudy.	Light snow commenced at 4 P.M.
16	39	43	36	N.& S.	"	Rain at intervals all day.
17	26	28	25	N. W.	"	
18	24	34	26	N.& S.	"	Snow squall.
19	27	32	23	S.& N.	"	Light snow in the night. Snow squall through [the day.
20	19	36	19	"	Fair.	
21	16	40	26	N.& S.	Clear.	
22	27	31	15	"	"	
23	12	33	23	S. E.	"	
24	30	42	33	"	Fair.	Rain in the morning before light, and in the A.M.
25	37	54	39	South	Cloudy.	Hard shower in the afternoon from the N. W.
26	48	46	32	S.&N.	"	A few farmers plowing.
27	33	40	32	North	"	
28	26	30	26	"	"	Light snow before daylight.
29	26	25	20	"	"	Snow squall.
30	22	22	20	N. W.	"	
31	14	22	9	"	Fair.	

You will perceive that I have changed the time of observation, to agree with the observations that I keep for the Smithsonian Institution or Patent Report.

In order to give the reader a better idea of our climate, where there is a day only one-fourth or one-half cloudy, like a number of hay days, I have substituted the word Fair instead of Cloudy, and cloudy when the day was all day cloudy, or more cloudy than clear.

In the last fourteen months there have been more dark, cloudy days than in the same length of time before, I presume, in twenty years. R. H.

FOR BLACK INK.

Two quarts of rain water, one half pound of nutgalls, three ounces gum Arabic, three ounces sulphate of iron; soal the nutgalls in three pints of the water the gum arabic in half the remainin; water warmed and kept so; the sulphat in the other half; let them stand in tLe several vessels forty-eight hours, then mix them and the ink will be ready for use in a short time.

It is cheaper and better for almost every family to make than to buy their ink; and if they will follow the above, they will be sure of having a good article.—ED.

Literary.

THE HERMITESS OF SOUTH SALEM.

AN ORIGINAL TALE OF THE REVOLUTION, FOUNDED ON FACT.

[*Concluded from the February No.*]

From the view of social politics in Ridgefield, which the few preceding pages disclose, it may well be assumed that Jim Smithson was disposed, after bringing home his young wife, to wait the course of events; and it was not until he found that the hand of sociality, if not of friendship, was freely extended to him and his wife, that he troubled himself about his neighbors. The cheerful, merry face of his bride, however, soon won for her from the young of both sexes a cordial welcome, which the decisions of the worthy committee, be they what they might, could not have either given nor long withheld; and a series of housewarmings and merry-makings in honor of the young couple, rapidly succeeded each other throughout the village. Uncle John arrived at Ridgefield when these festivities were at their height; and he soon found that through the affectionate premonitions of his adopted niece, his visit was likely to assume a character of unwonted gayety for one of his staid habits. All sorts of jaunts, parties, picnics, and junketings were planned, abandoned, replanned and executed, with an ardor in the executants worthy of special laudation.

At one of these parties it was proposed that an excursion should be undertaken at an early day to the neighboring mountain, "to see the Hermitess." This proposition led to an animated discussion among the young people—some of whom rejected it on the ground that the Hermitess was "a crabbed old witch, that was no better than she should be," whilst many others, with pertinacity maintained that they knew her to be "the kindest creature in the world," and in support of their assertion related instances in which she had been known to take care of little urchins, who had been overtaken by storms in their blackberry hunts on the mountain, and other kind offices that she had performed on various occasions.

Frazer had often heard of hermits, but not of ladies of that ilk; and his curiosity was raised to know more of the individual alluded to. He could get, however, but little satisfaction from the juvenile members of the party; who could only express their surprise, in manner if not in words, that one so old as he was, should be ignorant of the fact, that they had been familiar with all their lives, that an odd old woman lived in a cave on the mountain side; and therefore to their young minds there seemed nothing more extraordinary in that circumstance, than in a thousand other things of daily occurrence.

On the morning following the party, the subject of the Hermitess on the mountain was again introduced by Frazer; but his host could give him no more satisfaction than he had obtained on the preceding evening. Smithson, however, seeing Frazer's curiosity was strongly aroused, proposed to call on an elderly lady who had been an old friend of his mother, and who was an exception to the character that has been delineated of too many of the elder members of the fair sex of Ridgefield. Accordingly Smithson accompanied by Frazer, after breakfast, visited his old friend, from whom they obtained the following particulars.

Many years ago, possibly twenty or more, the Hermitess was for the first time discovered, living on the mountain side, in a small cavern, that was partially concealed by a projecting rock. Attempts were made to induce her to abandon her abode, and to learn something

of her previous history; but all such efforts were fruitless, as she shrunk as much as possible from communication with all persons with the exception of children. With children she would converse familiarly at times; and after a while many of the village girls visited her, to whom she was invariably kind; but even with them, as they grew up to womanhood, her manner became restrained and reserved, apparently with the motive to wean them, as it were, from repeating their visits; an effect which it usually produced. Her young visitors were frequently the conveyers of presents to her from their parents.

She occasionally brought to the stores in the neighboring villages, wild honey, blackberries and herbs, for sale; but at those times, her visits were never prolonged beyond the time necessary to fulfil the object of them, and all efforts to draw her into conversation were futile. She was never known to speak to any man living in the locality; but on a few occasions, she was observed to stop some passing stranger, and converse with him for a few minutes. On one of such occasions, when the subject of conversation happened to be overheard, it seemed to relate to political events of the day, intermixed with inquiries by her as to some two or three families whose names, not being those of people in that part of the country, made no impression on the person who repeated the conversation.

The only times at which she had been known to come amongst the surrounding community was on the Sabbath; when sometimes she would attend at Ridgefield church; leaving always immediately on the conclusion of the service, with a hasty step, to avoid contact with the congregation.

Seeing that she was inoffensive and harmless, pity gradually usurped the place of curiosity, in the minds of the good people of Ridgefield, and they very properly confined their interference with the poor women, to good offices; sending her by the intervention of their children presents of food, and clothing. Attentions which she was found invariably to return in some way, by small contributions from her little garden, or her beehive. In short, the opinion of the neighborhood was, that care or trouble of some kind had made inroads on her mind.

Such was all the story Frazer could learn of the Hermitess of the mountain. This, however, was more than enough to whet his curosity to the highest pitch. Nor was curiosity the only feeling induced by the recital. He had a warm heart, and his circumstances were easy, (for he had many years before succeeded to a patrimony beyond his wants,) and he could not repress the desire to make another attempt to relieve one so aged and so destitute, from the coming suffering, which he knew, in her situation, advancing years, with their weakness and incapacity, could not fail to bring upon her.

Some few days afterwards on a bright morning Frazer therefore, with Smithson and his young wife, started off on their walk to the mountain. The autumnal tints were just peeping through the summer's green foliage, tinging the trees with the forthcoming golden purple, orange, or brown shades that clothe the distant hill-side in autumn with the radiance of a garden. Passing up the mountain and crossing an elevated ridge, upon walking some way down the southern steep, a perpendicular face of rock presented itself, in the front of which was the cave. Some few rods of fertile ground, offering a slight declivity to the rising sun, ran along the rock, and formed a natural garden plot terminated in a sudden precipice. At the foot of this, at a distance of some eight or nine hundred yards, lay a sheet of water called Long pond. The north side of the rock disclosed the entrance to the cave, immediately before which, and so placed

as to form at the same time a natural door way and a side wall of the abode, lay an enormous mass of rock, which apparently had been, by some convulsion of nature, separated from the main body; and had thereby left the cavity which constituted the interior. Some peaches and vegetables of different kinds were growing in the piece of garden ground; and a very large and luxuriant grape vine had spread widely in all directions its branches, whose numberless purple clusters, reclining amongst its leaves on the surface of the rock, gave to it the character of rich velvet drapery studded with jewels.

From a fissure on the opposite side of the rock issued a crystal jet of water, whose sparkling column, reflected from its thousand falling drops the rainbow's varied hues, and gave a sprightliness to the surrounding scene which clothed it with life, and offered a marked contrast to the still solitude of the valley below.

As the party approached within sight of the cavern they saw a female, advanced in years, whose appearance was characteristic of her abode. Her covering could hardly be designated clothes. An assemblage of rags of all sizes, and colors, some sewed together, others apparently heaped on in one confused mass without shape or arrangement, covered her person from head to foot, being drawn tightly round the waist by a wide bandage. Her head was without any covering save that of her lank gray hair, which hung down in wild profusion, and half hid her countenance. She appeared to be engaged in tending a plot of ground a few yards square that adjoined her rocky domicile, in which some corn and other vegetables were growing.

Perceiving the visitors, she instantly quitted her occupation, and retired to her cavern. It had been arranged that Jim's wife should first approach the hermitage; and walking up to the door of the cave, Hannah Smithson saw the old lady crouched down in a corner, with her piercing eyes fixed on the door. Her face was wrinkled and furrowed, but the general expression, indicated a vivacity and quickness, which seemed to say that care and grief, had worked more than age, upon her frame. Notwithstanding this, the coarseness of character that her harsh mode of life and exposure to the elements had produced in her countenance, gave to it the appearance of extreme old age.

"Good morning, mother," said Hannah, addressing the old dame, "what a beautiful morning it is to range over the mountain; my husband and my uncle thought they would take a walk with me this morning, and hearing of your pretty place we have come to pay our respects to you. You must know I am a stranger to these parts, and I have only just come to live amongst you."

"Ah, young woman," replied she, "the world is bright to you, because you are a young, silly thing, that fancy the storms of life can never burst upon your head. I thought so once. But go;—God bless you, I wish you well; I have done with the world years ago, and only 'bide my time here. *That* is not in my hands, or I should long since have been beneath the sod you tread on. Please God it can not be long now."

The voice of the Hermitess was much less harsh than her exterior. She spoke in a melancholy tone, but with much emphasis, and an evident attempt was apparent to soften a hoarseness that oppressed her, as if she wished not to be thought uncivil or unkind, in thus summarily dismissing her visitor.

As she ceased to speak, Frazer and Smithson had gradually advanced to the door, and the former addressed to the Hermitess the customary salutation by which Hannah had introduced herself.

The old lady had, on concluding her address to Hannah, turned away, and consequently she had not seen the near approach of the speaker. The instant that Frazer's voice fell upon her ear, she

turned round with a sudden start, and looked him steadily in the face for a moment without uttering a word. Then turning back again she muttered to herself in a scarcely audible voice, "No, no, not him;" and heaving a deep sigh, added, "Long since gone; long, long."

"Mother," continued Hannah, "pray do not refuse to receive us. We come, not to intrude upon your privacy, but to comfort you, and if you will allow us, to offer you any little comforts that our farm can supply."

"Thank you," said she, "thank you, my good child. But I want nothing, I have too much now, here. The *end of time* is what I want; *that* you can not give me. But I must 'bide my time. There, God bless you—go!"

"Nay, good dame," rejoined Frazer, "you will not thus send friends away, for ——"

"Friends!" burst forth the Hermitess in tones of withering reproach, "Dare you, a man, address that word to woman? Friends! Fiends you mean! When was man the friend of woman? Man may be friend to man. Together like blood-hounds, may they hunt down the women kind for prey. Remorseless, merciless, selfish, Godless man may cherish in his breast the lust he calls love, and offer this, his treacherous lie, to woman. Talk not to me of man's friendship. Lord of the creation as he calls himself, he treats all creatures as his slaves, and woman as the greatest. His honor is his shame, for it scorns not to sacrifice the happiness of woman to the grossest sensuality with which he is endowed. No, no, *woman* can for woman feel; but never, never, *man!*"

Ceasing to speak, she sank down in a corner of her abode again, and buried her face in her hands.

Frazer was moved by the earnestness and acrimony of the old woman's address, and perceiving that it was vain to persist in his object, he resolved to refrain, for the present.

"My good lady," said he "since our presence is unpleasant to you we will take our leave. But you must permit me to assure you, that however unfavorable an opinion your experience may have induced you to form of my sex, you do mankind great injustice by your unreserved condemnation. It has been the privilege and joy of many generations of men to devote their lives and fortunes to the promotion of woman's happiness. Such would have been my joy, had heaven not in early life removed from this troublesome scene, the choice of my heart. Your troubles must indeed have been severe to induce you to have formed the opinions you have just expressed. But, remember, that an Almighty Will formed man and woman for each other. Were they not meet helpmates, He would not have formed them thus. Therefore be sure that, although many, alas, of both sexes err widely from the path of duty, upon the whole in this, as in all earthly things, 'whatever is, is right.' Farewell."

The party now commenced to retrace their steps, but as Hannah turned away she perceived the Hermitess beckon to her and advance towards the door. She waited, and the woman in a half whisper said,

"How that man talks!—What's his name?"

"Frazer."

She turned from Hannah and again sank down upon her seat, and Hannah hastened to join her companions. The friends returned home, and notwithstanding the discouraging nature of their visit, they resolved to repeat it at no distant day, and make another essay to improve their acquaintance with the Hermitess of the mountain.

It was not long before these intentions were acted upon, although from an immediate cause that they little anticipated.

One morning a little girl came to the farm, and said that she had been requested by the Hermitess to call and tell Mrs

Smithson that she was very sick, and wished to see her and her uncle. Hannah soon was ready, and in a few minutes after receiving the unexpected message, they were on the road to the mountain, where they found the poor woman, stretched on her only couch, *our mother earth*, upon a heap of straw and rags. By her side was a low stool, on which she motioned to Frazer to sit down, then placing her withered hand upon his knee, she fixed her eyes, suffused in tears, upon him.

"John Frazer," she exclaimed, "'tis no wonder that in these poor remnants of mortality, you can not recognize the once loved form of Sarah Butler, your affianced bride. Even my voice possesses no longer a tone by which it could be known. Not so with you, for your loved voice struck upon my ear like the welcome sound of some lost village chime. Long have I mourned you dead, and waited but to meet again *my only love* in heaven, where I am now fast going; for my strength is exhausted, and that release from earthly woes, for which I long have prayed, is granted now. My time is short, and I must quickly tell my tale; for I would not go hence, till you, my still-loved Frazer, have known your Sarah has proved faithful to her vows.

"Leaving the burning ruins of my home at that dread time that withered all our bliss, I hastened to the water side, and by the aid of a friendly fisherman I crossed the sound at night, and just at dawn of day set foot upon the opposite shore. My object was to seek my sister's farm; but worn out and exhausted by anguish and fatigue, against which a sense of present danger had until that time borne me up, as soon as I felt safe from further insult, my scattered senses left me, and I roamed about unconscious and unknown. How long I wandered thus, or where, I know not. A blank in my memory exists from the hour I left the boat, until I found myself lying,—where I lie now. My wanderings must have occupied both days and weeks, for my tattered clothes, and swelled and wounded feet, told plainly that my travels had been far. Doubtless I had lain down exhausted, and kind Time,—that truest of physicians, and the quiet stillness around me, had by degrees composed my burning brain, and thus restored my reason to its seat."

"When reflection had enabled me in some measure to recall the past, the extremity of my position, and the extent of its wretchedness became overwhelming. For several days I meditated upon it without any remission of my anguish. I remembered to have seen you shot down in the affray, to all appearance dead. I abhorred the world; I abhorred myself; and the only thought that dwelt upon my mind was, the most speedy means of terminating my existence. This feeling was, thank God, of short duration, for my duty to Him, reminded me that it was not for me to take away a life that He had given!"

"In some measure calmed by my reflections, I thought of my beloved sister's happy home; but my feelings were too intense, and my sense of degradation too deep, to allow me to subject myself, although an innocent victim, to the scoffs and gibes of a sensorious and pitiless world. Beyond my sister I had no ties that bound me to this life, whilst my bitter but short experience of its sorrows, was not likely to make me desirous to prolong it. From week to week I lived on here, satisfying at first the calls of nature for sustenance, with the berries and roots of the mountain; in rambling over which, I sought to drive away the dismal foreboding consequent on my forlorn state. In these rambles my enfeebled frame gained strength; and without a settled purpose, except the one of avoiding contact with a world I despised, I dragged on, month by month of my wearied existence. At length my haunts were discovered, and I resolved to adhere to a mode of life more congenial

to my desires than a return to civilization: and the better to sustain my character of a recluse, I stained my skin with berries, and assumed as much as I could the manners and appearance of age; efforts which the rigors and hardships inseparable from the life I led, soon rendered needless, as these told rapidly upon my tender frame. These hardships however I regarded not. Habit soon made most of them familiar to me, and consequently, they were unheeded; and when the bitter cup of suffering sometimes seemed too great for human nature to endure, I solaced myself by the thought that kind death would the sooner release me from these trials, and reunite me in heaven to *you*."

"Many have been the offers made to me to change my mode of life; but, John, my *pains* have been my only *pleasures*. The more intense my sufferings, the more vivid I thought my insight into eternity, where *you*, as in life, were the idol of my thoughts."

"The dear children of the surrounding country found me out, and have often seemed like ministering angels to my necessities. And in their innocent prattle, and affectionate sympathy, have I found my heart give proofs sometimes, that I was *woman* still. The honey from my mountain bees, and the produce of my little garden, have enabled my industry to yield me the means of buying bread, and of returning at least some acknowledgment for the kind presents that my young friends brought me. Thus have I lived rich, in all my wants; and—poor enough, to be left alone!"

"Since my early days of sorrow have passed away, and my mind by slow degrees recovered its serenity, my health has generally been good;—too good, as I thought,—and I have led a tranquil life."

"My Bible has been my constant friend; here it is, take it, and read it daily for my sake. 'Twill lead you, John, where I am going *before* you; but where I read it, in hopes to *follow* you, for I believed you there. Without that book, my lot would have been intolerable; with it, I have long had peace. From Job I learnt patience to submit to my lot, seeing that my sorry state was free from many dreadful ills he bore, and my burden thence seemed lighter. And when I pondered o'er the life of Him who was 'the man of sorrows and acquainted with grief,' and thought upon His sufferings for me, I felt remorse and shame at my selfish repinings. Read it, John, you will find in it directions for your guidance, examples for your imitation, promises for your encouragement, and eternal happiness for your reward! And if, at times, when cares, vexations, or bodily sufferings divert your mind from its first balance, and passion making plaything of your reason, causes you to give way to bursts of anger, (as, alas, I have too often done,) that book will remind you not 'to let the sun go down upon your wrath,' but to forgive freely, as you hope to be forgiven."

"Oh! who could have thought that I should on this bleak mountain side, live to see this happy day! To press the hand of him I have loved so well, and die at last in peace."

A tear ran down her cheek;—she sighed,—and her gentle spirit cast off its earthly coil!

Many is the tear that has since been dropped upon the tomb it was Frazer's care to consecrate to the memory of the Hermitess of South Salem.

NOTE.—The aim of the writer of these series of tales, of which the "Hermitess of South Salem," is the first, is not to amuse alone; but if it may be so, to lead the young *to reflect*. That "truth is often more strange than fiction," is an adage that every year verifies; and there are lessons to be learned by old as well as young, from many a strange matter of fact that passes unheeded, and by most unknown.

The name of the Hermitess is changed, (for the writer would not intentionally, should any members of her family now survive, recall events distressing to their feelings, to the attention of the present generation,) but the mode of life of the Hermitess, and the cause which led to its adoption, the description and place of her abode, and her religious feelings, *are facts*. She died about 1810.

There is a dignity of personal character manifested in the resolution of this poor woman, and in the

perseverance with which she adhered to it, that must command the admiration, as her sorrows must the sympathy, of all who read her history. And when it is borne in mind, that her conduct did not take its rise from misanthropic delusion; and, moreover, that her trust in Providence appears never to have been shaken by her woes, we may respect that intensity of sensibility which could face the rigors of near forty winters, in the cavern of a mountain side, rather than live in social intercourse with a world, whose verdict on the conduct of its denizens she knew is too often warped by conventionalities, rather than weighed in the scales of even-handed justice.

Editor's Table.

Book Notices, etc.—"A New Orchard and Garden; or the best way for planting, grafting, and to make any ground good, for a rich Orchard; Particularly in the North, and generally for the whole kingdome of England as in nature, reason, situation, and all probabilitie, may and doth appeare. With the Country Housewifes Garden for herbs of common vse, their vertues, seasons, profits, ornaments, varietie of knots, models for trees, and plots for the best ordering of Grounds and Walkes. As also the Husbandry of Bees, with their seuerall vses and annoyances, all being the experience of 48 yeeres labour, and now the third time corrected and much enlarged, by William Lawson. Whereunto is newly added the Art of propagating Plants, with the true ordering of all manner of Fruits, in their gathering, carrying home, and preseruation. Skill and paines being fruitfull gaines. *Nemo fibi natus.* Printed at London by J. H. for Francis Williams. 1626. Reprinted by Robert Pearsall Smith, Philadelphia. 1858."

A curious old book this. It is in the old black letter of a bye-gone age, and is a real curiosity. Mr. Smith has done well to give us a sample of what things our ancestors thought about horticulture, how they said them, and how they printed them.

On the BEST, SVREST, and Readiest way to make an Orchard and Garden, the 1st chapter treats of the Gardener and his Wages, the 2d of the Soyle, 3d of the Site, 4th of the Quantitie, 5th of the Forme, and so on.

Of the Gardener and his Wages, the author says:

"Whosoeuer desireth and endeuoureth to haue a pleasant, and profitable Orchard, must (if he be able) prouide himselfe of a Fruicterer, religious, honest, skilfull in that faculty, and therewithall painfull: By religious, I meane (because many thinke religion but a fashion or custome to goe to Church) maintaining, and cherishing things religious: as Schooles of learning, Churches, Tythes, Church-goods, and rights; and aboue all things, Gods word, and the Preachers thereof, so much as he is able, practising prayers, comfortable conference, mutuall instruction to edifie, almes, and other workes of Charity, and all out of a good conscience."

This was beginning right. The gardener must be religious, or his work would not prosper. Whether the master was to be religious, we have not read far enough to ascertain; but we suspect not over and above, by the wages he was to pay, though money was probably worth more, when there was no Bank of England in London to play the mischief with the currency.

This work is superbly "got up," as they say, and it contains a great deal of sage advice, more needed perhaps in those days than in ours, and yet very much of it such as we might profit by. To see the men in the picture on the title page sinking the spade to the very top of the handle, one would think that deep tillage is no modern invention.

The book contains 40 pages, and the price is $1. All who have a dollar to spare, and a curiosity for good old things, should buy it.

American Journal of Science and Arts, by Profs. B. Silliman and B. Silliman, Jr., and others, New-Haven; $5 a year and cheap at that. This is the leading, and for aught we know, the only work in this country, whose vocation is to extend the area of science by the yearly annexation of new territories. Men of progress and means ought to encourage, and we suppose do encourage it, as a great national work; one of which the country has reason to be proud.

Patent Office, Agricultural Department.—A much valued reader, in Philadelphia, calls our attention to this subject, one about which we find opinions widely differing, and on which we are not at present prepared to speak at large. We will only say here, whatever may have been the errors committed, we believe Dr. Browne, at the head of the department, to be sincerely and earnestly devoted to the great agricultural interest of the country. This we say the more cheerfully, because some remarks obtained a place in our last which did that gentleman injustice. Of the agricultural department we may have something to say hereafter, and we shall give something pro and con by others, better qualified than ourselves, perhaps, to speak on that subject.

The Berkshire (Mass.) Culturist.—This Journal, we see, has assumed the folio form, and become monthly instead of weekly; a good idea certainly. Agricultural Journals should be in a form to be preserved, and should not be too frequent in their issues. We have too much agricultural literature that is hashed up in a hurry, and too little that is deliberately and well considered before it is thrown upon the country. Dr. Reed, of the *Culturist*, has heretofore made a good weekly, and he will now make a better monthly, we have not one doubt.

American Veterinary Journal, by George H. Dadd and others, Boston. This is a reliable work, and should be in the hands of all who would know how to treat their horses and other animals well, in sickness and health.

We are reminded by this of our promise of an article on the horse's foot. It has not come. The promiser was an Englishman, and we suppose was offended by our *severe*, but, we think, *just* strictures on English misrule in India, with the accompanying wish that her rule abroad be materially mended, or very scarce on this continent. If there is sin in that wish we are ready to answer for it.

Message of the Governor of Ohio.—Somebody has sent us this document. We are sorry to see, by its statistics, that the sheep culture of that State is falling off. Undoubtedly the farmers of that great State know their own interests, and it would be folly for us to advise them to grow sheep, if they find it unprofitable. *But why should it be so? ? ?*

All can not be right with us, when the only State that has ever got half way into the sheep culture is getting out of it.

Western World and Dekalb Review; a spirited weekly hailing from Dekalb, Ill., and a contribution to that wide-awake character of journalism, in which the West *means* to beat the slower East. We are often agreeably surprised, in tracing the progress of American newspaper manufacturing, as manifested in our exchanges, from the West, the South-West, California, and even beyond, from Honolulu. The *California Farmer*, for example, is in our judgment one of the very best agricultural papers in the English language.

Transactions of the Essex County (Mass.) Agricultural Society. — This comes to us with the well known direction of John W. Proctor, who we fear is a little off the track in writing so discouragingly of the sorgho, but whose well known love of agriculture will hoist

him on again very quick, if he finds himself off. The book—too large to be called a pamphlet — contains 208 pages, which is its least recommendation, the value of the matter being the principal. For half a century that society has done better than many sisters that have done well.

American Farmer.—This oldest agricultural journal in our country, is on our table; and we find it not so very old after all, but well filled with matter, fresh, earnest and useful.

Reports of Committees of the Massachusetts Horticultural Society.—This is a valuable document, of 104 pages, for which the society and its secretary have our thanks. Josiah Stickney is President; E. S. Rand and Eben Wright, Vice-Presidents; Wm. R. Austin, Treasurer; Eben Wright, Corresponding Secretary; F. L. Winship, Recording Secretary; John L. Russell, Prof. of Botany and Vegetable Physiology; J. W. P. Jenks, Prof. of Entomology; and E. N. Horsford, Prof. of Horticultural Chemistry.

Germantown Telegraph, New-England Farmer, Country Gentleman, Maine Farmer.—These are the leading agricultural journals in their respective States. We never take up one of them without wishing that all the farmers in its State had it. If they want another, it is true, and we will not deny it, that we have no sort of objection to their having ours.

Under the same category would we put the *Michigan Farmer, the Wisconsin Farmer, the Ohio Cultivator and Ohio Farmer, the Southern Cultivator*, and a host of others on our exchange list, leading agricultural journals in their several States. We have a sort of a notion in our head, that the farmers of the country would do well to take at least two agricultural journals, one for their own State and one for all the States, national in character. It may be because we are selfish, wishing to come in for the second chance. Every one must judge of that.

Southern Progressionist; Published at Newnan, Ga., and Pulaski, Tenn.; J. M. H. Smith, editor; H. A. Livingston, publisher; at $1 a year in advance, $1 50 in six months, and $2 at the end of the year. That is right; make them pay in advance; one dollar in hand is better than two always coming, both for the payer and the payee, for the former because a man respects himself—feels better—when he has paid a just claim than if he shirks it, besides that he has less to pay; and for the latter, because it is a real comfort to pay the hard working printer and the paper maker promptly, and so pass it along. We will promise to pass along a good many bits of comfort, if those old subscribers, who used to have this work on tick, will square up by mail. Bless them, if they knew how much good it would do us, they would not wait to be asked; we think better of them. But to the *Progressionist.* It is an earnest, progressive work as its name imports; but it is universalist in its character, its theology differs, we presume, from that of most of our readers, and certainly from ours, and we could not therefore recommend it, otherwise than as we heartily approve of an unbiassed investigation of all important subjects, nor to others than those capable by age and reflecting habits of such investigation. Seriously, our fears are that its progress will not be in the right way.

Fish Guano.—This article, as manufactured at Southhold, L. I., (see advertisement) is, we believe, new in this country. Mr. Brundred, the manufacturer, has explained to us at length the process by which it is made; and we can not see why the fertilizing matter contained in four or five tons of fish should not be retained in the one ton of guano made from them. It would seem that a very powerful manure must be the result. But we know nothing of it practically. The sea is certainly a prolific source of fertility, if we can work its productions into a concentrated, porta-

ble manure. We would recommend that trial be made of this fertilizer, as the only sure test; and if the farmer wishes to be on the safe side, as he ought certainly, let him try it on such a scale as can not in any event result in an inconvenient loss. Because there has been a great deal of adroit dealing on the part of manure dealers, by which farmers have been swindled, it does not follow that they should condemn untried every article that is offered.

Pullen's Catalogue of Fruit and Ornamental Trees, Vines, &c., Hightstown, N. J.—We have seen Mr. Pullon at his home, and we believe him to be an accomplished gardener and a true man. He offers a rich variety in his line.

After so much said about our cotemporaries, it will not be deemed amiss if we say a word for ourselves. One reason why so many valuable articles are crowded out this month is, that during the first half of February, we were resolved to enlarge the *Farmer' Magazine* from 64 to 96 pages. We had actually procured and sent to the printer the extra paper for the purpose. But although subscribers are coming in well and we have nothing to complain of, yet in the present aspect of the times, we feared to venture the increased expense just yet, but hope to be able to do it at no distant day. In the meantime, will not our subscribers aid our design by promoting the circulation of this work in their respective neighborhoods? To encourage an effort of this kind, we will say, that any one now a subscriber may add another to our list by sending us the club price, $1 50; and, as our January and February numbers are nearly exhausted, we will agree to send the work for the balance of the year, commencing with April, for $1, forwarded to this office. Clergymen of all denominations, who from an interest in agriculture desire a work of the kind, may order this for $1 a year. Give us a lift, friend, in your various localities, and we pledge you that we will either give it to all next year for $1, or, what is more probable, will enlarge it before this year is out to once and a half its present size.

U. S. Ag. Soc.—We omitted, owing to a press of matter, to say much at the proper time of the late exceedingly interesting and important meeting of this society at Washington, at which Col. Wilder, its able, earnest and devoted president resigned, and another, Gen. Tilghman, equally energetic and efficient, we have good reason for believing, was chosen in his place. The Sorgho and Imphee question was ably discussed, and we now regard it as settled that both plants will be of great value to our agriculture; but which will prove best for each latitude of our widely extended country, we do not think has yet transpired.

In our last we spoke with reserve of Gay & West's "Warner's Patent Pump," and "West's Double Acting Water Ram," as we always mean to speak of things about which we have the least doubt. We have since learned that the pump is an excellent one, beyond all question. See advertisement.

A pretty little Blunder.—The printer has made us, page 162, March number, advise our readers to paint their houses, barns, fences, etc., now in autumn. The secret of it is, that we did so advise four months age, and this item has lain over with the printer till this time. But editors and printers both have their vexations; we must forgive them and they have to forgive us; and our readers must remember the advice till sol, with his fiery horses, has gone nearly round the circle again. They can afford to remember it, for it is worth knowing that paint put on in the fall, does them nearly twice as much good as in spring.

Peabody's Premium Prolific Corn.—We have before us a circular of this new production; and although we are unprepared to speak positively with regard to

it, we are favorably impressed; and were we in the active line of farming, we would certainly address Charles A. Peabody, Columbus, Ga., for further information. Whatever may be its merits, we are satisfied that Mr. Peabody has yet used all proper precautions to keep it perfectly pure, and that last year he grew 2360 bushels on 25 acres, so isolated as to avoid all danger of hybridization. His certificates, by reliable men, fully establish these facts. But whether Georgians can not and ought not to grow at that rate, of any corn, on their land and in their sunny climate, is more than we know.

A Correction.—In our February number we published an article without examining it as carefully as is our wont, partly owing to a press of engagements at the time, but more to our great respect for its author, reflecting, with something more, perhaps, than might be set down to good natured pleasantry, on somebody, somewhere, by the name of Browne. The agreeable acquaintance we have had with the writer of the following, and our high esteem for his character and services, render us doubly cheerful in complying with his request to correct an error:

"Sir:—In the February number of the *American Farmers' Magazine*, I notice an article entitled, "A Theory Spoiled; or are South Downs Pure Blooded Sheep? By C. M. Clay, of Kentucky," in which there are thrown reflections upon a person bearing the name of Brown, to which are prefixed my initials. As the individual referred to was Mr. A. P. Brown, of Philadelphia, you would oblige me if you would make a proper correction at your convenience.

"Yours, respectfully,

"D. J. Browne.

"J. A. Nash, Esq.,
Editor *Amer. Farmers' Magazine.*"

To show how the article on the red cattle of New-England is appreciated by a body consisting largely of practical farmers, we cheerfully copy the following from the proceedings made by order of the American Institute. The article was read before the Farmers' Club of that society;—

American Institute Farmers' Club.

Regular meeting, Feb. 16, 1858, *H. Meigs, Secretary.*

Mr. Alanson Nash, one of the earliest members of the Farmers' Club, and who has on all suitable occasions manifested his appreciation of it by sustaining it, has, by particular request, undertaken with much industrious research among the scattered fragments of knowledge to give us a history of and relative to the now well marked and acclimated and well taught red cattle of New-England, and has produced in his essay on that subject all that may be useful or desirable in relation to this first and nobly created American stock of cattle. He has done for this very useful purpose what our Washington Irving did long ago in his analectic magazine for literature, according to his own motto, "Sparsas Colligere Flores." Tuscany has for centuries been celebrated for her spotless white cattle, looking like snow on her green meadows; but our Amer-Red is worth more than that race for work and beef ten to one.

CHANGE OF NAME.

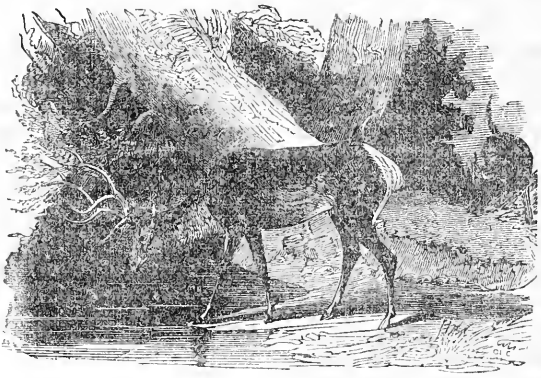
The writer of one of the most sensible articles in this number says:

"I am not a whit behind *The Independent* (Jan. 14) in gladness at the changes you have made in title, &c.; neither do I any less fervently hope and trust that you will find *increased favor* and a *larger field* of usefulness. I should be happy to contribute to this end, and will whenever I have an opportunity." Will not others of our friends go and do likewise?

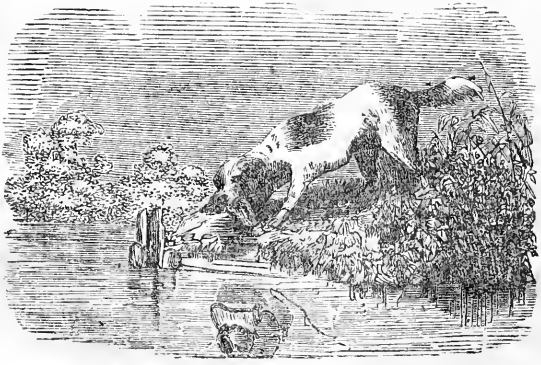
Children's Corner.

In Æsop's time, when the beasts talked, a wolf and a fox, seeing a dog, fat, sleek and well provided for, while they were lean and hungry, asked permission of the dog to accompany him to his home. But seeing his neck worn, and learning from him that it was in consequence of being chained, they concluded to go back and live in the woods.

The children may exercise themselves in guessing at the moral of this fable.



A Stag, drinking from a fountain, saw himself in the water. His horns appeared long, branchy and beautiful. He was proud of them. His legs seemed slender and ugly. He was ashamed of them. But when the dogs bayed, his legs would have saved him, but his horns, entangled in the trees caused his ruin.



A dog with a piece of meat, saw his shadow in the water, and trying to get the other dog's meat, he lost that which he had.

Moral.—"Much wanted more and lost all."

When we want more than belongs to us, we sometimes get less than we should have if less craving.

☞ "You charge a dollar for killing a calf," said a planter to an old negro. "No, no, massa; charge fifty cents for killum calf, and fifty cents for the *know how!*"

The negro was right; and now if the children will learn well at their schools, and read good books and periodicals at home, they will "*know how*" to do a great many things that are well paid for, and will feel the benefit of what they learn now all their life, in being of more value to themselves, to their friends and their country.

Domestic.

CORN BREAD.

Not many years ago, half the bread eaten in New-England was made of corn and rye meal; now the majority of families see nothing but wheat bread, except on very rare occasions, from one year to another. The farmers of the West, the planters of the South, live on corn bread, and sell their wheat to us, because corn bread costs only half, or less than half as much as wheat bread. Yet there are thousands of poor families in New-England, who do not know one week where the next week's supplies are to come from, who would feel a sort of degradation in living on corn bread; and if they resort to it occasionally, eat slyly and by stealth, that it may not be known that they are so poor as to live on Indian meal.

There is a mistake in this. There is nothing more palatable than corn meal properly cooked. There are a variety of articles for the table that may be prepared from it, that are highly toothsome, and will be preferred to anything else by many people, almost universally by the children. Here is an opportunity for considerable economy and one at the same time productive of health. Let Indian meal be partially substituted for flour, and the expenses of the table can be very considerably reduced by this one change.—*Springfield Republican.*

Yes; and there will be more health and strength, better looks, a more manly or womanly personal development, greater energy and longer life. Our Southern brethren, we believe, have not yet repudiated hominy and hoe-cakes; and in this they are wiser than the Yankees, taking the word to mean all north of them.—Ed.

TO CATCH OWLS.

If troublesome to your poultry, set a steel trap on the top of a pole, near the hen roost, and they will certainly be caught.

TO MAKE STICKING SALVE.

Three pounds resin, half a pound of mutton tallow, half a pound of beeswax, and a tablespoonful of sulphur; melted, poured into cold water, and worked and pulled an hour.

KEEPING CIDER SWEET.

A pint of mustard seed, put in a barrel of cider, will preserve it sweet for a number of months. I have drunk fall cider in the month of May, which was kept sweet by this means.

KEEPING POULTRY.

The late Judge Buell kept poultry in the winter more than two months, in a perfect state of preservation, by filling them after they were dressed with powdered charcoal, and then hanging them in an airy loft.

TO DESTROY MITES IN CHEESE.

A piece of woolen cloth should be dipped in sweet oil, and be well rubbed on the cheese. If one application be not sufficient to destroy the mites, this remedy may be used as often as they appear. The cheese shelves should be well washed with soap and water.

TO KNIT HEELS.

To knit the heels of socks double, so that they may last twice as long as otherwise, skip every alternate stitch on the wrong side, and knit all on the right. This will make it double, like that of the double ply ingrain carpet.

Miscellaneous.

RIGHT NAMES.

If a man should set out calling every thing by its right name, he would be knocked down before he got to the corner of the street.

FAT AND LEAN.

A man praising porter said it was so excellent a beverage, that it always made him fat.

"I have seen the time," said another, when it made you lean."

"When?" asked the eulogist.

"Last night against the wall."

LARGE CROP OF OATS.

We learn that on the farm of Jacob Lee, just west of this town, there was threshed out, as the product of one acre, the immense quantity of *one hundred and thirteen bushels and one half of oats.* We never heard of a crop to exceed this, and we should be inclined to doubt the fact, were it not substantiated by the best of testimony.—*Marion Rep.*

☞ Some one has beautifully said of those who die young, that "they are like the lambs which the Alpine shepherds bear in their arms to higher and greener pastures, that the flocks may follow."

☞ Health comes of itself; but we are at great pains to get our diseases. Health comes from a simple life of nature; diseases from an artificial life.

☞ A French paper states that the American engineers who undertook, by means of a special apparatus, to raise the Russian ships of war sunk in the harbor of Sebastopol, have given it up and returned to Constantinople, declaring that their contract can not be performed, except at an enormously disproportionate cost.

☞ There was a volcanic eruption on one of the Sanquiir islands, near Borneo, in March last, which destroyed a whole village of 3000 persons, besides an immense amount of growing rice. The emission of lava, stones and ashes was so great as to obscure the sun and produce total darkness. A violent hurricane and lightning accompanied the eruptions.

☞ A $500 lump of gold has been taken from a mine in Cabarras County, N. C.

☞ There are 50,051 rice plantations in the South, the annual product of which is worth about $4,000,000.

It costs twenty-six dollars an hour to light the new hall of the House of Representatives at Washington, with gas.

☞ The cost of printing for the 34th Congress to the United States Government, is said to have been two millions of dollars, and to have netted a profit of half a million to the fortunate individual possessing the contract.

☞ The amount expended by American travelers in Europe is estimated at over $10,000,000 annually.

☞ "Good morning, Jones; how does the world use you?"

"It uses me up, thank you."

☞ There is no part of husbandry which is more neglected than that of planting trees.

☞ Truly great men have ever been the workers of the world. An English writer in a paper upon Andrew Fuller, says: "Walk around the cathedral aisles where the memories of the great dead are found, and you will see the tombs at which the crowd stop and hold their breath in reverence, are not the tombs of dreamers but of workers—all of workers. Mark them as they pass frem statue to statue! They come to Shakspeare, and the memory of pleasant hours of quiet enjoyment finds its way to the face. But moving on to Howard, see how they pause before the tall figure with a brother's love beaming from the cold marble, and the chained prisoner at his side, while the lifeless memorial of a love yet warm and living, bids the big tear steal unchallenged to its shrine.

☞ There is a medium between an excessive diffidence, and too universal a confidence. If we have no foresight, we are surprised; if we are too nice we are miserable.

Jacob Strawn, the celebrated cattle dealer and landholder of Morgan county, Illinois, has recently sold off a corner of his farm in that county, being 3300 acres, at $30 per acre, amounting to the insignificant sum of $99,000. He has made several other sales of land lately, and yet has ground left sufficient to raise enough to feed the whole population of Illinois.

OCCUPATION.

WHAT a glorious thing it is for the human mind! Those who work hard seldom yield themselves entirely up to fancied or real sorrow. When grief sits down, folds its hands, and mournfully feeds upon its own tears, weaving the dim shadows that a little exertion might sweep away, into a funeral pall, the strong spirit is shorn of its might, and sorrows become our master. When troubles flow upon you dark and heavy, toil not with the waves, wrestle not with the torrent; rather seek, by occupation, to divert the dark waters that threaten to overwhelm you in a thousand channels which the duties of life always present. Before you dream of it those waters will fertilize the present and give birth to fresh flowers that may brighten the future—flowers that will become pure and holy in the sunshine which penetrates to the path of duty, in spite of every obstacle. Grief, after all, is but a selfish feeling, and most selfish in the man who yields himself to the indulgence of any passion which brings no joy to his fellow-man.

LIFE.

THE mere lapse of years is not life. To eat, drink, and sleep; to be exposed to darkness and light, to pace around in the mill of habits and turn the mill of wealth, to make reason our book-keeper, and thought an implement of trade—this is not life. In all this but a poor fraction of the unconsciousness of humanity is awakened, and the sanctities still slumber which make it worth while to be. Knowledge, truth, beauty, love, goodness, faith, alone can give vitality to the mechanicism of existence; the laugh of mirth which vibrates through the heart, the tear which freshens the dry wastes within, the music that brings childhood back, the prayer that calls the future near, the death which startles us with mystery, the hardship which forces us to struggle, the anxiety that ends in being.—*Chalmers.*

Markets.

MARKETS.—Want of space obliges us to omit our monthly review, and to stop with very few words on the markets.

Friday, February 19th, there is considerable activity in the general produce market. Business rather active for the season.

The following table will show the difference between the currency for the leading kinds of Breadstuffs yesterday and a week previous:

PRICES OF BREADSTUFFS IN NEW-YORK.

	Feb. 10.		Feb. 17.	
Superfine St. Flour..	$4 15	@4 25	$4 15	@4 25
Extra State.....	4 25	@4 50	4 30	@4 50
Super. Ind. & Mich.	4 15	@4 80	4 15	@4 30
Super. Ohio.....	4 30	@4 40	4 20	@4 30
Fancy Ohio.....	4 35	@4 45	4 40	@4 50
Extra Ind & Mich..	4 40	@6 00	4 30	@6 00
Extra Ohio.....	4 60	@6 50	4 60	@6 50
Fancy Genesee.....	4 30	@4 40	4 30	@4 40
Extra Genesee.....	4 75	@6 50	5 00	@7 00
Extra Missouri.....	5 00	@8 00	5 00	@8 00
Super. to Ex. Cana'n	4 15	@6 00	4 20	@5 50
Mixed to Ex. South'n	4 50	@7 50	4 50	@8 25
Rye Flour.....	3 00	@3 87½	3 00	@3 87½
Corn Meal.....	3 00	@3 50	3 00	@3 50
White wheat ℔ bush.	1 10	@1 40	1 10	@1 42½
Red wheat ℔ bush..	99	@1 20	97	@1 20
New Corn.....	65	@ 67	65	@ 68
Northern Rye.....	68	@ 70	70	@ 72
Barley.....	70	@ 78	70	@ 78
Western Oats.....	44	@ 45	44	@ 45
State Oats.....	41	@ 44	41	@ 44
Jersey & Penn. Oats.	33	@ 39	33	@ 39
Southern Oats.....	27	@ 35	27	@ 35
White beans ℔ bush	1 87½	@1 40	1 87½	@1 40
Canada peas ℔ bu..	1 20	@1 25	1 10	@1 15
Black-eyed peas ℔ bu	3 12½	@ —	3 12½	@3 25

Cotton opened actively yesterday at advancing prices, but closed heavily, with a downward tendency. The week's sales amount to about 12,700 bales. Our available supply is 10,927 bales, against 83,285 bales same period last year. The receipts at all the shipping ports, to latest dates this season, have been 1,607,290 bales against 2,105,210 bales to the corresponding period of last season. The total exports from the United States so far this season have been 880,030 bales, against 992,206 bales to the same date last season. The total stock on hand and shipboard in all the shipping ports, at the latest dates, was 673,899 bales, against 770,757 bales at the same time last year. The stock in the interior towns at the latest dates was 133,782 bales, against 109,100 bales at the corresponding date a year ago.

In reference to the probable yield of the cotton crop, Neill, Brothers & Co. state that "2,800,000 is now perhaps the favorite estimate."

Provisions have been less freely offered, while they have been in good demand at rising prices. The Pork packing trade at Cincinnati is diminishing, the season being very nearly closed, and the receipts of Hogs having fallen off to about 12,000 head.

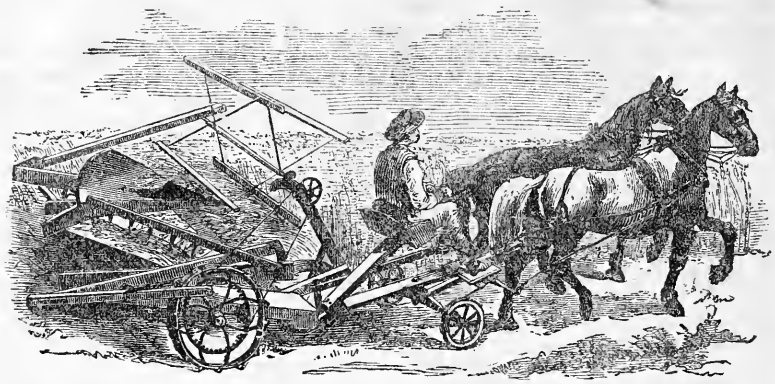
The market has been very quiet for all kinds of Wool during the past week. The demand has been less active, and buyers have manifested very little disposition to purchase, unless at reduced prices.

Tobacco is in pretty fair request at about previous figures.

In the *Live Stock Market* the average price of beeves was ¼ to ½c. lower this week than last. Prices this week from 12½c. for premium cattle to 8c for poor. Price of Milch Cows with calves unchanged, from $30 to $50, less than $30 for very mean, and more than $50 for uncommonly fine. Veals from 6¼ to 7¼c. for good, and 5 to 6c. for ordinary.

Receipt of Sheep and Lambs moderate, and prices unchanged. Sales ranging from $3 to $5 50, and a few as high as $6 50. Receipts of Swine moderate, with an upward tendency in price, varying from 5¾ to 6¾c. gross, and from 6 to 7½c. ——.

Advertisements.



P. MANNY'S PATENT ADJUSTABLE SELF-RAKING REAPER AND MOWER COMBINED.

MANUFACTURED BY MANNY & Co., FREEPORT, ILL.

Being three machines in one, simply adjusted and perfectly adapted to either purpose. These are important features not to be found in any other machine, and need only to be seen to be appreciated.

THE VERY BEST

Agricultural Paper in New-England.

THE NEW-ENGLAND FARMER is now generally acknowledged to be superior to any other publication of its class in the New-England States, and equal in merit to any in the country. Its circulation is unequalled by that of any other agricultural paper in New-England.

It is published weekly, on fine paper, and has just been put upon new type throughout. It is ably edited by SIMON BROWN, a thorough and practical farmer, and has the best corps of intelligent correspondents that can be found in New-England. Among these are Hon. HENRY F. FRENCH, of New-Hampshire, Hon. F. HOLBROOK, of Vermont, WILSON FLAGG, author of "Studies in the Field and Forest," &c., &c.

Besides the agricultural matter, the Farmer contains a complete digest of the news of the day, a condensed report of the markets, a large variety of interesting and instructive miscellaneous reading, and everything that can make it a welcome weekly visitant at the fireside of every farmer in the land. Also published at the same office,

NEW-ENGLAND FARMER, MONTHLY.

This is a pamphlet containing 48 pages in each number, printed on fine book paper, beautifully illustrated, and devoted entirely to subjects connected with the farm.

TERMS.—New-England Farmer, Weekly, $2 a year.
New-England Farmer, Monthly, $1 a year.

NO CLUB PRICES, and no discount in any case, as our rule is to serve all alike. Send for a specimen copy, and judge of the merits of our publications for yourself.

JOEL NOURSE,
Publisher New-England Farmer,
Mar. 3t* No. 13 Commercial St., Boston.

Fish Guano.---$35 Per Ton.

THE attention of Farmers and others is called to the FISH GUANO manufactured by the Long Island Fish Guano and Oil Works, at Southold, Long Island. It is composed of the *Bones* and *Flesh* of Fish, after extracting the oil and water, and has been thoroughly tested in England and France, and from testimonials received, is found to be equal to Peruvian Guano and other manures; is free from smell and not injurious to health. Price in bags, $35 per ton. Pamphlets containing full particulars and testimonials may be had on application to

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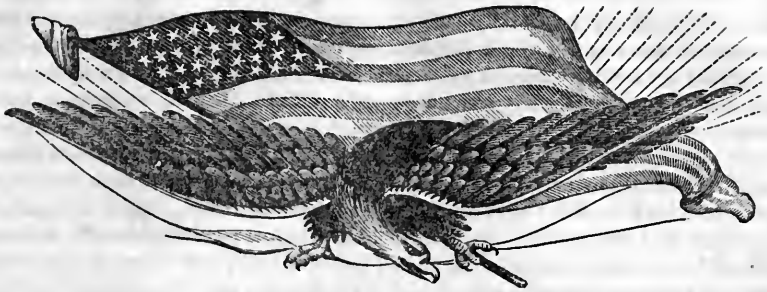

AMERICAN FARMERS' MAGAZINE.

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Agricultural.

HINTS TO YOUNG FARMERS.

OF wintering stock we have said so much in former numbers, that we need only touch upon the subject, important as it is, in this place.

In estimating the work for April, see that you do not lose the benefit of your former care and labor and cost of keeping on stock, by neglecting them in the last stages of winter. It is bad policy to let them lose flesh in December, when a long winter is before them; but it is hardly better policy, not to carry them through well when you have brought them in good condition into April.

Let the working oxen be so fed and cared for as will make them strong to labor. "Much increase is by the *strength* of the ox," not in the number of the oxen. Some farmers keep too many working animals, but do not keep them so as to develop the greatest strength. It is cheaper to manufacture a given amount of strength from a smaller number of cattle, fed and cared for in just the way to make them strong, than from a larger number enfeebled by bad treatment. How often have we seen a farmer in the last days of April plowing after cattle with tongues out, lolling, almost ready to drop down and die in the furrow, making precious little headway in the business of the season; and then we have seen his next door neighbor, in an equally sunny exposure, on equally hard soil, turning a deeper and a better furrow, whistling a merry tune as the heavy soil rolled from his share, and his oxen in such pluck that they would almost have whistled in concert, if they had possessed organs for the purpose.

Give the cattle that are to do your spring and summer work plenty of good hay and a little Indian meal, or a few roots. Their food should be of such a kind that they can consume it quickly, and lie down to digest it and rest themselves. Observe the effects of the food you give on the alimentary canal, and so apportion it as to keep them in proper condition, neither bound nor scoured; and their strength to labor and to endure the sudden change of our climate from winter to summer, will be greatly improved. Your milking cows will require special care at this season. Corn meal should not be given immediately after calving. It is too inflaming. Rye meal or oat meal is safer for the first day or

two. Do not allow the cow to drink as much cold water as she would the first day. It might do her no harm, as thousands would testify that it has not in their experience, but is is safer to give water slightly warmed. Good hay and tepid water for the first day or two are safer and better. After that you may give high feed with safety. As soon as the calf has learned well to suck, he should be removed from the cow, except at regular intervals, say morning and evening, that the udder may have time to be fully distended and the teats to be healed. By judicious management now the calf will be worth more at six weeks old, and the cow will produce more milk through the whole season. Ewes should be so fed and cared for that their lambs will be fat early; and if you have cattle designed for beef, the earlier you can have them ready for the butcher the better, because they then, taking one year with another, bring a larger price; and if sent off early they leave more feed for the rest of your stock.

Now is the time to transplant trees. If your premises are not ornamented by a reasonable number—not an over-dose to cut off the prospect and dampen the buildings—of shade trees, do not let this spring go by without providing for the beauty and comfort they afford. It will be but little hindrance to your more important business, to set a dozen shade trees. Take them up with a good many, but not very long, roots. If any of the roots are badly mutilated, cut them off with a sharp knife. New rootlets will very soon start, if you set them well, filling in carefully with a fine top soil. No strong manure should be added. If the soil is decidedly meagre, a few shovels of garden soil would be a valuable addition. Let the tree stand at least as high as it stood before; and in order to keep it firm in its position, tie it to a stake. Apply very little water at the time of setting—none unless the ground is quite dry. Four trees are injured by over-watering to where one is by the want of water at transplanting. What the tree wants the first summer is a moderately rich soil and an equable degree of moisture. It should be neither baked nor drowned; and to secure it against either, it should be set quite as high as it stood before; the ground should be loosened a foot or more below its roots, that the water of heavy rains may freely percolate through, and the surface should by all means be mulched, to prevent evaporation. The cost of setting a dozen good trees, in the best manner, might be about twenty dollars, to a retired merchant with money enough, and a plenty of lazy fellows around lying in wait for his coin; but to a resolute farmer it would be but a trifle. With a hired man and a boy, and a horse and wagon to bring the trees from the wood, he would almost do it before breakfast in the morning, or after an early supper in the afternoon. The trees would benefit his place as much as they would the fancy man's, but would not cost him one-tenth as much. An important advantage that the farmer has over others for ornamenting the grounds about his house is, that he has all the means for doing it efficiently and economically.

Have you all the fruits, large and small, which are suited to your location? If not, now is the time to be providing for the future in this important respect. Beginning with the smallest;—currants, gooseberries, strawberries, raspberries, blackberries, quinces, peaches, cherries, plums, and pears, are really worth more than it costs to have them in abundance; and apples are worth quite as much as all the rest. The farmer never need fear the want of a market for apples, for he has a home market; and if he will cultivate a few summer, more fall, and still more winter apples, there can be no loss, even if the home market is over supplied and he has to throw them to his cattle. As with shade, so with fruit trees, the farmer can produce them more advan-

tageously than any one else, and he can always make the fruit worth its cost or something more to be consumed at home, giving the surplus above the family wants and the poorer qualities to his stock, and not forgetting to make friends by sending portions to such of his neighbors as have more children than fruit. Children are apt to grow up fast friends to those who give them fruit. We remember a case in point. There was a man in the school district where we grew up, of tremendously coarse features, and hard, stern aspect; but he had more fruit than all the rest of the neighborhood. Wherever he found us he gave us fruit. Sometimes it came out of a basket, sometimes out of a deep, wide pocket, but oftener in the form of a permit to go into his orchard and get as much as we could eat and carry off. His stern features were very amiable in our young eyes, and but for hearing the remarks of strangers about his rough visage, we should probably never have suspected but that he was a downright pleasant faced, handsome, good looking man. He looked well enough to us, and we never shall forget how he looked; and we say, therefore, *from experience*, that there is no better way of making fast friends of the children, and thus securing a pleasant remembrance for ourselves, than to have a plenty of fruit and to be pretty liberal with it. Some may think this *will not pay*, but then we have no sympathy with that sort of reasoning.

Much attention should be given at this season to the manures, not so much to prevent their waste by evaporation, for there is little danger of this till the weather is warm and the yard dry, but to apply them so as to produce the best results. If you will throw the yard and stall manure into heaps, and mix with it swamp muck for a divisor, it will ferment. First the excess of water will be given off, rendering the mass from 25 to 50 per cent lighter to remove, and thus the labor saved in carting will be nearly enough to balance the extra labor of throwing up and composting.

But it is not well to let the fermentation go too far, as then the nitrogen will escape in the form of ammonia. When you throw the manure into heaps, there is no ready formed ammonia in it. But the nitrogen and hydrogen are there, and by a fermentation carried too far, ammonia is formed from them. As soon as formed it combines with carbonic acid, which is also a product of the fermentation, and passes as volatile carbonate of ammonia into the air. The loss to a manure heap, if suffered to ferment long with no admixture of clayey or peaty matter to retain the ammonia, is very great, amounting in extreme cases to half its value.

But for manure to be used for the spring crops, the main object of composting and partially drying, is to lighten the labor of its removal, and more especially to bring it into a pulverulent state, that it may be spread more evenly and better incorporated with the soil. Few realize how much of the effect of manure for the first season is lost for the want of a proper admixture with the soil. A lump of manure here and a cubic foot of earth there is not the same thing for a crop as if the two were finely and evenly mixed. There is no possibility of working the two together too much for the good of the crop. The question is how to mix and incorporate them with a moderate consumption of time and labor, and if the manure is rendered somewhat pulverulent by composting and partial fermentation, the labor of a tolerably equal diffusion of it in the soil is lessened.

As regards the appropriation of the different manures to particular soils and crops, not much, we fear, has yet been said, or can be, that is sufficiently practical to be of much value. In the present state of knowledge on this point, the farmer can not do much better than

to mix the different kinds of fertilizers about his premises as much as can be done without too great an increase of labor, that the weak points on some may be made up by the corresponding strong points in others. But for the extra labor, we would wish every species of manure on the farm to be mixed and wrought into a perfectly uniform mass. This would embrace the excrements of all kinds of stock, the night soil, the soap suds, sink washings, and wastes of every kind, from cellar to garret, and from the street to the farther end of the barn-yard. But as this is not practical, at least not so as our farm buildings are now mostly constructed, we would use a discretion in the appropriation, to a limited extent, for instance, to use fine manure for top dressing, such as would settle down among the grass roots, instead of lying up loosely to be dried up by the sun and wind. A fine manure, that falls down among the roots and comes in contact with the ground, gives its ammonia to the soil; one that is coarse and lies above the grass gives it to the air. The ammonia generated from manure used in top dressing, if not seized upon by the soil, it is true, is not lost out of the world, but it is mainly lost to the farmer on whose land it is generated —goes into the general stock of aerial plant food and is very widely diffused. We would, therefore, advise that top dressing, which in some cases, in many even, is a wise course, notwithstanding all that has been said to the contrary, should be done with finely pulverized manure, spread evenly, and brought as much as possible into actual contact with the soil, and if the application can be made just before a long rain, to wash the strength of the manure into the soil itself, so much the better.

There may also be something gained by selecting the warm, quickly acting manures, as that of the horse stall, for crops which you specially desire to bring forward early, and applying the colder manures, as from the cow stall and the pig pen, and the yard generally, to crops on which a more permanent influence is sought. Not only the suds, &c., collected about the sink-run, but all the soil impregnated with it is valuable for top dressing, often producing better results in the grass crop than so much green manure from the barn. The scrapings of the chip-yard and wood-house are also valuable. The coarser parts, as large chips and blocks of wood, should be saved for fuel. The smaller portions may be advantageously burnt by throwing them into a large pile, and giving them time to smoulder away into ashes, charred wood, soot, and the like. In this state, together with the scrapings of the wood-house and yard, they make a fine and valuable top dressing.

Wood ashes contain nearly all the ingredients of our cultivated crops, potash being the most valuable, and lime the most abundant ingredient. Consequently they are valuable for all soils not abounding in both potash and lime, and these are almost too limited to form an exception. We advise the old farmer to note carefully his experience with ashes, and not to sell them till quite sure that the soap boiler is giving more than they are worth for his land—a thing which we believe will rarely happen; and to the young farmer we would say, do not sell your ashes at any price, till you have fairly tested their value for your land. In ninety-nine cases in a hundred the farmer who sells his ashes is a loser by it. By reason of the potash they contain, they are admirably adapted to the potato crop, as also to the grape vine, and to nearly every kind of fruit; and by reason of the large per cent of lime, they are specially favorable to the apple tree, and to clover and peas. Suppose a field is to be cultivated this year with potatoes, next with peas, and then to be followed by clover, no manure could be so appropriate as ashes—the potash, easily soluble and quick in action, for the

potatoes; the lime, insoluble and slower of operation, for the peas and then for the clover, as these last are peculiarly lime crops, and as the action of lime is lasting.

Leached ashes, as a part of the potash has been taken out and considerable lime added, would seem more suitable for such crops as require a good deal of lime, as apples, peas, clover; while unleached ashes might be expected to produce more favorable results on the potash crops, as potatoes, tobacco and grapes. There is policy in manuring with reference mainly, but not solely, to the first crop. A plan for each field should be adopted, and the requirements of the after crops should come in for a part of the farmer's consideration, inasmuch as a quick return is desired on the one hand, while the permanent productiveness of his field is not to be disregarded, nor its preparation for future crops by present management to be wholly overlooked.

Plaster is condemned in many regions under an impression, correct it may be in some cases, but generally incorrect, that "it does no good there." Unless you know absolutely, that plaster is ineffective on your land, use a little of it with your farm manures; sow it on your young clover, and apply from 80 to 100 lbs. an acre to your pastures. More than half of it is sulphuric acid and the rest is lime. These are the very elements that clover is made of. Plaster it is true is but slightly soluble. It requires about 500 lbs. of water to dissolve one of plaster. But the rains of our climate are sufficient to dissolve 80 or 100 lbs. of it on an acre in a year, and it would take very strong testimony to make us believe that so much as our rains will dissolve is not beneficial to any crop, and particularly to clover, corn, potatoes, and other crops in which lime and sulphuric acid abounds. We believe that many an old pasture, now producing only wire grass, will grow white and red clover, if fifty cents' worth of plaster be applied each year to the acre, or, what some might prefer, as less laborious, one dollar's worth once in two years.

As planting time is just at hand, we will say to the young farmer, plant your potatoes as soon as the ground is in good condition. You should have them in the ground before our next number will reach you. It may be that this year the early planted will rot and the late planted escape. No certain prediction can be given; but all experience goes to show that the early planted are the safest. And here let us say, do not apply strong, nitrogenous manure (such as contains much urine) to this crop. Carbonaceous composts (such as contain much vegetable matter—straw, leaves, etc., but half decomposed) are a safer application for potatoes, since subject to the rot; and do not fail to give them ashes, to supply the requisite amount of potash. A compost of four bushels of ashes, two of lime, one of plaster, and a half bushel of salt, is a good prescription for potatoes, to be put at the rate of a small handful in the hill, not compactly at one point, but considerably scattered. If you omit the salt, it will be no great matter, nor do we suppose the plaster to be very important, nor would we stickle about the lime, as the ashes contain that largely, but stick to the ashes as the main thing; and if you use all, in about the proportions we have named, be sure and throw the compost over a considerable space in the furrow, and then cover the seed to a good depth, not less than four inches, as otherwise you may be in our hair next fall, complaining that the heating effects of our prescription killed your seed and you had no crop. We have known this to happen, where the compost was placed in a small compass, the seed put in it and but slightly covered. If the weather is dry and hot after planting, the danger is the greater; but with proper care in the two respects mentioned, there will be no danger, whatever the weather after

planting may be. We have never known potatoes to become diseased where the foregoing mixture was applied, and that while in neighboring fields nearly the entire crop was destroyed. We do not offer it as a specific, but we believe that it greatly improves the crop in quantity and quality, and diminishes, if it does not wholly remove, the danger from disease. It is, however, mainly to the ashes, and not to any empyrical compounding of other substances that we ascribe the good effect. The potato is a potash plant, and it can not develop itself vigorously without a plenty of that ingredient.

The potato should be covered deeply; as soon as up, it should be weeded nicely, but not hilled; early after the weeding, say not more than fifteen days, at any rate before the tops begin to fall, it should be slightly hilled, and then let alone till harvested. It is worse than labor lost to make large hills around potatoes, and to hill them more than once is folly. It only causes new setts, and increases the number in a hill, without increasing the weight, and that with a decided injury to the quality.

Of Indian corn, unquestionably the most important crop for this country as a whole, we want to say a great deal, but our next number will be in time for that. Only remember, before disposing of your manure for other purposes, that corn is a gross feeder—will devour a good thick turf and almost any manure you choose to put with it; and in our next we will give you some hints on the corn crop, which, if you think and act for yourself, as every farmer should, following nobody's advice till he sees its correctness, you may turn to a good account.—Ed.

THE AIMS, SPIRIT AND VALUE OF THE AMERICAN FARMERS' MAGAZINE.

One who is entirely unknown by us personally, and who has been a reader of this magazine only since our connection with it, reports to us that he has been so well pleased with it that he *very readily* complied with our request accompanying the January number of this year, to the effect that all old subscribers, and all who received that number, should, if they approved the work, pass the word round among their neighbors, and help us to double our list. He writes us that he sent the January number to an intelligent and enterprising farmer in a distant State, "one whose patriotism takes mainly the direction of a very thorough devotion of his energies to the promotion of the interests of agriculture and agriculturists in this country," and that he forwarded by the same mail a letter to this friend, giving him the reasons which had led to the sending that number, and asking his attention to its spirit and tenor, its aims and contents. He has sent us the substance of that letter, remarking as follows.—Ed.

"I have sent you the substance of the letter which I wrote to my friend when I sent him the January number of your magazine, thinking it quite likely that others might be led to do something similar, and call the attention of their friends to the merits of the magazine, either by sending a single number as a specimen, or by ordering it sent to them for a year in the way of a present at the commencement of each month. Your modesty may revolt at publishing any commendations of your work, but as the passages of my letter herewith sent contain nothing but "words of truth and soberness" from one friend to another, and were intended originally merely to point out to that friend a publication which I thought he would find interesting and instructive, without any reference to the interests of its editor or publisher, I hope that any reluctance you may feel will yield to these and similar considerations, and that many may be induced to follow the example and submit your work to the examination of

their friends in one or other of the ways which I have named."

The considerations suggested by our unknown correspondent having prevailed over our reluctance to occupy any of our space with what might be construed as self-praise, we submit for candid examination the following passages of the letter which accompanied the sending of our January number to a friend, as stated in the foregoing paragraph.—Ed.

"I have used the liberty of sending you the first number of an agricultural journal, (which in one sense is a new one, though more strictly a continuation of the *Plough, Loom, and Anvil,*) because I think you will find it such a publication as you can heartily approve, and such as you would like to countenance and support. Its editor is not wholly a stranger to you, as I have seen his work entitled "*The Progressive Farmer*" in your library, and as we have had something to say in our correspondence in regard to some of his letters from abroad, published in *The Country Gentleman.* The perusal of that book and of these letters has doubtless left on your mind an impression of a soundness of judgment and a comprehensiveness of views, not possessed by every writer or even every editor.

"In addition, however, to this somewhat rare qualification, you will find indications, I think, in the course of this single number of his magazine, of his profession of several other qualifications for the production of a first-rate journal for the use of farmers and their families. Even on the very first page you will catch a glimpse of the spirit and aims which characterize the *American Farmers' Magazine.* You will perceive that while it aims at promoting an increase of the material wealth of the readers, it neglects no opportunity of making additions to their intellectual pleasures and treasures, or of advancing their children in knowledge, goodness, and preparedness for a life of usefulness and respectability.

"You will perceive, also, here and there throughout the editorial notes and articles in this number, that the editor is actuated by an appreciation of the importance of agriculture, which rises to the fervor of an enthusiastic devotion to the honor and interests of all who are engaged in it. He avows his belief that agriculture must be honored in the hearts of all men, 'if a higher civilization is to dawn on mankind, or if Christianity is yet to have a more perfect work.' You will see here and there proofs of his sincerity and earnestness in desiring and endeavoring to redeem farm-work from the stigma of being merely a business for the *muscles* at the expense of the *mind*, and to elevate it to the dignity of a concern that will make both mind and body strong and active.

"Firmly convinced that in farming we are not at the end of all improvement as yet, he manifestly endeavors, by stimulating the energies of men of science, practical farmers, and mechanics of ingenuity, to aid in the introduction of those improvements which will surely relieve the severity of toil, and elevate the farmer to a higher position in society. In conclusion, you will see that the aim of this work is to contribute, not only to the material prosperity of farmers, but also to the happiness of their homes, and to their intelligence, influence, elevation, and respectability as citizens and members of society at large."

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Of our ability to carry out successfully the high aims which this writer ascribes to us, we may not speak, and we shall perhaps be blamed for allowing another —one many hundreds of miles from us, whom we have never seen and who knows us only through our writings—to speak in these pages; but, as he speaks only of our *aims*, and as we are deeply conscious that these are such as he describes, we admit the article, with some

hesitation, and take the liberty to say, that if others of our readers, who approve our course, will copy the example of this writer, in making this work known to their friends, now at the beginning of the year, they will do us a substantial favor, and we will not be ungrateful.—Ed.

THE RED CATTLE OF NEW-ENGLAND.

We continue the article on the Red Cattle of New-England, a portion of which was excluded from our March number for *want of room*.—Ed.

Anglesey Ox.—Anglesey is an island on the extreme north and west of Wales, south of Liverpool, connected with the main land by a chain bridge. Ten thousand cattle a year have been bred on this island, and on coming to maturity driven to the eastern part of England to fatten for the London market. The Welsh cattle are generally black or dark colored, astonishingly hardy, vigorous, full of health, round barrels, elevated and well-spread shoulders, chest deep, forehead flat, horns rising boldly up, broad chines, roomy hips, and are a race that put on fat early.

Wales has always been a remarkable country. The land of Cambria was renowned even before the days of the Romans. It is a mountainous country, looking right over into the Western Ocean, and is about one hundred and fifty miles long, and fifty broad. It contains twelve counties, and sends twenty-four members to Parliament from the counties, besides the borough members. It is the country to which the ancient Britons fled when England was invaded by the Romans, the Saxons, and the Danes and Normans, and in 1283 was the first time it submitted to a foreign dominion. The general face of the country is bold, romantic, with ranges of lofty mountains and extensive valleys. The cattle in this country have always been numerous, strong and healthy; in color inclining to the black. The stock is an original race far back in the annals of time, before any historical memorials appear. Pembroke, Glamorgan, Radnorshire, Flintshire, Monmouthshire, Montgomeryshire, and other counties, contain different herds, sometimes called distinct races. In many places the cattle are of all colors; by crossing it is changed to brindle, brown, red, bay and black, with white faces and bellies, or red with white faces and bellies.

We have spoken of the Glamorgan stock in our previous number, and we will only add the following relative to these, the Montgomerys, and the Herefords. No less than four counties of Wales border on the Bristol Channel; besides Hereford, Shropshire, Cheshire and Gloucester, are in its immediate neighborhood.

The American people in early times came very much from Wales, especially into Rhode Island, the southern part of Massachusetts, and the eastern part of Connecticut, bringing their cattle with them. The Welsh people have ever been renowned for their love of liberty and independence, and it is said that no less than thirteen members who signed the American Declaration of Independence in 1776, were descended from different families in Wales; in other words they were the descendants of Welshmen.

Glamorgan Cattle.—The Glamorgan cattle were originally esteemed one of the best breeds in England. They were of the ancient Welsh stock, but more or less crossed on the Devons. The old feeders in Leicestershire, Warwickshire, and Wiltshire were in the habit of purchasing these cattle for their stalls for fattening. The Warwickshire people have themselves long possessed breeds of cattle of a superior kind, which seem to have been a race of long-horns with a cross of the Herefords and Alderneys. George III. had a well selected stock of these Glamorgan cattle on his farm at

Windsor. Indeed the fattening qualities of these cattle and other Welsh cattle were proverbial. The best cross on this breed is said to be on the Ayrshire, of Scotland, producing a hardy animal, apt to fatten, a good milker, and when fed affording excellent beef. The color of these cattle was red and brown, with a small head, lively countenance, neck well arched, carcase round and well turned, good workers and docile.

Montgomeryshire Cattle.—This county is situated in the highlands of Wales; it possessed two distinct races of cattle, one from the hills, red, brindled and black; the animal was healthy, hardy, apt to fatten, and made a strong, light ox, quick at work, full of spirit, but the cows were said to be inferior milkers. The other race was found in the vale of the Severn River. The ox fattened readily; the color was brown with white under the belly, the horns slender, but well turned. The cows, when properly fed, were good milkers and made excellent cheese. This race is evidently a cross on the Devons and the old Welsh cattle.

The Severn River heads in the mountains of Wales; after running east into England, it then turns south and finds its way into the valley of the Bristol Channel, which was formerly the great place of embarkation of the Pilgrims to America.

The Hereford Cattle.—The Herefords originally were a brown, or red brown, with not a white spot about them. They originally had almost exclusive possession of the county of Hereford. This county lies along the extreme west of England, adjacent to Wales. These oxen were considerably larger than the Devons; they are higher and broader, heavier in the chime, rounder and wider across the hips, better covered with fat, eyes full and lively, forehead broad, good horns, long neck, head small, chest deep, broad and full, loins broad, hips wide, rump level with the back, barrel round and roomy, carcase deep and well spread, ribs broad and flat, flesh mellow and soft. These cattle fatten to a greater weight than the Devons—they are docile, of great strength, adapted for heavy work, rather active, generally not considered the best for the dairy; when crossed on the Devons they materially improve each other. The Herefords are said to be an aboriginal breed, and descended from the same stock as the Devons. When fattened the beef is said to be fine grained and beautifully marbled. The ox fattens kindly, and they are much esteemed in the London market. When a cow is inclined to give a large quantity of milk, the breeding qualities of the animal are lessened, and the form of the animal is deteriorated. They were considered one of the best breeds for graziers and butchers in England.

The Gloucestershire Cattle.—Gloucestershire is in the southern part of England, situated on the River Severn, up from the Bristol Channel, north of Wiltshire, and south-east of Herefordshire. This was formerly one of the best dairy counties in England. A great quantity of cheese was formerly made in this county; it is of two sorts—the single and double. The first was made of skim milk, or from a mixture of skimmed and pure milk. The double from pure unskimmed milk. The best cows have been known to produce 24 quarts of milk a day for seven months after calving. It is said that the original race of cattle in this county was small, of an indifferent figure, but were well adapted to active work in a hilly country. The color a reddish brown.

A cross on the old long-horns of Wiltshire produced a larger race, with a tendency to fatten. Crosses were made at an early day upon the Durhams and Yorkshire, and the old short-horns which produced animals of good milking qualities, remarkable for milk large in quantity and rich in quality; it is said that the Herefords and Devons were much

sought after for crossing. A great many of this race of cattle were brought into New-England, especially into the old Massachusetts colony in the county of Middlesex, and into the Plymouth colony.

Somersetshire Cattle.—Somersetshire lies east of the Bristol Channel, and north-east of Devonshire, joining the two. This was also a noted dairy county in England. The cheese of Somersetshire is celebrated for its good and rich qualities. The dairy farmers sell off their cows at the age of 12 years. The milk now begins to deteriorate and lessen in quantity. The original race of cattle in this county were the South Devons, but they were early crossed on the old short-horns and the Durham stock, producing one of the best breeds of milkers. It is said that the improved race are of a superior quality, and nearly equal to the short-horns in the quantity of their milk. This county, lying upon the Bristol Channel, supplied many cattle for the first New-England settlements.

Dorsetshire Cattle.—Dorsetshire, England, is bounded on the south by the English Channel, west by Devonshire, north by Wiltshire and east by Hampshire. The towns of Dorchester and Weymouth, in this county, lie right opposite to the islands of Alderney and Jersey, on the French coast, looking right over to Normandy and Brittany. The original race of cattle in this county were said to have been a race of South Devons, but crossed upon the Alderneys and French Cattle. The Durhams and Herefords were early brought into this country.

Dorsetshire has ever sent great quantities of butter to the London market, as well as cheese made from skimmed milk. It is one of the noted dairy counties in England.

It is said that the long-horns of Wiltshire were formerly crossed on the Dorsetshire cattle. This breed was early known and noted for two qualities—good for the milk and for the stalls. Many of the early Puritans came in from Dorsetshire to New-England; (the Dorchester people were almost entirely from this county.) The soil of this county was generally rich and fertile. The climate was rather mild and congenial. Old Dorchester was the capital of the county, while Portland was a seaport town of notoriety, as well as the towns of Weymouth, Bridgeport and Wareham. The people from Dorsetshire liberally supplied themselves with cattle when they came into New-England.

A modern writer declares that there is no breed of cows in England superior to the French cows from Flanders, Normandy and Brittany, for the quantity and quality of their milk, nor for the proportion of milk given for the quantity of food consumed; that the best cow in the British empire are the Alderneys; that a large number of heifers are sold annually into England, where they are in great request among the wealthy classes for the dairies.

Many of the early cattle brought into New-England were from towns along the English Channel, Bristol Channel, and the German Ocean. Falmouth was at one time a port of embarkation. Berwick, York, Plymouth, Weymouth, Southampton, Brighton, Portsmouth, Newport, Dover, Chelmsford, Colchester, Ipswich, Yarmouth, Norwich, Lynn, Boston, Hull, Beverly and Scarborough, were all maritime towns on the southern and eastern sides of England, and places of embarkation for the Pilgrims.

Derbyshire, Wiltshire, Shropshire, Oxfordshire, and Warwickshire Cattle.—These were a race of long-horns, strong, healthy animals, and when fed well in the pastures the cows were good milkers. The animal was rather raw-boned and stood high feeding well.

The Wiltshire cattle were esteemed some of the best in England. Many of these were brought into New-England by the first Pilgrims.

The Warwickshire cattle were nearly

allied to the Leicestershires; indeed the Leicestershires, Derbyshires, Oxfordshires, Staffordshires, Wiltshires, and Shropshires were all originally descendants of the long-horns of Craven and Cumberland. The long-horns were one of the strongest, healthiest, and hardiest race of cattle in England. This animal by a cross on the Holderness has made a strong, large, and vigorous race. The cow gives a great quantity of milk, and has become an excellent dairy animal.

The cattle from the Midland counties in England have ever shown themselves a strong, healthy and valuable race, and when transplanted to America easily become acclimated, and now furnish many of our best cattle for beef and milk. They were races of cattle that perpetuate themselves on the New-England mountains to very great advantage, making strong, large, healthy, and rather bony animals; but when come to maturity and fed well, produce some of the best beeves for market in New-England. They are all excellent cattle for heavy work. The short-horn stock are generally animals which give a large quantity of milk; but the milk is not very valuable for cheese or butter, and the cattle are generally not strong for work. They are feeble compared with the long-horns or the middle-horns. They generally put on flesh very quickly, but the cattle of this description do not furnish so fine or healthy beef as the long-horns. The middle-horns and the animals generally speaking belonging to the short-horn race, are not so healthy; they breed out easily and do not retain the good qualities of the parent stock for any great length of time. The people of the eastern part of England are aware of this; hence they are continually procuring droves and herds of cattle from Wales and Scotland, and from the mountain districts in England. Parties who read the proceedings of *English Agricultural Societies* will discover that the prize animals mostly come from or are bred in the hilly regions of England, or among the mountains in Wales or Scotland.

Many of the people in Amesbury and Salisbury in Essex Co., Massachusetts, about the Merrimac river, came from Wiltshire in the southern and western part of England. The first settlements were made here prior to 1640. They brought in with them at that time the Wiltshire cattle, which were the long-horns, crossed on the Alderneys, the Devons and the Herefords with occasion ally a strain of the Welsh cattle.

Salisbury in Essex county, was named from the old town of Salisbury situated in the south of England. The county of Wiltshire lies east of Dorsetshire and Somersetshire, and south of Gloucestershire. It is 53 miles long, and embraces quite a large territory.

While the inhabitants who first settled Andover, in the county of Essex, came from old Andover, in the county of Hampshire, bordering on the English Channel, opposite France, many of the settlers of this town came in direct from England, bringing with them their cattle, and among the rest a race called at that day, the Hampshire Ox. This animal was closely allied to the Sussex, was crossed upon the Alderneys as well as the South Devons and the Wiltshire long-horns, producing a large, strong animal, good for beef, work and milk; the color was generally red.

This part of England was formerly the resort of many of the early Saxons, who originated in the mountain country, in a region about the head waters of the river Elbe in the middle of Europe, in Saxony and Bohemia. Indeed we may go to the highlands on the continent of Europe, north of Italy, through Austria, Bohemia and Bavaria, for the race of cattle which prevailed in England in early periods of its history.

The best cattle are mountain animals, and they do not improve in health by being sent to the lowlands, marshes and plains for breeding and pasturage. The

town of Bilericay in Middlesex county, Massachusetts, was named from the old town of Bilericay. in the county of Essex in England. This is a beautiful, fertile and maritime county, bounded east by the ocean, south by the river Thames, which separates it from the county of Kent. In early times it was noted for its butter; latterly it is called the Epping butter, which it supplies in greater proportions than any other county in the kingdom, for the London market.

The old *Suffolk Dun Cow* was formerly much found here, as well as a race of short-horn cattle, imported from Holland and Belgium. They were good milkers, and when taken to the stalls produced great quantities of beef. The settlement began in this town as early as 1637; indeed many of the people in the counties of Essex and Middlesex, in Massachusetts, came in originally from the eastern and southern part of England, with their cattle. These cattle were generally good for the dairy; most of them were the middle-horns; a few of them were of the long-horns, some were Leicestershires, some were Yorkshires, and some Durhams, but not so many of the Devons and Welsh cattle were introduced into the *Old Massachusetts Colony* by the first settlers, as were into the New Plymouth colony, and into Connecticut and Rhode Island.

In looking at the statistics of Massachusetts at the present day, we find that Middlesex is one of the best dairy counties in the State. Worcester is the best, having produced 1,637,978 lbs. of butter, and 1,791,030 lbs. of cheese in one year. The stock of cattle in this county are the descendants of the races first introduced into Essex, Middlesex, and Norfolk counties by the first Pilgrims.

Berkshire county produced 1,262,845 lbs. of butter and 2,658,192 lbs. of cheese. The old county of Hampshire, Massachusetts, produced 2,445,289 lbs. of butter within the same period. This county includes Franklin, Hampden and Hampshire.

The cattle of Berkshire county, Mass., came in originally mostly from the Housatonic Valley, and from the western part of Connecticut, and also from the Hudson river, including a large share of the original Dutch or Holland stock. The cattle of Old Hampshire county came from the New-Haven and Connecticut colonies, and from Dorchester, which was at one time the head-quarters of a large emigration. The same remarks will apply to many of the cattle first introduced into Worcester county.

The old Alderneys crossed on the Devons, the Sussex ox, and the Wiltshire long-horns form a large and strong animal, among the best for beef and milk. Along with these came some of the long-horns from Cumberland, Northumberland and Leicestershire, England. Indeed Miles Standish, one of the original Puritans, and the captain of the band that first landed at Plymouth, Massachusetts, was born in Lancashire, England, and was an officer in the British army before he joined the congregation at Lyden.

The county of Worcester, Massachusetts, received a very large supply of its original inhabitants from the Plymouth colony, and subsequently from Middlesex and Essex.

The Massachusetts colony had imported by the year 1640 large numbers of cattle. There had come into the colony up to this period 21,200 passengers in about 298 ships.

The Puritans were at great pains in settling their colonies and grants. It had cost them by the year 1640, more than $1,000,000 for emigration to New-England. The people were mostly of high intelligence; they knew what good farming was, and what kind of cattle were necessary for their stock. Comparison and observation had given the eye of the Pilgrims the experience to discover and pick out the very best ani-

mals. Such were brought over by the early fathers.

The town of Medford, in the county of Middlesex, Massachusetts, was first settled by emigrants from Lincoln and Northampton counties, in the north and east part of England. Here were found the long-horns and the old Leicestershire cattle, as also many of the short-horn cattle.

Northamptonshire contained less waste land and more seats of the nobility and gentry than any of the other counties in England. The town of Northampton, England, has long been noted for its capacious markets, while the trade for boots and shoes manufactured in this county was very great.

The county of Norfolk, England, at an early day, produced great quantities of butter; while in the county of Lincoln the breed of cattle was larger than that of any other county in England except Somersetshire. Lincoln has ever stood noted as an agricultural county in England. The old Lincolnshire ox was a middle-horn. The county is a maritime county on the German Ocean.

The soil of Durham, East Yorkshire, Lincoln, Suffolk and Norfolk counties, England, is of the most recent formation, full of the remnants of exeuvia, from the ocean. Many cattle from these counties were transferred to the counties of Essex and Middlesex, Massachusetts, and were the originals out of which a portion of the dairy cattle introduced by the first emigrants into the old Massachusetts colony, and subsequently into Worcester county and the south part of New-Hampshire were produced.

The town of Springfield, Massachusetts, was first settled in 1635 by a colony under the old Plymouth grant in England. William Pynchon, Esq., was the leader of this settlement; he got his commission in England. The colony first came to Roxbury, Massachusetts. The cattle brought in by this colony were the old North Devons, the Herefords, and Welsh cattle crossed on the Alderneys; they formed an exceedingly fine race of cattle for the new world. The grant to this colony was a tract 25 miles square, lying on both sides of Connecticut river, and included the towns of Suffield, Southwick, Westfield, West Springfield, Old Springfield, Sommers, Ludlow, Long Meadow, and Enfield in Connecticut, embracing a very fine tract of country exceedingly fertile and well adapted to the growth of neat cattle.

Northampton, 20 miles above Springfield, was settled in 1653 by a colony from Springfield and Hartford, Connecticut. The land was purchased of the Indians. This tract was located along the west side of Connecticut river, embracing the towns of Northampton, Easthampton, Southampton, Norwich, and Chesterfield. The descendants of the old Devons and Alderneys, Herefords, Wiltshires and Welsh cattle were the first stock introduced into this region.

Hadley, on the opposite side of Connecticut river from Northampton, was settled in 1656 by a colony that came from Hartford, Connecticut, and also from New-Haven. This tract of country was also very large; it embraced Williamsburgh, Whateley, old Hadley, South Hadley, Amherst, Sunderland, Leverett, and Pelham. The New-Haven colony and Hartford colony supplied cattle which were the descendants of the North Devons, Herefords, Alderneys, the old Sussex ox, and many strains from the Welsh cattle. Occasionally cattle would come in to the valley of the Connecticut river from the long-horns of Wiltshire, Worcester, and Berkshire in England, as well as strains of the Leicestershires, the Cumberland and Lancashire long-horns. These settlements in the valley of the Connecticut soon extended to old Deerfield, Greenfield, Northfield, and ultimately up the river through New-Hampshire and Vermont to Canada. In passing up the valley of the Connecticut river from Long

Island Sound to Canada, a person will often see a race of long-horns apparently a progeny of the old Cumberland types. These cattle have large limbs, bones and carcases, the horns very large, stout and long. The animal when young appears rather coarse, but when grown attain an immense size, exhibiting an ox which produces the largest quantity of beef of any similar animal known. These cattle come to maturity rather slow, but they will stand higher and longer feeding in the stalls than any other race.

There is no country in the world that furnishes better well-fed oxen than the towns along the Connecticut river. The hills and pastures on each side of this noble stream are the most fertile of any in this or any other country, in grasses and feed for cattle while at pasture; and the broad valley of the Connecticut river yields hay, Indian corn, and other grain superior to any other in America, and in quantities almost beyond comprehension, while the climate is clear, cool, generally rather dry, and the most healthy for the animal races. New-England may be proud of her cattle as well as of her men.

In almost every part of Europe and England skulls of cattle have been dug up and found far exceeding in bulk any now known. There is a fine specimen in the British Museum. Such skulls have been found in the vicinity of the mines in Cornwall, England, showing types of the Devons, East Sussex, and Welsh cattle, as well as of the Scotch Highland cattle. Calves, when permitted to run with the cow, will suckle two years and longer. Mr. Pell, of the American Institute, killed a calf which had run and suckled two years; it then weighed, when slaughtered, 2000 lbs.

The largest cattle can only be raised by letting the calves suckle until they wean themselves; at about two years of age the teeth have now become a new set, the milking teeth fall out, and the animal is now able with its large, firm teeth to crop the grass and obtain a living for itself without the aid of its mother.

We violate the laws of nature when we wean the calves and feed them on skimmed milk, or undertake to control their feed; the stock now becomes stunted and dwarfish. There is no tampering with the laws of nature with impunity without producing injury, and breeders only want to follow those laws to secure the largest, the best, and the most profitable stock.

Whilst the lumbering business lasted in New-Hampshire, the breeding of large cattle was much attended to. Calves were allowed to run with the cows and suck at pleasure. Men were ambitious to be distinguished by the size and strength of their oxen. Bets were frequently made upon the exertion of their strength. The prize was contended for as earnestly as the laurels at the Olympic games. As husbandry has gained ground, less attention is paid to the strength and more to the fatness of cattle for the market. From the upper part of New-Hampshire great herds of fat cattle are driven to the Boston market. It is said that there are twenty cattle in New-Hampshire to one horse. (See 3d Vol. of Belknap's New-Hampshire, page 105.)

ALANSON NASH,
36 Beekman street.

DUTIES OF FARMERS.

THE following from the *Ohio Valley Farmer*, by Geo. Trowbridge, Camden, N. J., is the introduction to a longer article on the same subject, and it so abounds in truth and good sense, that we can not forbear to copy it:

Among the many duties which devolve upon farmers, there is none of higher importance, or to which is attached a greater share of responsibility, than that of affording to the rising generation *the means of instruction*, and the facilities for *cultivating the mind*. In is in vain that we talk of improving the soil and elevating the standard of agriculture in

this country, while the youth, the sons and daughters of farmers, are denied the privileges of education and moral culture—which every sound and thinking mind will admit are necessary to enable them to pursue their avocations with pleasure and profit, and to discharge in a proper manner their duty in the various relations of life.

The subject of education in schools is of vast importance to farmers, and may with propriety be discussed in an agricultural journal; but I intend in this article only to point out some of the errors and omissions of *duty*, with which many farmers are chargeable, in the education and training of those who are soon to enter upon the stage of action, and to whom the agricultural interest must look for its friends and advocates. Education does *not* consist solely in the knowledge gained at schools. The history of some of our most eminent men shows that individual exertion, when aided and encouraged by parental advice and aid, may be the means of acquiring a degree of knowledge and of reaching a position which the mere advantages of school would never afford. I here repeat, what we have often in effect said, that self-culture is more neglected among the farmers than any other class of persons. It is time that there was a reform in this respect, and we are happy in being able to say that there is evidence of a desire for agricultural reading, which pervades to some extent the youth of this country. It is the duty of those having the care of youth, so to encourage the first appearances of these desires, as to form permanent habits, and a disposition for investigation, which always leads to valuable results. The youthful mind is never inactive, and if it is thwarted from its laudable inclination, will be very likely to engage in the pursuit of objects which it would be wiser to avoid.

There is no subject in which the mind of young men can with more propriety be employed, than in the *improvement of agriculture*; and we think the judgment of our readers will coincide with ours, when we say that the surest means of leading the mind to an investigation of agricultural science, and the best means of accomplishing objects of improvement, is to place before them publications which have for their aim the good of the agricultural interest.

Often have we heard the boy of 12 or 15 years urge his father to subscribe for an agricultural paper, which would cost only a dollar a year, and promising to read it attentively, and in some instances to earn the subscription money by extra exertions, while the father would utterly refuse to allow him the privilege of storing his mind with information, which might be the means of adding greatly to his usefulness, and preventing him from acquiring habits of dissipation and idleness. And why is this refused? Simply because it will cost a small sum of money, while ten times as much would perhaps would be freely expended on objects which can be of no possible advantage to the youthful mind. There are hundreds of such cases, and we wish in a respectful manner to call the attention of such individuals to the subject, and to show them the *responsibility* which they have thus voluntarily assumed. Where is the man who is willing to stand in the way of improvement, by keeping, as far as his influence goes, the sons and daughters of farmers ignorant of the means of improvement which shall be extended to them in their youth? Every opportunity should be embraced to impress upon young persons the *advantages*, as well as the *respectability* of agricultural pursuits.

The above and much more, which we would copy if our limits permitted, is all sober truth. The greatest men that have blessed the world have been your practical, self-made men. They are men who have seized the home opportunities and made much of them.

Reader, just cast your thoughts around you, and see how many young men there are in your neighborhood who ought to have the reading of this magazine but do not have it. Some such you will certainly find. Go to them; tell them of its advantages; tell their fathers the benefits of such a journal for themselves and their families. We told you in our last, that as our January and February numbers are nearly exhausted, we would send the work to new subscribers the balance of the year, commencing with April, for $1. We will now go one step further; we will send it one year, from the first of April, for $1 each to clubs of twenty and upwards. Every

one of our readers can raise such a club if he wills it, at such a price. And now, reader, give us a push. Our motto is Onward. We want our farmers to have this work. We want their sons to read it, and to achieve a higher destiny in life for reading it, and they will if their fathers do the right thing—let them have it. Give it to them in their own name if they prefer. Young people sometimes value a thing more if it is their own, and this is all right and well. Let fathers order it for a son who is little inclined to inform himself, and, our word for it, that son will take a new turn—will be more inquisitive, less satisfied with low pleasures, and a safer hope and reliance for the old age of the parent. Will our readers carry out these thoughts, and see what they can do to give them a practical effect in their town or county? Every man is now our agent who will send us names, with the money, at rates stated in our Prospectus, and on receipt of the money we will acknowledge the same to him and to each of his subscribers, and will faithfully fulfill the contract to send the numbers. To say nothing of the benefit of such a work to an old farmer, at least 50,000 young men, not yet supplied with the most useful reading, ought to have it; and if our readers will just do up the business of a voluntary agency about home, such will be the result, and another result will be, that next year they and all others, in consequence of the large number required, can have the work for one dollar as it is, or for a little over one dollar, greatly enlarged.

UNDERDRAINING, IRRIGATION, ETC.

BY R. L. WATERBURY, M. D.

In 1851 I purchased a meadow of about six acres, consisting of two very different kinds of land. The upper part of it was composed of what geologists term drift or loose stone, with their corners worn off by attrition against each other, and deposited in a direction and inclination nearly uniform during some uncertain ancient period. The lower part, which was not quite so large, was composed of swampy ground underlaid by clay, and was very much the most productive. A mountain brook that crossed a corner of the upper part, suggested to me the idea of converting the dry hill side into a wet land like the lower part, and thus rendering it equally fertile. Accordingly, by means of sluices from the stream taken along the side of the hill, at a downward inclination of about the half of one degree, I managed to obtain a sufficient supply of water, but when applied instead of wetting the soil generally I found it to percolate almost directly down until it met the impervious lower strata, running along which it made its appearance as numerous springs at the upper edge of the naturally wet part of the meadow. During the same and the subsequent season I had occasion to subject some fifty acres or more of meadow land of clayey soil to irrigation with in every case a beneficial result; in some cases the annual growth of grass being more than quadrupled. From these experiments I drew the conclusion that irrigation to be of practical value must be practised on soils not too open, but which have enough plasticity of composition to prevent too rapid filtration through them, and that when practised on such soils as nature dresses with water, it is one of the cheapest and most effective means of improving them in fertility.

The water that was supplied to this hill side during the two years in which the experiment was conducted, was like all surface water, roilly, that is more or less charged with organic matter, and yet after the filtration, when it made its appearance in the springs, it was not only quite free from any such taste, but it had dissolved out and brought to the surface from within the hill such salts as rendered it *hard*. The extent of this ex-

periment and the time during which it continued, leave no doubt that the water under certain very common circumstances carries no organic matter which may be dissolved in it below a foot or so in the soil, while it dissolves and brings to the surface continually soluble substances from within the earth.

The water of irrigation is merely a substitute for rain, and consequently irrigation is most necessary, and of course furnishes the most striking results on such soils and such crops as feel drouth soonest. As the substances that compose plants must at first enter into their composition in a soluble condition, and as the solution from which they are revived by the action of the sun on plant tissue is exceedingly dilute, it follows that the growth of the plant is principally governed by the supply of moisture. It is the principal province of the laborious processes of tillage to retain the natural supply of water and furnish it to the plant as it is needed during the action of the sun. In the same manner that a cloth *wrung* is freed from moisture and refuses to absorb, so does a hard soil. The bed of a turnpike road is sooner dry than the neighboring plowed field. The surface of the earth stirred by the plow to the depth of six inches, will absorb and retain one or two inches of rain which will give growing plants a fair supply of water for ten days or two weeks of exposure to a bright sun. By increasing the depth of tillage to twelve inches, the risk of a longer drouth is avoided and a greater aggregate growth is secured, as there are less extremes of variation. It is in this way that deep tillage of land seems to effect so much benefit, and indeed it is extremely difficult to account for the well known benefits of frequently stirring the soil on any purely chemical hypothesis.

The supply of rain to the different countries of the earth, when not interfered with by local causes, such as ranges of mountains, will be found to correspond to the intensity of sunshine, and the same is generally true of any given place for the different seasons of the year. Thus, while we have some thirty-five inches of rain annually, the average fall in tropical countries is over a hundred, and two-thirds of our thirty-five inches fall during the hottest third of our year.

In countries that are thoroughly cultivated the greatest part of the rain that falls never passes into the earth more than a foot, being absorbed and retained to be exhaled again by the growing plants. Of that other part which passes down by filtration to appear again in springs, most of it is also evaporated from the land those springs irrigate, but a very small percentage finding its way to the ocean.

It has been frequently remarked in clearing away the forests of this country and superseding them by a growth of the grasses, that the springs become smaller and in some cases dry quite away at times, where previously they had been permanent, and also that the annual freshets in the streams do not rise so high as when the country they drain was wooded. To account for this we may refer to some late experiments in Europe that show that when soil is trenched to the depth of three feet there is no filtration, and that at less depths the plants growing in it can use more water during the season in addition to the rain than what drains away. Indeed common observation shows us that most plants growing on the banks of streams where they obtain an unlimited supply of water by upward filtration, are greatly increased in growth. Hence we may conclude that if in addition to culture so deep as to retain all the rain that falls we were to supply some additional water, it would increase the growth.

We are not to conclude from these facts that an unlimited supply of water

to a soil is all that is necessary to render it fertile; although a soil in this condition does give a much better growth than one in the opposite state of aridity. Water and air are both necessary for the decay of organic matter, and consequently for the supply of carbonic acid in the soil on which vegetative growth depends. It is probably by furnishing air as much as by removing water that underdraining produces its effects. It is a well known practical fact, that in those underdrains that are working effectually, a current of air is continually generated, and this draft is probably connected with the oxidation of organic matter in the soil.

If the processes of agriculture, then, laborious as they are, derive their principal value from the fact that they furnish a steadily continuous supply of water to plants; and if the fertility of a country may be judged of by its rain gauge; and if we have sunshine enough to use up all of our rain, and even more if it fell, then we ought to make such arrangements as would save the greatest possible amount of the water that annually falls, and leave as little of it as possible to run away into the sea. In the case of meadows, when we can not plow them annually, and when consequently the soil becomes very hard, so that they are the first to suffer from drought, every little rill should be scrupulously saved and distributed over the greatest possible amount of surface. The same is equally true of pasture, and even plowed soils may be vastly benefited by an additional supply of water.

SHOULD MANURE BE PLOWED UNDER DEEPLY?

B. N. French, Esq., of Braintree, Mass., referring to a statement of ours last month, in which we represented him as opposed to the deep plowing in of manure, and alluded to an experiment of his, writes us as follows;—

The case was as near as I can recollect as follows. I had planted a lot of sod land and found I had manure to spare. I decided to take up an additional strip of land on the side, of about 10 rods by 50 feet. At this time, 11th May, grass quite forward, I had some excellent manure offered me for sale, which induced me to try an experiment, which I had heard recommended, of putting the manure on the grass, and plowing it under; which I did by putting this manure on one end of the strip. I think this manured end was the best land. I plowed under a sod of about ten inches. Then all was manured alike and planted, but the crop, where manured under as well as on the top, proved no better than where it was manured only on the top, nor have I ever derived any benefit from it since. I am opposed to putting manure in deep, but have not ascertained the best depth. But as now advised, the deeper the soil is disintegrated the better, if it be well drained; and with my present opinion, I should prefer manure to be covered one and a half inch rather than three inches with soil. Light and air I consider essential to all vegetating roots. Trees are often set too deep. A covering of three inches on the roots of trees is abundant. But what depth seeds should be planted and manure covered (I mean with exactness) I am only able to give my opinion; but of this I am persuaded, there is no subject of more importance to the farmer, and, I might add, to the country, than the acquisition of all fertilizing matter to the soil, the safe keeping of it, and the most judicious application of the same.

Remarks.—We suppose that no exact rule can be given as to how deeply manure should be covered; that much depends on the nature of the soil; that if clayey it should be nearer the surface, only harrowed in; but that in a light, sandy, or gravelly soil, it may be covered deeper; and that in all cases it should be so worked with the soil that, if possible, it may permeate and mingle with the whole, from the surface downward,

as far as in that particular soil it is advisable that it should be sunk.

With regard to seeds it is manifest that those which are small, and which produce feeble plants, should be deposited nearer the surface; those of larger size, and producing powerful shoots, may be planted deeper; and then there is something in the nature of the seed itself to be observed, as well as in the condition of the soil. A chestnut will sprout best on a hard, gravelly soil, with nothing over it but leaves enough to mulch the ground and keep it moist. Corn will sprout more vigorously if buried in a mellow soil one, two, or three inches deep, according as the soil is heavy or light; and we suppose the best reason for covering potatoes four or five inches deep, is that the new potatoes may set at sufficient distance below the surface, and may grow there undisturbed, without the useless practice of making high hills.—Ed.

For the American Farmers' Magazine.

TOWNSHIP AGRICULTURAL ASSOCIATIONS—THEIR BENEFITS.

BY A WESTERN FARMER.

Mr. Editor:—About two years since some of the leading farmers of this place met and formed themselves into an Agricultural Association for their mutual benefit. The idea became popular, their meetings drew a crowded house, and most of the liberal minded, intelligent farmers soon became members of it. The results have been highly beneficial to the cause of agriculture in our community, even greater than were anticipated at first. The officers are a President, who presides at all our meetings, a Vice-president, a Secretary, a Corresponding Secretary, and a Reporter, who keeps the association posted in respect to the state of our principal markets from month to month. The meetings are held once a month. The exercises are an oration from some member appointed by the President at a previous meeting, and the discussion of some question or subject pertaining to agriculture, agreed upon by the members at a previous meeting. Every member is at liberty to offer his opinion upon the subject under discussion. Each speaker by the constitution is restricted to ten minutes, and when all who wish have spoken, each one is at liberty to speak again. At the close the President gives a synopsis of the arguments that have been advanced, and also gives his own opinion upon the question. The Secretary also makes a record of the arguments for future reference if desired. If the time of the meeting is not all occupied by the exercises mentioned, opportunity is given for the communication of any intelligence pertaining to the science of farming, or any experiments any individual may have made. A township fair is held in the fall for the exhibition of stock and vegetables; and in the winter for the exhibition of winter fruit, wheat, corn, oats, etc., at each of which meetings an address is delivered by some one previously appointed. Our fair the last fall was acknowledged by good judges to be superior to many county fairs, and the fruit exhibition in January was highly creditable to the place.

This brief notice has been communicated with the hope that other townships may be influenced to follow the example. Agriculture is one of the most noble employments—one that calls for the exercise of intellect as well as of manual labor. The old stereotyped method of farming which our ancestors practised, is, much of it, a relic of the past, to be forgotten amid the improvements of the present day. The age demands progress in this science as well as others. And for this thought, and study, and observation, and experiment are necessary. Farmers should be men of liberal and well disciplined minds, ready to break loose from the shackles of antiquity, and to think and reason for themselves—ready to investigate with candor the

opinions of others, though they may differ from their own. They should seek knowledge from every reliable source.

It is believed that from associated effort like that mentioned above, much good may result; at least such has been the effect here. An impulse has been given to farming in this place, that is seen and acknowledged by the community around. In this way much useful knowledge may be obtained. An individual who expects to take part in the discussion, will be led to study, to reflect upon, and to investigate the subject. And thus while preparing to impart information to others, a reflex influence will be exerted upon his own mind. It will be expanded, his stock of knowledge will be increased, and his views enlarged and rendered more liberal. Much information may also be derived from the discussion. New views will be advanced that will lead to reflection and research. Where mind is thus brought in contact with mind, new trains of thought will be awakened that otherwise would have lain dormant in the mind. Something may be learned from all, even the weakest member. There may be points to which he has turned his individual attention more closely than others, and concerning which he can impart information that may be useful. No one should excuse himself on the ground of inability. The result of experiments conducted by different individuals and under a variety of circumstances, may here be examined and compared, and from the comparison the intelligent, thinking farmer may deduce conclusions that will lead to the best practical results. And all may learn in conducting experiments, to observe minutely all the circumstances attending them, lest they be led into error. A spirit of emulation may also be awakened in the member that will lead to beneficial results. A man of any force of mind, while learning the success of his neighbor, will feel a desire to keep pace with if not to rival him. And the result will be, better stock will be raised, the soil will be better cultivated and yield more remunerative crops, his farm will assume an air of neatness, his home be rendered more inviting, and his income increased. When the community yield to the influence that goes out from such an association, it will become more intelligent. Agricultural literature will be diffused among them, and the varied publications of the agricultural press will be likely to supplant the light trash that has flooded the country. And as the mind is thus enlightened and expanded, old prejudices, that have ever been a bar to improvement, will give way. Men will no longer follow in a beaten track, and plow three inches deep because their grandfathers did, and use the oldfashioned tools that were in vogue in their childhood, but a spirit of improvement will be cherished that will give new features to the landscape.

Such associations tend to cherish a mutual interest in each other's prosperity. Here those engaged in the same pursuit are brought together from month to month, for an interchange of opinions, and to learn the views, and pursuits, and success of each other. An acquaintance is thus cultivated that binds them in closer connection. A sympathy of feeling and interest is produced among the members that tend to soften the rugged asperities of life, and to which the isolated miser is a stranger. Those who were before comparatively strangers form an acquaintance and become interested in each other's welfare. The barriers of selfish exclusiveness are broken down, and a liberal, friendly disposition prevails. Much more might be said upon this subject, but I leave it for abler pens.

EDINBURGH, Ohio, March 6, 1858.

SHEEP appear to be animals peculiarly adapted to the treatment by preventives, and if due caution be observed we need seldom be troubled with curatives.

POTATOES.

Mr. Editor:—I notice in the last *Telegraph*, a request that some of your correspondents would give their experience in raising potatoes. If mine can be of any use, here it is. I usually put in about two acres.

Seed.—I use about ten bushels of seed to the acre; I think it best to change seed every three years; in selecting seed I take them as they grow, large and small, the large ones I cut in ten or a dozen pieces, being careful to have one or two eyes on each piece; the small ones I cut in half.

The Ground.—I commonly put potatoes where corn grew the season before; I cut the cudgels off in the winter close to the ground.

The Manure.—If I take out of the barnyard, I have thrown in a heap as it comes from the stables, in order to let it heat before hauling out, which I do early, and have it spread evenly over the ground. I put on a good coat of manure for potatoes.

The Signs.—I am aware there is a number of farmers ruled by the "signs" for planting this crop. My sign is, when I am ready, and the ground is in good order.

Planting.—When I commence, I plow round the outside, dropping the seed in every other furrow, about a foot apart, until I have it wide enough for the headlands. I then start a couple of lands, having four rows going on at the same time; by this way I economize time, as the droppers need *never* wait. The same way in gathering the crop.

Cultivating.—After planting I harrow the ground well; when they are up an inch or two, I give them another good harrowing; and as soon as they are large enough to go between the rows with a horse; I cultivate them twice before plowing, which I do with a light plow, just before the vines fall or the blossom shows itself. After this they require nothing more than to pull up the weeds as they appear.

Last season I planted three different varieties—the black, white, and blue Mercer; but the season was such that it was difficult to say which turned out the best, as the rot affected them all. I shall give them each another trial. The latter variety, however, will command the highest price and the most ready sale in Philadelphia. Simon.

We have copied the above from one of the best agricultural papers that come to our office, for the sake of *agreeing* and *disagreeing* with it, and of thus enforcing some remarks already in this number on the same subject.

The writer's "sign" is a good one, "when he is ready and his ground is in good order," only let him be ready as soon as the ground is in order, for the experience of the few past years has taught us that April, unless on very backward ground, is the month to plant potatoes.

His selection and treatment of manure, if he would add to the heap before fermentation large quantities of well cured swamp muck, leaf mold, or headland soil, would be just the thing for the corn crop, but not for potatoes. This planting them in green, fermenting manure is one of the causes which, we believe, produced, and, if persevered in, will perpetuate the potato disease. This writer's potatoes rotted, and we think his experience valuable, as others may, and, if they are wise, will avoid his error with regard to manure.

With respect to seed, we would not plant very large potatoes, and if we could avoid it, would plant none very small, though we have obtained excellent crops, and have known others to, from the very smallest. As to quantity, ten bushels is enough, if they are large; eight bushels is quite enough if of medium size; and six is too much if they are small. There is no greater blunder than to make up in number what the seed want in size. A very large potato is equal to half a pint in measure or more. Suppose now you should plant half a pint of very small ones in its stead. In one case you might have ten shoots, in the other five hundred. Could so many obtain nutriment from one spot of ground? If we were to plant potatoes no larger than a chestnut, we would put but one in a hill, provided that one were sound, ripe, and sure to germinate.

Perhaps it is good policy to put potatoes after corn. Every farmer knows his own business, in some respects, better than any one else can; and he may have very good reasons, in a particular case, for planting potatoes after the corn crop. But we doubt whether it would do for a general rule. At times, and under peculiar circumstances, all rules yield to common sense. We have planted potatoes after potatoes ten years in succession, and got good sound crops all the time, and we would do it again in precisely the same circumstances. In that case our crops entirely escaped the rot the whole ten years, while for a large part of that time those of our neighbors rotted badly. This of course was not because we planted every year in the same patch. It was because the ground was warm, sweet, deep soil, well suited to the potato, and moreover because we manured it with ashes, lime, plaster, and salt, and left the vines to rot on the ground, a course which supplied the very pabulum the potato requires, and which left that ground after ten years better prepared for another potato crop than it had been before, as the experience of our successor showed, for without any manure whatever he grew a splendid crop the eleventh year, and we know not how many since.

We would not be too confident in any thing that relates to the cultivation of crops. The earth is 6000 years old, and man has been upon it all that time. Still there is yet more to be learned about agriculture than all that has yet been learned. We may not, therefore, be too confident, but still we believe we know something about this good, old fashioned crop, and we say: plant medium sized potatoes or rather smaller; those of the size of a butternut, if sound, hard, perfectly ripe, are as good as any; plant them on dryish, not very dry, warm, sweet soil. The land should be in good condition, but not as rich as for a corn crop. All nitrogenous, fermenting manures, as from the stables and the barnyard, should be avoided. Use the New-Jersey green sand marl, if you can get it, and no other manure, for that contains all that the potato wants, in addition to what is furnished by such a soil as we have described. A turf is on the whole to be preferred, but this is not essential. If you can not obtain the green sand marl, do not fail to apply the mixture we have before mentioned of ashes, etc., giving the preference for this crop to the unleached, because the potash is the most important ingredient in the potato plant, and this has been largely abstracted from the leached. The ground should be thoroughly mellowed six inches or more. Scatter the mixture, if you use it, somewhat, that it may not scorch the seed, and cover four or five inches. Our neighbor, Prof. Mapes, says six, and we are not sure but he is right. It is a good plan to harrow the ground over, with a many and short-toothed harrow, just before the sprouts appear. Let the cultivator be run through soon after they are up, and as often as you can afford afterwards, keeping the ground perfectly clear of weeds, and then, before the tops begin to fall, hoe them once for all, hilling but very little. It is nonsense to make hills of the size of a two bushel basket around the potato plant, and, unless the ground is wet, in which case it is not fit for potatoes, the high hilling does more harm than good.

We have said above that wet land is not fit for potatoes. There is one exception. Swamps, in process of reclamation, may well be planted with potatoes a year or two preparatory to being laid down to grass. If first drained, and if then the acidity of the soil is corrected by the application of ashes in the hill, they will often give large crops and of good quality. We have known swamps, before worthless, worked into the choicest mowlands, and the potatoes grown during the process to richly pay for all the labor. But as far as our observation has

extended, the soil, though before sour and cold, has been corrected of its natural acidity by draining and the application of an alkali, generally in the form of wood ashes, before a large crop of good quality has been obtained. We feel justified, therefore, notwithstanding this apparent exception, in saying that, wet, sour land is not fit for potatoes. It certainly is not, unless you correct its acidity by alkaline applications. On lands naturally sweet and but moderately moist and in fair condition, twelve bushels of the mixture we have recommended to the acre, will increase the quantity and improve the quality of the crop far beyond the cost of the ingredients. On land that is quite moist the amount may be profitably increased from 18 to 20 bushels to the acre; and in proportion to the moisture, we suppose the plaster and salt become less important; and on a partially reclaimed swamp, wood ashes alone are probably the best.

Four years ago a farmer came to our office for advice. He said he had six acres of land which had been broken the fall before. It was cold land, rather wet, and very rough, and consequently had been plowed very unequally, some to a great depth, other portions hardly plowed at all. He wished to plant one-half to potatoes, and a neighbor of his was to plant potatoes on the other half, to find his own manure, and to have the crop for cultivating the land. We told him we feared his chance would be poor, and that his neighbor would have a hard bargain; but suggested that if he would harrow thoroughly, furrow out, and put in the hill twelve bushels to the acre of a mixture of four bushels of ashes, two of shell lime, one of plaster, and a half bushel of salt, it would give him the best chance for a crop at a very moderate expense that we knew of. We remonstrated against the use of barn manure, and told him his potatoes would almost certainly rot if he used it on that land. He at first laughed at the small quantity. Twelve bushels to the acre seemed to him quite homeopathic. We explained that we did not mean it as a dressing to enrich the land, as by his account it was strong land naturally, but cold and yet uncultivated, that there was probably food enough in that soil for a dozen crops of potatoes, that it was in a dormant condition, would not act alone, but that the application we proposed was of the nature of yeast to set it at work, and at the same time afford pabulum for the crop to start upon, and that he certainly would not lose much by the experiment. In the fall he returned to our office well pleased, to report progress. He had on his arm a basket of potatoes, as fine as were ever seen, and said that he had cultivated precisely as we advised in every particular, and the result was 300 bushels of just such potatoes as those in his basket, not a large crop, certainly, but obtained at a very moderate expense. He had urged his neighbor to take a similar course with the other three acres; but he, after blowing off a tirade against book farming, and declaring that he knew more about farming than all the agricultural editors in the country, which by the way might be true, and yet their labors not be beneath his notice, carried on to his three acres green manure, to more than four times the value of the compost used on the other three. The result was that few potatoes grew, and what did grow were little, watery things, and nearly all rotted, while scarcely one rotted on the other side of the field, the land being, as was reported to us, (we did not see it,) equal. He gave most of his crop to some poor people for digging, and it was thought that they had a hard bargain in digging them, as he had in growing them.

For the Am. Farmer's Magazine.

AGRICULTURE.

BY A REFORMER.

From the earliest ages of man, we can not discover a single era, in which agri-

culture, as a science and employment, has received anything like its due appreciation.

Although historic facts plainly indicate that whole nations and empires, in a great measure, rest upon the stability and sterling worth which agricultural communities render to its people; and that wherever it has been neglected and discouraged inevitable ruin followed; yet many intelligent, and in many respects, useful members of society, are remarkably tardy to comprehend this obvious truth.

We may truly apprehend the vast amount of conservation which must necessarily be overcome to elevate the science of farming to the standard which it is destined to assume before the polity and government of our national greatness can be transmitted to future ages as worthy of imitation.

When the tilling of our mother Earth is viewed as the very basis and superstructure of a country's prosperity, the most salutary element for its advancement and perpetuation, the first signs of its ultimate triumph will first appear; although the knowledge essential to its success is not yet universally disseminated. The day is fast approaching when its few persevering votaries will realize the value of their labor, in exalting the noblest, most honorable, and most intellectual pursuit of man; and we, as a nation, should hail with joy the dawn of that day in which will be proclaimed the superiority of the vocation, and enforce for ever the power of its truth upon the minds of the people of all coming ages.

Labor is the pristine pursuit of man, without which we, as a people, would dwindle into supineness and decay; without which we could not support or propagate those natural laws, for the exercise of which we are constitutionally, providentially, and divinely intended; but heinously connive at the most flagrant violations of justice and humanity, of which we now, refined in all that is noble and useful, are so free to express our abhorrence.

The constitutional immobility of adhering to ancient customs is a characteristic of our American farmers, deeply rooted in the prejudices, with which they consider all modern investigations and discoveries; and the most zealous advocates of revolutionizing our agriculture, do not seek to disguise the *Dead Sea* of ignorance, which must be drained from their minds before they can hope to have their work crowned with success. This is difficult to accomplish; yet by gradual extermination of those hurtful notions of "old fogyism," which to a large majority pervade the mind of our farming people, and by enforcing on their consideration some of the principles and results of new discoveries and inventions much may be effected.

Remarks.—We do not suppose that this writer means to ascribe to farmers, generally and indiscriminately, the *immobility, and Dead Sea, and old fogy* terms above. We have been a farmer ourself, and we can see why the farmer can not jump at any change which outside parties, and perhaps interested ones, might propose; but we think we see, and we rejoice in it, a good degree of willingness on the part of farmers, to look at new measures, and to adopt them as soon as the old can safely be given up. There certainly is progress, and there will be greater.—Ed.

TO CORRESPONDENTS.

Ed. Farmer's Magazine:—Will you favor me with some information on the value of oyster-shell lime as a fertilizer, compared with air slacked lime?

We can not speak very confidently on this subject, because the testimony of practical men does not agree. We have often used oyster-shell lime as an ingredient in a compost for potatoes, mentioned otherwhere in this number; and it seemed to us to do well. The whole compost did well beyond a question, but

how much of the good effect was to be ascribed to the lime, is more than we know.

Some farmers, who have tried oyster-shell lime, think well of it; others say it does no good, and that too in circumstances where the difference of opinion can hardly be ascribed to peculiarities of soil. We incline to the conclusion that those who report unfavorably to oyster-shell lime, have not given it a full and fair trial. Lime in any form acts slowly. Conclusions concerning it can not be found as promptly as concerning most fertilizers.

Our own opinion—we do not hold it very obstinately, and our correspondent need not value it at more than he pleases—is, that oyster-shell lime is worth more, ton per ton, than air-slacked lime, more even than the water-slacked (hydrate of lime.)

But when you buy oyster-shell lime, you should know what you get. If two-thirds of it were the ashes and fragments of anthracite coal, it might not be worth much.

We will seek, and if we can find, will communicate more information on this subject ere long.

Growing Wood and Timber.—A correspondent from "down east," inquires incidentally, while writing on another matter: "If the rough lands of New-England will not grow timber and wood more profitably than anything else." Taking him to mean those lands which are too rocky and impracticable to think of plowing, and which will not give good pasturage without, of which there are great extents, we say yes; get them into wood as soon as possible. In twenty years they will produce a good crop of fuel, and in twenty-five they will give chairs, milk pails, churns, hoe handles, clocks, baby jumpers, carriages, mouse traps, and every other useful *contrivance*. With Yankee energy and ingenuity, wood growing and wood working will turn out as good an investment there, as wheat growing and wool growing in more favored regions. The New-England people must cultivate their arable lands better than any other people, because they have less of them, and they will; and yet their rocky hill tops and mountain gorges will afford the basis for as much industry and the means for accumulating as much wealth. Their mountain streams were made to work, and they will work; and timber in all quantities will be wanted. Don't let a year go by till the plantations, on otherwise useless acres, are growing. They will mend your climate a little and your purses a good deal.

The view we have just taken of high culture for the arable lands of New-England and wood growing for the rough lands, is strengthened by the statement of an experienced farmer in the *Massachusetts Ploughman*. He says: "My governing principle is, never to clear or plow land faster or more than I can *manure* and *seed*. I prefer the *growth* of wood, large or small, to *ordinary* tillage."

How with Gardens?—A correspondent, who commends the discrimination of our article in the February number on deep plowing, suggests the foregoing inquiry. The answer is plain. Your garden must have a deep soil. We said with regard to fields that can not be highly manured, and which, nevertheless, you are resolved to cultivate, do not plow as deeply as you would if you had four times as much manure to apply. But if you would have a good garden, and nearly every farmer we have ever seen at home ought to have a better one than he has, you must give it manure, and you must have a deep mellow soil, must underdrain if necessary, and stir the soil to a great depth. Of a quarter of an acre you must make an acre by deepening the soil, else you can not expect to get paid for the extra labor of garden over field culture. The soil should be twenty inches or two feet deep, and all alive with manure. How

often have we seen men picking away on a shallow garden soil, not more than six inches deep, and all below that as hard and cold as the bottom of a gold digging, soil so thin as to be more than saturated after a rain, and then dried to a crisp by a single week's sun. It is folly to expend extra labor on such a soil. Underdrain if need be, cart on clay if it is too sandy, and sand if it is to clayey, and work in the manure till you have a soil deep enough and just right to work easily.

CHARACTER AND FORMATION OF SOILS.

Soils are those portions of the earth's surface which contain a mixture of mineral, animal, and vegetable substances in such proportions as to adapt them to the support of vegetation. We quote from a valuable article in *Morton's Encyclopedia*, "On examining the various soils in this or any other country, they will be found to consist generally,

1. Of larger or smaller stones, sand, or gravel. 2. Of a more friable, lighter mass, crumbling to powder when squeezed between the fingers, and rendering water muddy. 3. Of vegetable and animal remains (organic matter.)

On further examination of the several portions obtained by means of washings, we find,

1. That the sand, gravel, and fragments of stones vary according to the nature of the rocks from which they are derived. Quartz-sand, in one case, will be observed as the predominating constituent; in another, this portion of the soil consists principally of a calcareous sand; and, in a third, a simple inspection will enable us to recognize fragments of granite, feldspar, mica, and other minerals.

2. In the impalpable powder, the chemist will readily distinguish principally fine clay, free silica, free alumina, more or less oxyd of iron, lime, magnesia, potash, soda, traces of oxyd of maganese, and phosphoric, sulphuric, and carbonic acids, with more or less organic matter.

3. The watery solution of the soil, evaporated to dryness, leaves behind an inconsiderable residue, generally colored brown by organic matters which may be driven off by heat. In the combustible or organic portion of this residue, the presence of ammonia, of humic, ulmic, crenic, and apocrenic acids, (substances known under the more familiar name of soluble humus,) and frequently traces of nitric acid, will be readily detected. In the incombustible portion, potash, soda, lime, magnesia, phosphoric, sulphuric, and silicic acid, chlorine, and occasionally oxyd of iron and manganese, are present.

All cultivated soils present a great similarity in composition, all containing the above chemical constituents, and yet, notwithstanding this similarity of composition, we observe a great diversity in their character. This is caused by the different proportions in which the constituents are mixed together, the state of combination in which they occur, and the manner in which the different soils are formed.—*Rur. New-Yorker.*

VARIETIES IN SPECIES.

Dr. Waterbury of this city has recently published in a neat pamphlet the results of his investigations into the origin of varieties in plants and animals. The following are his conclusions, some of which seem to us *practical* and of great value economically.

I. The construction of the different species of animals and plants is such that no one individual can be taken as the type of the race, there being to the original type a margin to allow of variation, and that margin being so wide as to be covered by no one individual form.

II. This variation is produced to meet necessities by the law of development, the exercise of any organ increasing its growth.

III. When the variation occurs it is attended with a change in the chemical composition of the animal or plant, based on a change in the chemical composition of its food.

IV. If the food be defective, or can not be assimilated, the modification does not occur but the animal dies.

V. These changes are always made in a direction to adapt the subject of them more perfectly to such new conditions as require them.

VI. There is a tendency to reproduce these variations in the progeny.

VII. The variations go further as they are reproduced in the race.

VIII. They stop at the line of species, and never pass that line.

IX. While the pressure of circumstances urges them against that line they are permanent.

X. By crossing they may be carried over the line, but the resulting hybrid is unstable, and always returns, after a few generations to one or other of the parent species.

XI. The limits of modification are widest in those species that can assimilate the most various kinds of food.

XII. Perfection of breed is a relative term, implying different organizations for different purposes.

XIII. As fine breeds are introduced into this country more pains must be taken to protect and feed our cattle well and fittingly, or they will "degenerate" to the same stock.

XIV. Fine varieties, when protected, *do* give a greater product from the same amount of food than the coarse.

SOMETHING ABOUT BUTTER-MAKING.

A COMMITTEE of the *Rhode Island Society for the Encouragement of Domestic Industry*, after a series of careful experiments in the making of butter, come to the following conclusions. They say:

From these experiments it is shown that to obtain the best of sweet butter that will keep for a greater length of time than any other without being rancid, we must churn sweet cream—that if the buttermilk is valuable in market, and the butter can be disposed of soon after it is made, there will be the greatest gain by churning the sour milk and cream together—that by scalding the milk and then taking off the cream, the milk is best for market—although the yield of butter is greatest, and the flavor good, it must be put into market direct from the churn and consumed without delay or it becomes rancid and worthless;—that in proportion to the quantity of butter produced from the cream of a given measure of milk, reference being had to the length of time the cream is suffered to remain upon it, will be its liability to become soonest rancid; that the excess of weight as exhibited above is to be attributed in a great measure to the absorption and combination of caseine (curd,) with the oleaginous (oily) portions of the cream;—that the presence of caseine, although it is not objectionable by its imparting any unpleasant flavor while new, renders the butter of less value, as it soon grows rancid; and for the further reason that it is used, necessarily, more profusely than pure butter, which has less curd in it. It has been fully proved that milk contains on an average only one per cent more curd than butter.

In a former communication on the subject of butter making, we disapprove of the practice of adding water to the cream, and of washing the butter, to rid it of its buttermilk. It is in all cases safest not to wash it, even if the water be pure, it will in a measure destroy its fine flagrance and flavor. The use of pure salt can not be too often recommended to those who have dairies in charge. Let the farmers club together, and send to a seaport and get the best of rock salt, sift out the fine, wash and dry the lumps, and have it ground at any gristmill in the neighborhood, as our fathers did before the introduction of the very improved fine Liverpool bag or blown salt.

For the Committee,
STEPHEN SMITH.

THE BEST CROSSES FOR MUTTON.

A FRIEND of ours who has had experience in raising mutton sheep in England, and who is now engaged in that business, called on us the present week and gave us his experience. He had twelve pure China ewes and twenty China bucks, of the broad tail species. The great desideratum in crossing is to aim at size, quality and quantity. The China sheep are very prolific, and good mutton sheep. The Mexican sheep are large size, and by the cross of the China with the Mexican a large and excellent mutton sheep is obtained.

Another fact, too, the prolific nature of the China is retained, as we were shown that by means of the China Bucks to a large flock of the Mexican sheep, an average of twin lambs was the result, and many cases of three and sometimes four.

There is no gain, to cross the China upon the American sheep, but the other cross improves the sheep, both the mutton and the wool.

We desire particularly to state, that from long experience, we learn that the China cross of the Mexican, gives superior *restaurant* mutton, *i. e.*, the kind

that *chops up* well, as young mutton, without forcing — weigh about sixty pounds.

THE BIGGEST BULL THAT "WAS EVER FED WITH HAY."—The show-men who have talked about oxen weighing 4000 pounds each, may as well give up—a larger specimen of the genus *Bos* has been found "down east," than was ever heard of elsewhere. According to the *Maine Farmer*, J. G. Huston, of Damariscotta, has a bull "four years old next May," which weighs 5800 pounds! Whether there is any typographical error in the statement or not, it may as well stand as a check to exaggeration among those who are unwilling to be beaten.—*Boston Cultivator.*

WISE SAYINGS ABOUT FARMING.

MEADOW MUCK.—I speak advisedly in saying the decomposed leaves and other matters washed from the forest and hills, and found in *Meadow Muck*, (and still more if clay be added) when thus applied, *will work wonders!—Ploughman.*

ISOLATED MAMMOTH HOGS OR VEGETABLES ought not to be the highest ambition of the farmer's husbandry, but the largest general product, retaining all that may be valuable for the succeeding crop, for men make nothing in spending their strength in single spasmodic efforts, disabling themselves for all the future.—*Ex.*

MR. J. W. PROCTOR, of Danvers, spoke of the cultivation of the Derby farm in Salem. Twenty acres manured with a compost of night soil, barn manure, etc., yield a profit of $200 to the acre, in garden vegetables. People in Salem and Marblehead found sea-weed a valuable auxiliary. Home materials were abundant, and there was no necessity to go away from home for manures. —*N. E. Far.*

THE TURKEY.—This noble American bird has now become common to every civilized country, says the Vermont *Stock Journal*, and the more widely known the more highly is he appreciated. It would be disgraceful to us as American agriculturists and breeders, to suffer this splendid bird to deteriorate.—*Cal. Far.*

PLANTING CHESTNUTS.—The "secret" of success in planting the chestnut consists simply in never allowing the outer shell to become dry. As soon as the well-ripened nuts drop from the tree and are loosened from the bur, pack them *the same hour* in moist sand, peat, or leaf mold, and keep them thus moist (not wet) till planted—which may be late in autumn or the next spring. The chestnut is difficult to transplant, and hence it is better to plant the seed on the spot where the trees are intended to stand. They may be planted like corn in "hills," and all but the thriftiest pulled up afterwards. As they need not be so thick as corn, they might alternate with it, if the ground could be prepared very early, so as to plant both at the right time. Early cultivation, like corn, causes them to grow rapidly; and being in rows, the wagon could pass easily through, in thinning out and drawing off the timber.—*Country Gent.*

THE PLANS THE FARMER INTENDS TO PURSUE during the summer, if not already perfected, should be studied and matured. Each field should be considered, and a determination formed as to its summer management.—*Gran. St. Farmer.*

IF THE FARMER were to devote one hour to the garden before breakfast, much labor could be very pleasantly performed in a very short time, and cost but little.—*Ignotus.*

IT IS A GOOD THING to rear a crop which shall net you $500 or a $1,000 a year; but it is a better thing to rear a crop of ideas which shall net you moral and mental elevation; which shall fit you for the place we all hold, as part and parcel of this great Republican experiment. Live down with all your heart, and all your mind, and all your soul, that old brutal notion that a farmer must needs be uncouth, and unkempt, and unsocial, and ignorant. There may have been an excuse for it in the old days.—*Homestead.*

RICH BARN-YARD or other putrescent manures applied plentifully to the potato crop, is almost certain to bring the rot; and the quality of the potato is not so good, as when grown on a sod without manure.—L. S., *in American Agriculturist.*

SPRING is not far distant, when work comes crowding on, and time is scarce to do it in. Farmers, get your hot-beds

ready; recollect, a good garden is half a farmer's living. Get all your implements ready for work, and in your social visits to your neighbors, learn what he has new in the way of improvement or intentions for the coming year. —*Prairie Far.*

Fields occupied by winter grain, if partially winter-killed, should be harrowed, the bare spots sowed with spring grain or clover, and suitable top-dressings, and then the whole rolled. Any roots disturbed by the harrow will be partially restored by the roller to the soil, and the abrasion will cause such roots to *tiller* (throw out new shoots from the first joint,) and thus give full crops—*Working Farmer.*

Horticultural.

CALENDAR FOR APRIL.

FLOWERS.

As soon as the frost is out of the ground, flower borders should be dug over and the perennial flower roots divided and replanted. In doing this care should be taken to place them so that the taller kinds are in the back ground, and also that they be so arranged as to blend the colors of the flowers well, and also to distribute the sorts that bloom in the latter part of the summer throughout the border in order to keep up a continuous bloom, which when this is attended to in the perennials, at this season, can be readily effected by introducing late sown annuals amongst them.

Amongst the late blooming Perennials of the flower border, the different varieties of *Phlox* and *Chrysanthemum*, are amongst the most desirable.

Flowering Shrubs should be planted also at the spring dressing of the ornamented grounds, such as *Spiræas*, *Philadelphus*, *Snowberries*, *Golden Rose*, *Lilacs*, and numerous others which can be obtained at any nursery.

Roses should be pruned as soon as severe frosts are no longer to be expected, the Hybrid Perpetual Roses, which are the best division of this family for outdoor culture, should be pruned to about one-third of their last growth. But the Cabbage, Moss, and old Garden Roses should be cut back to within two or three inches of the preceding year's wood. The China Roses and Noisettes should not be much cut back but some of the old wood should be taken out altogether, and young wood brought forward in its stead. A good dressing of old stable manure after digging round roses will well repay in the succeeding bloom.

Greenhouse. — Plants coming into bloom must be kept well supplied with water, and water should be thrown on the floor of the house in the afternoon to produce a moist atmosphere at night, as soon as severe frost is not apprehended; this will encourage the growth of the buds. Syringing over head must be discontinued as the buds open.

Any plants that are going out of bloom should be pruned, if they require it, and should then be encouraged to start their young growth before they are subjected to the annual repotting that most Greenhouse plants require. For that purpose they should be placed in a warm part of the house and be syringed daily. As soon as the new growth has started and become from a third of an inch to an inch long they may be repotted. After repotting continue the syringing, and keep the earth in the pot just moist *throughout;* but be careful not to give more water than is necessary for that purpose, until the roots get through the new soil to the sides of the pot, or the plant will be seriously injured.

Give more air as the season advances, to the greenhouse, but avoid admitting cold winds. Air at the roof is the safest and best to induce a strong growth, because it keeps the temperature more uni-

form throughout the house than when the sides only are opened to give air.

KITCHEN GARDEN.

When the weather opens plant from the frames for crops *Cabbages*, *Lettuce* and *Cauliflowers*, and sow more seed of each for successive crops.

Sow all kinds of Vegetable seeds for the principal crops, selecting such sorts as are preferred. Do not sow any broadcast but all in drills in rows, which saves time in tillage afterwards and also yields the finest and largest crops.

Potatoes for main crop may be planted from middle to end of the month.

Peas.—For early crops the *Albert*, *Warwick* and *Charlton* are good sorts. For succession the *Champion*, *Hairy Dwarf*, *Mammoth*, *British Queen* and *Knight's Tall Marrow*, will give a sufficient variety. *Brussells Sprouts* should be sown towards the end of the month, to be treated like Cabbages, and transplanted two feet apart, by three feet in rows, where in the autumn they will yield an excellent crop.

For the American Farmers' Magazine.

CONTRACTION BY FREEZING!!!!

MR. EDITOR:—In the February number of the *Magazine*, in the communication commencing on page 76, *Snow and Vegetable Life*, alluding to "the effect of frost upon the organization of vegetables," the writer says: "This arises chiefly from the contraction of the water or sap whilst freezing in them;" and referring to the snow on the branches of trees, he says, "The white mantle guards the covered limbs from the direct action of the sun's rays." This certainly is very pretty if not poetical, but what are the facts? Simply these: In a large majority of cases no snow lodges on the branches, and when it does, the first passing breeze dislodges every particle of it, and the tree is left as destitute of protection as though such a thing as snow never existed. Speaking of the snow melting on the branches, he says, "Thus they become bathed with water of a temperature *just below* freezing point."

Water *contracting* while *freezing*. Water formed by snow melting in the rays of the sun, of a temperature *below* the freezing point. Such ideas emanating from an obscure individual in some remote corner of this wild prairie country, might have been denominated absurd and ridiculous.

"How many people live? How few amongst them THINK."

Now, *we think* it is because water *expands* while freezing that it bursts whatever vessel it is confined in, whether it be of metal, wood, earth or stone; and from the same cause, namely, its *expansion*, that it ruptures the minute and delicate organization of vegetables. We *think* that only a casual observation will satisfy any person that sudden changes from a warm moist state of the atmosphere to severe cold, (the very time when trees and all other vegetables suffer most from the effects of freezing,) are almost invariably attended with high winds, in which case no snow remains on the trees to be melted by the sun's rays. We also *think* that when water gets to be "of a temperature *just below*" the freezing point, it is rather hard stuff to bathe with—in short that it will no longer be water, but *ice*.

'Tis true, all this may be owing to the obtuseness of our intellect, to the want of a scientific education, or to a kind of old fogyism, as we are a hard working farmer, having had no advantages for an education but such as the common schools of Ohio afforded from twenty-five to thirty-five years ago.

Perchance you may be satisfied by this time (if indeed you entertained a doubt on that point) that not all who take the trouble to *think*, think *correctly*.

Respectfully yours, H.

We do not see that our correspondent in the February number was essentially

incorrect, except in the use of the word "contraction" for expansion; and the error in that was so palpable as to show that, if not a lapsus linguæ, it must have been a lapsus pennæ, and not an error under which the mind of the writer labored. We will say for the friend who wrote the article, that he is not ignorant of the fact that water expands instead of contracting below the freezing point. We can not, however, say that, although he might be called a good penman, he writes sufficiently plain to suit the type-man; and we very much suspect that the blunder was with the compositor, and that the proof-reader overlooked it, although, if fit to be a proof-reader, he must have perceived that the writer was made to speak nonsense instead of sense. But, on the whole, we are inclined to take the blame upon ourselves, for we ought not to have let such a statement go to our readers, whoever else might have been faulty in the case.

Henceforth, let us all remember, that it is the nature of water to contract by the withdrawal of heat, till it comes down to 32° Farenheit, the point of freezing, when it suddenly expands so as sometimes to burst the vessel containing it, to split rocks when confined in pores or crevices, and to injure the delicate organization of plants. Is it not, however, rather a sudden freezing after mild weather, than intense cold that does the mischief? We rather think it is; and we should like an article from some careful observer on this point, showing under what circumstances the cold injures or kills trees, and then again under what circumstances they will endure equally intense or even severer cold, and come out uninjured; and whether sudden thawing after severe cold has anything to do with the mischief. We all know that the manner of thawing—whether it be sudden or gradual—decides mainly the condition of vegetables that have been frozen, as to whether they shall be fit for use or not.—Ed.

CRANBERRY CULTURE.

The kind most known and best a
ed to all kinds of soil, is the Bell variety or Egg shaped, and most cultivated in New-England. A round variety raised about Cape Cod is a larger fruit, handsome, and only grows on very wet, marshy land, and not as well adapted to general culture; there are also several other varieties which mature late, larger fruit than the Bell variety, but not as productive. They can be propagated from the seed, or from cuttings or by transplanting. The last method is most frequently adopted. The first crop obtained by planting the seed will be one or two years later than that produced by transplanting. When cultivated, the berries are large and abundant; after being gathered, they turn from light scarlet to deep red, and sometimes almost black. They will keep a very long time if not gathered too early—they should remain on the vines until it is necessary to gather them from the frost—they should be properly dried by spreading them thin for three or four weeks; they can then be packed and sent to any part of the world. If gathered too early, while some of the berries are green, they will not keep.

The soil most suitable for their growth is low, moist meadow land that is not too cold and spongy. In that case, a drain should be cut to let off surplus water, which should always be within twelve inches of the surface, and sand covered over the top three or four inches will be of service, although not indispensable where it is not easily procured. When the ground is uneven, sand can be carted on to level it. They also do well on muck or any poor swampy land, where nothing else will grow; they grow naturally on watery bogs and marshes—on the border of streams and ditches, and by draining wet land and then taking off the top of the ground to remove the wild grass or vegetable matter and carry to the manure heap; then cart on beach or other sand to the depth of two or three inches to level the ground and to prevent grass and weeds from choking the vines, and to keep the ground loose around the plant. They bear abundantly on marshes covered with coarse sand, and entirely destitute of organic matter of any kind, but accessible to moisture—on pure peat covered with sand, and on every variety

of soil, except clay liable to bake or become hard in dry weather, on soil that can be worked with a plow and harrow; it can be prepared as you would do it for planting out garden and other plants; sometimes it can be burnt over so as to get it in a condition to set out the plants. They can also be raised on moist loam where corn and potatoes will grow, but not so abundantly on dry or sandy soil unless covered two or three inches with muck or spent tan. No animal or vegetable manure should be used, as the fruit draws most of its moisture from the atmosphere. The poorer the soil, the less cultivation is needed.

If you have a peat swamp and design converting it into a cranberry yard, your first step to be taken is to find a level that is not too wet, and then clear off the turf or grass sods, and bring the rest of the swamp to the same height. When it is thus cleared and levelled off, it is not then ready for the reception of the vine. Should the vine be planted, it will do well through the winter and spring, but in the hottest weather the peat will bake and become hard; it will therefore be impossible to take in the moisture of the atmosphere, which is absolutely required by the vine. The absence of this moisture will cause the plant to die, and thus both labor and money are lost. This will be prevented by leaving the prepared swamp exposed to the action of the frost for one winter, when it will, after it is thawed, crumble and present a light gravelly appearance, the largest lump of which will not exceed an ordinary pebble. When the swamp has thus been treated, it will not afterwards bake and become hard; its surface will be light and porous.

When vines are planted, it is often the case that in the summer following they will appear as though they were dead; and the cultivator, having this impression on his mind, will take them up, believing that it is impracticable on his soil to raise any fruit.

The plant is very tenacious of life, and if there is but half a chance it will take hold and live, though it may not yield much fruit. These vines should not have been taken up, for it is evident that their natural stunted appearance was mistaken for death. They ought to have remained in the soil at least another year, when it could have been fully determined whether they were living or dead.

The Bell Cranberry is that which is mostly desired by cultivators, but even experienced men are often at a loss to distinguish the vine on which it grows from the Bungle or the Cherry. If found in the middle of a swamp in its wild state it will invariably throw off the runner towards the driest part of the bog. Hence it is found on the edges most frequently. When it is transplanted and brought under cultivation, it is true to the same law, and will send its suckers up the banks of the yard, and these will yield well. The inference drawn from this is, that it can be cultivated on upland soils adapted to its wants, even should it not be overflowed, and is therefore best adapted for general cultivation. Lay out the grounds as you would for setting out cabbage, strawberry or other plants—have a pointed stick or dibble, and make a hole for the plant—have the plants immersed in muddy water so thick as to adhere to the root—place it in the hole from three to four inches under ground, and press the dirt very closely around it. To have the rows uniform, draw a line and put the plants, 18 by 20 inches, in rows—where small patches are desired which can be kept clean with a hoe; the nearer they are together, the quicker they cover the ground—but where acres are planted it will save much labor by putting them 2 to 2 1-2 feet apart, then a plow or harrow can be used to keep out the grass and weeds.

After one or two years' cultivation to keep out the grass, they will take care of themselves. At 18 inches apart, it will take 19,000 plants; 2 feet 10,000; 2 1-2 feet, 7,000 plants to the acre. They can be planted out in the fall at the North from September until the ground freezes, or in the spring until the middle or last of May. At the South and West, if possible, they should be planted out in autumn and December; if received too late for planting out, the roots can be covered with dirt in a box or in a cellar (but not in the ground out of door) until early in spring. As it is often late before we can start the plants, and the great press of freight often delays them beyond a desirable time, if not ordered in the fall, they will always be forwarded as early as possible in the spring. The transportation of 10,000 plants to Chicago, Cincinnati or Harrisburg will be about $2—1,000 to 5,000 plants, from $1 to $1.50. Where

land for Cranberry culture can be overflowed (which is by no means necessary), fall is the best time to plant them out, but where there is no overflow, I am satisfied that they can be planted out in early spring as well as fall. Every family can have their garden patch in that case, and in dryish soil, grass, meadow muck or tan around the plant will be beneficial to retain the moisture. They are highly ornamental in pots—the fruit hanging on the plants until the blossom appears for the next crop. The first year they often bear fifty bushels to the acre, and increase every year, until sometimes they bear from 200 to 300 bushels per acre, perhaps the net average is from 100 to 150 bushels per acre. They usually bring from $2 to $4 per bushel—never less than $2—this year they are worth from $4 to $6 per bushel. Cultivated fruit is less likely to be affected with drought than wild fruit. One man with a rake made for the purpose will gather from thirty to forty bushels a day, with a boy to pick up the scattering ones.—*Horticulturist.*

A GARDEN ON A STIFF CLAY SOIL.

LESSON FROM EXPERIENCE.

THE *Ohio Cultivator* describes the manner in which a gardener near Columbus, known as "Old Joe," made a good garden on a most forbidding soil.

"Joe's garden was originally a compact clay soil, such as predominates throughout a large portion of Ohio, and is the greatest obstacle to successful gardening, especially among farmers and those who can not afford to do things thoroughly. But not so with our friend Joe. His first effort, after erecting a shelter for himself and his flowers, was to trench a portion of his ground two feet in depth, mixing with it coarse manure and other materials to enrich it, and especially to *admit air into it.* This was a slow and laborious operation, but it was the only true way; and by doing a little at a time, the whole was accomplished without much expense, and the result has been such a healthy growth of his plants and shrubs, and such power to withstand drought, as to compensate tenfold for the labor.

"Since this first operation on his land, Joe's favorite application has been *sawdust*, half rotted, if to be found, and in its absence, mold of rotted logs from the woods. A good dressing of these materials is spaded into the ground as often as once in ten years, at a cost fully double the expense of ordinary manuring.

"On my expostulating with Joe one day, about his free use of sawdust, and asking for his theory about its effects, he told me it was '*to give the roots a chance to breathe.*' This explanation was so sensible as well as philosophically correct, that I wish it could be indelibly impressed on the minds of all owners of clay grounds, whether fields or gardens.

"The great want of our strong clay lands, is not so much the materials for enriching, but to *admit the air into them*, or as Joe says, 'to give the roots a chance to breathe.' Let this be done, in connection with draining where too wet, and deep plowing or trenching, and the average products of our gardens and fields would be more than doubled, and the effects of our hot summers and severe droughts would hardly be noticed."

We have copied the above from the *Homestead*, but not wholly to approve. If Joe's trenching was done with the spade, as we suppose, what is the meaning of saying that it did not cost much? To trench such land two feet deep costs an amount of human strength, which ought to be worth a good deal, and would be if wisely exerted. It would be much better to plow one foot deep and subsoil another foot; and we believe his fertilizers could as well be plowed in as dug in. If he had plowed a furrow one foot deep, then run the subsoil plow another foot, and then filled the furrow with his coarse manure, and turned the next furrow upon it, would it not have been about as good an operation, at a much less expense?

We should have no objection to the use of "sawdust, half-rotted," in such a case, but we think the "half rotted" is the best part of the story; and as for working in rotten wood, the same principle would hold. If reduced to a fine mold and mixed with a rich top soil, on which leaves had decayed for long years,

it would be a good dressing for that or any other soil.

Where a tenacious clay is to be amended into a feasible garden soil, if there is a sandy field near, the best way is to amend both at once by carting back and forth, clay to the sandy soil, and sand to the clayey. If Joe's garden was but a patch, too small for a strong team to turn round upon, the trenching was well enough. If it was of considerable size, he could have found a better way.

The time has not yet come, may it never come, in this country, when human muscles are the cheapest power that can be employed.

The weight of such a soil, two feet deep, is not less than 4000 tons to the acre.

STRAWBERRY PLANTING.

The present is a good time to plant Strawberry vines, and if now planted correctly upon good soil they will produce a liberal crop the present year.

Remember to select a good substantial loam; to plow deep and work the soil well, applying no manure that contains grass or weed seeds. Leaf mold is good. Swamp muck, if long up and well cured, may be used to advantage. Twenty inches for the rows, and ten inches for the hills are good distances. Set none but the best varieties, and let about every eighth row be staminates. By early setting and careful cultivation, you may have a small crop the first year, and a very large one the second year.—Ed.

DON'T BE GULLED.

Farmers, amateur gardeners, &c., should be careful in future not to be gulled by the wonderful stories of correspondents in the agricultural and newspaper press, respecting new corn, potatoes, pears, raspberries, grapes, currants, and other grains, vegetables and fruits; as in nine cases out of ten these elaborate correspondents adopt this trick to puff their own bantlings into notice, in this most desirable way, free of cost to themselves, and most likely to find favor in the eyes of those they are intended to deceive. Now, the common caution should be observed by those we address not to be led by the bombast of the tribe into buying these expensive articles until their value is established by reliable practical experimenters. It is much better to wait one or two years, when the article, if proved to be as represented, can be obtained at one-half or one-fourth the price originally demanded, than at once to rush into a purchase and get bit. —*Germantown Telegraph.*

We shall, for our part, take all care that the readers of the *Farmer's Magazine* shall be kept duly posted up in matters of this kind; and then if they choose to become a prey to these vampires, they will do so with their eyes open.—Ed.

IMPORTANCE OF UNDERDRAINING.

To the perfect completion of a good fruit garden, it must be thoroughly underdrained. If possible, let it be done before setting out the trees, though it could be done at some future day with some slight root pruning, which might not prove injurious if carefully managed, only let it be remembered that *it must be done.—Mass. Hort. Society.*

POISONED HAY.

A farmer in Ashtabula, Ohio, complains that he has lost seven head of cattle by their eating poisoned hay. It appears that the poison is in the form of ergot, a smutty excrescence which grows on the June grass. It grows as it does on rye, in the shape of a diseased and enlarged seed, of dark color, varying from the size of a wheat grain to three-fourths of an inch long.

A Frog in Ice.—We were shown lately, by a Savannah gentleman, a lump of Norwegian ice, in which a medium sized frog was comfortably and coolly ensconsed. His frogship showed symptoms of life after his cool incrustation had dissolved, and having been placed in water was thawed into life and activity. It certainly was a curiosity to see a live frog thus done in ice; but whether last winter it contemplated a tour to Southern latitudes and considering the above was the coolest mode of traveling, we leave a question of debate with ichthyologists, *et ia genus omne.—Savannah Georgian.*

Scientific.

CHEMICAL.

AMMONIA.

What is this substance that all the world is talking about, that we are bringing from the Chincha Islands, at a cost of at least 17 cts. a pound, and at the same time are wasting it at home?

It was first prepared for ladies smelling bottles and other fancy purposes, from camel's dung, in a region of Africa called Ammonia. Hence its name. But what is it? What are its constituents? In what proportions, and under what circumstances do they combine to form this much talked of substance?

Ammonia is composed of one atom of nitrogen to three atoms of hydrogen. The atom in weight, of the former, is fourteen times that of the latter. Therefore, of 17 lbs. of ammonia 14 lbs. are nitrogen, and 3 lbs. hydrogen. These constituents are very abundant in nature.

Nitrogen constitutes 79 hundredths of all the air, and hydrogen 1 ninth of all the water on the globe. The ammonia making materials are therefore so abundant that one might suppose that this compound might be very plenty and cheap. But the nitrogen and hydrogen so abundant in nature, do not combine to form ammonia, except under peculiar circumstances. To a limited extent the process of its formation is always going on, and the atmosphere is always kept supplied with a small per cent of ammonia. Those who have made the most careful investigations estimate it at about one part in 10,000. So much nature supplies, and is always throwing into the air that great reservoir of plant-food. Science has yet discovered no way in which ammonia can be artificially prepared in such quantities as to render it plenty and cheap, notwithstanding that the ingredients are as plenty and as cheap as chips in the farmer's wood-yard in April.

Nitrogen and hydrogen, in their ordinary state, have no affinity for each other. You may put 14 parts by weight of nitrogen and 3 of hydrogen, into a jar, but if you keep them there ever so long they will not unite and form ammonia. It is only in their *nascent* state that they will combine. The young reader, if no others, will need to be informed what their nascent state is. We will explain, for we are not writing for old chemists, but for persons who are convinced, as all ought to be, of the immense benefit to be derived by practical farmers from even a little knowledge of this great and all pervading science—a science that has to do with every body's business, and especially with the farmer's.

Well then, *nascent* means *being born*. That is the Latin meaning of it. By way of accommodation chemists have used it to mean *newly formed*. The forming of compounds from simples, and the separation of simples from their compounds, is always going on in nature. Now although nitrogen and hydrogen in their ordinary state, will not unite, yet if they come together in their nascent state, that is, when first separated from other compounds, they will, at that instant, though not one moment afterwards, combine and form ammonia.

We wish here to give some practical illustrations of the formation of ammonia, reserving its uses in agriculture, the best modes of preventing its waste, and its importance to the farmer, for future numbers. Let the reader understand that the ammonia so universally talked about is not the pure ammonia (ammoniacal gas) described above as formed from nitrogen and hydrogen. It is this combined with some acid, as carbonic or sulphuric, forming a carbonate or sulphate of ammonia.

Thus, in the good old times, when cosmetics and perfumes were not as essential to beauty as now, a lady would buy

an ounce of carbonate of ammonia at the shops, and put it with as much quicklime into a phial and cork it up. On removing the cork and applying to the nose, a tingling sensation would be felt, supposed to prevent fainting at church, and in other assemblies. We should think it would cause rather than prevent fainting, and what is more, we know it would.

The explanation is this;—the lime had a strong affinity for the carbonic acid in the carbonate of ammonia. The carbonic acid left the ammonia and joined itself to the lime, forming a carbonate of lime; this left the ammonia to pass off as pure ammoniacal gas, transparent, invisible, colorless. In passing from the mouth of the phial it mixed with the air, and so did not injure the person snuffing it as badly as it otherwise would.

Now let us go from the old-fashioned smelling bottle, which, like many other things, had for a long time a better reputation than it deserved, to the compost heap. What takes place here? There is no ammonia in unfermented manure, but there are the materials to make it of. There is nitrogen, and there is water, and there are substances to be oxydized. As fermentation commences, the oxygen of the water combines with various substances — oxydizes them. This leaves the hydrogen of the water alone. At this instant, being just separated from its oxygen, that is, in its *nascent* state, it will combine with nitrogen, if it can find any that is also in the same nascent state. This it can find, because there is nitrogen in the manure, and it is being separated from its various compounds by the fermentation. Both the hydrogen and the nitrogen being in the nascent state, unite and form ammoniacal gas. But as we showed in our February number, carbonic acid gas is being formed in the compost at the same time. This combines with the ammonia, and forms carbonate of ammonia, which passes off in the form of an invisible but pungent gas, and being very light rises and rapidly diffuses itself far and wide, to be sooner or later absorbed by atmospheric moisture and brought down in rain, ten miles, or a hundred, or it may be a thousand, from where it ascended.

When a compost is thus wasting its ammonia, you can not see it escape. It is invisible. By holding over the heap a feather wet with strong vinegar, or better, with muriatic acid, you will see a white cloud formed around the feather. The muriatic acid expels the carbonic acid, and with the ammonia forms muriate of ammonia, which immediately becomes visible to the eye, and falls as a mist or fog. This is a good test by which to judge whether manure is losing its ammonia. The sense of smell is a more practical test. Set it down, that *no spot on the farmer's premises should have the least tinge of the odor of the old smelling bottle.* If the air in the stalls have the least of that pungent odor, you may know that something is wrong. If, on the other hand, none of this odor is perceptible, all may not be right, for it is no uncommon thing for so many foul gases to be generated at the same time, that the peculiar odor of the ammonia is disguised and becomes imperceptible to the olfactory nerves.

Clay and peat have a strong attraction for ammonia. Hence if peat, or loam, which contains clay, or coal dust, or any carbonaceous matter, as leaf mold, headland scrapings, or the scrapings from the chip-yard, be composted with manure and the mass be kept in a moist condition, there is little probability of the escape of ammonia, for these seize upon it, become enriched by it and hold it till put into the soil and required by plants. Even water is a pretty good retainer of ammonia. So long as its surface is kept moist, little ammonia will escape. But the tendency of fermentation is to expel the moisture, and therefore if manure is to be fermented in the open air, some of

the other substances named above should be mixed with it to operate as a retainer.

Plaster has a good effect, so long as the manure is moist; and some effect, we have no doubt, when dry; and we think, therefore, that it is well to sprinkle a little plaster about the stall, the manure heaps, and the yard. But the farmer's surest resource is, in such substances as we have mentioned above, something that his own farm affords. There is scarcely a farm that does not afford just what will come in play for composting and preserving the manures. In the main, each farm must enrich itself.

From what we have said, it will be seen that there is no danger of the loss of ammonia after manure is put into the ground if the soil be a good one. A clay soil, or a peat soil, or a loam, any soil that does not consist almost entirely of loose sand, has in it enough to hold the manure till the crops take it. A very sandy soil has not, and therefore we would recommend that on such a soil, any manure that is capable of fermentation should be composted largely with some substance adapted to hold the ammonia. For a similar reason we believe that when top-dressing is practised, the manure should be composted largely with some substance of a nature to hold the ammonia, and then worked down into contact with the soil, or as nearly as may be.

More of ammonia in our next. The subject, we know, is not easy to comprehend; but it is very important to agriculture, and we will try to make it available to our readers, by dint of perseverance, and by such practical illustrations as can be spread on the printed page.

ON THE INFLUENCE OF CLIMATE UPON VEGETATION.

BY A FRIEND.

In some remarks made in the March number of the *Farmers' Magazine* upon the introduction of new agricultural crops, we adverted to the importance of the study of the influence of climate.

We recur to this subject again, more particularly for the purpose of introducing to our readers a very interesting and instructive extract from the Himalayan Journal of Dr. Joseph D. Hooker, one of the most talented and diligent naturalists of the day.

From the perusal of the following extracts from the first volume of his work, it will be seen that in the Sikkim region of the Himalaya mountains, at an elevation of several thousand feet the temperature, if judged of *alone* as indicative of the influence of the climate there upon vegetation, would lead to wholly erroneous conclusions. And the Doctor has pointed out very lucidly the causes which operate to effect the difference.

The Sikkim region is that in which he discovered the extraordinary new species of Rhododendron, (to which in a future article we may particularly refer;) and it is during certain parts of the year enveloped by a dense, moist atmosphere that is very favorable to the development of vegetation in certain stages of its annual growth, (namely, whilst it is forming new shoots in their earliest state,) but which is unfavorable to the process by which the young wood is hardened and assumes the ligneous texture. And the reason of this latter fact is, that the aqueous vapors held in suspension in the atmosphere prevent, in great measure, the direct rays of the sun from generating the amount of heat necessary for the maturing or ripening process. But this does not apply equally to all families of plants. From their difference of internal organization, and from their variation in the length of their growing seasons, the amount of heat and of light required by different plants varies greatly. Hence the circumstances of the variations that Dr. Hooker points out between the effects of a climate, although temperate, upon vegetation exotic, as compared with that which is indigenous to it.

In all the more perfect forms of vegetable life, whether of an oak tree or of a cornstalk, there are similar processes to be gone through. First, the enlargement of the frame, then the solidifying or hardening process, (to a greater or less extent,) then the fruit-bearing process, in which, be it observed, the same processes are again repeated. In the corn, the whole takes place in a year, in the oak the same system is repeated year after year by the same plant. But it *is* repetition, and the *modus operandi* is analogous the one to the other,

This should be borne in mind in all our agricultural and horticultural operations; in the prosecution of which we should always in our tillage reflect upon *which part* of the annual process our labor, for the time being, is intended to urge forward or to assist. By so doing we shall find that the question of *climate* (not temperature alone, but *that* combined with other meteorological facts connected with the locality in which we work) becomes of primary importance to success.

We have heard the remark made, that for *practical* purposes, in agriculture the study of climate matters little, since we can not alter that to suit our convenience. This is a very thoughtless conclusion. True it is, we can not alter the climate; but if we know *what effect* a given climate has upon a particular crop, we can oftentimes modify our system of farming so as to adapt it to the climate, and thereby render the climate conducive to, instead of adverse to, our wants. And when we can not do that, we at least can save ourselves an outlay of time, money and labor in the attempt to grow a crop, that without the knowledge of the effects of climate, we might year after year vainly plant.

With these observations we strongly commend the study of climatology to our readers, for it is that which promises more reward than many others to which agriculturists seem inclined to devote their leisure hours. And we think that the following remarks from Dr. Hooker's interesting publication will, when well weighed, justify to our readers the value which we attach to the subject that they so efficiently illustrate:

"The potato thrives extremely well "as a summer crop at 7000 feet in Sik- "kim, though I think the root (from the "Dorjiling stock) cultivated as a winter "crop in the plains is superior both in "size and flavor. Peaches never ripen in "this part of Sikkim, apparently from "the want of sun; the tree grows well "at from 3000 to 7000 feet elevation, "and flowers abundantly, the fruit mak- "ing the nearest approach to maturity "(according to the elevation) from July "to October. At Dorjiling it follows the "English seasons, flowering in March "and fruiting in September, when the "scarce reddened and still hard fruit "falls from the tree. In the plains of "India, both this and the plum ripen in "May, but the fruits are very acid.

"It is curious that throughout this "temperate region there is hardly an "eatable fruit except the native walnut "and some brambles, of which the 'yel- "low' and 'ground raspberry' are the "best, some insipid figs, and a very aus- "tere crab-apple. The European apple "will scarcely ripen, (this fruit and sev- "eral others ripen at Katmandoo, in Ne- "pal, (altitude 4000 feet) which place "enjoys more sunshine than Sikkim. I "have, however, received very different "accounts of the produce, which, on the "whole, appears to be inferior,) and the "pear not at all. Currants and goose- "berries show no disposition to thrive, "and strawberries are the only fruits "that ripen at all, which they do in the "greatest abundance.

"Vines, figs, pomegranates, plums, "apricots, &c., will not succeed even as "trees. European vegetables again "grow, and thrive remarkably well "throughout the summer of Dorjiling, "and the produce is very fair, sweet and

"good, but inferior in flavor to the Eng-
"lish.

"Of tropical fruits cultivated below
"4000 feet, oranges and indifferent ba-
"nanas alone are frequent, with lemons
"of various kinds. The season for
"these is, however, very short, though
"that of the plantain might with care
"be prolonged. Oranges abound in
"winter, and are excellent, but neither
"so large nor free of white pulp as those
"of the Kasia hills, the West Indias, or
"the west coast of Africa. Mangos are
"brought from the plains, for though
"wild in Sikkim the cultivated kinds do
"not thrive. I have seen the pine-apple
"plant, but I never met with good fruit
"on it.

"A singular and almost total *absence*
"*of the light and of the direct rays of*
"*the sun in the ripening season, is the*
"*cause* of the dearth of fruit. Both the
"farmer and orchard gardener in Eng-
"land know full well the value of a
"bright sky, as well as of a warm au-
"tumnal atmosphere. Without this
"corn does not ripen, and fruit-trees are
"blighted. The winter of the plains of
"India being more analogous in its dis-
"tribution of moisture and heat to a Eu-
"ropean summer, such fruits as the
"peach, vine, and even plum, fig, and
"strawberry, &c., may be brought to
"bear well in March, April, and May, if
"they are only carefully tended through
"the previous hot and damp season,
"which is, in respect to the functions of
"flowering and fruiting, their winter.

"Hence it appears, though some Eng-
"lish fruits will turn the winter solstice
"of Bengal (November to May) into
"summer, and then flower and fruit,
"neither these nor others will thrive in
"the summer of 7000 feet on the Sikkim
"Himalaya (though its temperature so
"nearly approaches that of England) on
"account of its rains and fogs. Further
"they are often exposed to a winter's
"cold equal to the average of that of
"London, the snow lying for a week on
"the ground, and the thermometer de-
"scending to 25°. It is true that in no
"case is the extreme of cold so great
"here as in England, but it is sufficient
"to check vegetation and to prevent
"fruit-trees from flowering till they are
"fruiting in the plains. There is in this
"respect a great difference between the
"climate of the central and eastern and
"western Himalaya, at equal elevations.
"In the western (Kumaon, &c.) the win-
"ters are colder than in Sikkim; the
"summers warmer and less humid. The
"rainy season is shorter, and the sun
"shines so much more frequently be-
"tween the heavy showers, that the ap-
"ples and other fruits are brought to a
"much better state. It is true that the
"rain-gauge may show as great a fall
"there, but this is no measure of the
"humidity of the atmosphere, and still
"less so of the amount of the sun's di-
"rect light and heat intercepted by aque-
"ous vapor, for it takes no account of
"the quantity of *moisture suspended in*
"*the air*, nor of the depositions from
"fogs, which are far more fatal to the
"perfecting of fruits than the heaviest
"brief showers. The Indian climate,
"which is marked by one season of ex-
"cessive humidity and the other of ex-
"cessive drought, can never be favora-
"ble to the production either of good
"European or tropical fruits. Hence
"there is not one of the latter peculiar
"to the country, and perhaps but one
"which arrives at full perfection—name-
"ly, the mango. The plantains, oranges,
"and pine-apples are less abundant, of
"inferior kinds, and remain a shorter
"season in perfection than they do in
"South America, the West Indies, or
"Western Africa."

CAPACITY OF MATTER.

THERE is undoubtedly much loss sustained through the want of a more exact and practical knowledge of the full powers and capacities of matter. Next to the want of a natural tact or aptitude

in a craftsman for his craft, is that of knowing how to bring out and appropriate every element, however concealed in the material which he manipulates. The two, however, usually go hand in hand, and constitute the celebrity and success of every operator. Of the same quality of flour one baker so kneads and tempers his dough, that the praise of his bread is in every mouth, while another makes of it such stuff as were "Jeremiah's figs—too bad to give the pigs." So the same quality of steel may be manufactured into Damascus blades or Rogers' cutlery by one smith, and into "Peter Pindar Razors" by another. An honest old farmer friend of my early days was never known to swear a syllable, except, "By the powers of mud!" and this was on his tongue's end about as often as his plow hit a stump, or stone, or any other especially exciting incident crossed his path. The superabundant ingathering from his wheat, corn, and potato fields, orchards, and gardens, however, fully proved that no man better than he understood the powers of mud, or could better compost and coin tons and tons of it every year into golden treasures. If the well authenticated reports of "the lost arts" are true, there are many long-concealed powers of matter yet to be ferretted out and brought into the light and service of the world. They may be discovered by chance as the scavenger sometimes sweeps up a lost diamond, or by men who are willing to look for them as the boy was told to hunt for the lost wedge, when he said he *had* looked everywhere that it could be. "Well then," said his father, "look everywhere that it can not be and you will find it." Infinitely more important discoveries are or may be made by laboring men pursuing their daily avocations than by men of mere empty scientific pretensions, if they could only turn them to good account. What unlimited advantages every farmer has for increasing the desired knowledge of insects for instance, as well as mechanics and manufacturers for unfolding the capabilities of the material in which they operate. Every one should find means of making public whatever may tend to public good. If I may be permitted to illustrate by example, I will do so by saying a few words about properties which I have discovered in two simple articles, namely, calcined plaster and lead, which I think are not very generally understood or appreciated. And if my remarks favor one profession more than another, it shall be a profession not of trifling importance to the present tooth-afflicted generation, nor one slow to appreciate and exert its best faculties to allay the fearfully prevailing dental defection. In taking a cast of the gum for fitting suction plate for teeth, if plaster is mixed very thin, say two spoonfuls to two of water, more or less as the case requires, and beaten up like eggs, it at length assumes a new aspect of cohesiveness and plasticity, and will spread like well tempered butter till on the very verge of "setting." Let it now be quickly transferred to the mouth-cup, and pressed to its desired depth on the gum, it conforms instantly to every peculiarity of shape and contour, hardening so quick that it may in less than one minute be taken from the mouth a perfect smooth impression, while if it had been merely mixed as usual it would have required three or four times as long to harden, annoyed if not sickened the patient, and come out less perfect in every respect. How this matrix is to be immediately oiled and filled for a male, or counter cast, say two inches high with similarly prepared plaster paste kept in place by a paper wall around it, is well known to practical dentists, for whose *sole* benefit I am not, by the by, just now writing. My next subject is *lead*, so much more celebrated for its *cold*ness and gravity than for any lively or accommodating properties. But let us see;—when the plaster model of the jaw or die, No. 2, is perfected with its provi-

sions for air-chamber and all, take a sheet-iron pan five inches square and one and a half deep, containing about eight pounds of lead. Heat it considerably above the melting point and set it where it will cool, not too rapidly. Stir in the lead from the corners and outer edges towards the center and up from the bottom, carefully moving every granulating particle into the middle of the pan. Very soon the whole mass appears so equally and harmoniously tempered that you may pile it up like hasty pudding, and still see uncooled liquid lead flowing around its base. It is in this condition that I claim for it powers and properties not, I believe, very generally known. Almost every particle is mutually ready with every other particle, on the application of a very little chill to "*presto, change*" from an almost semi-fluid, soft and impressible state, to one of unyielding hardness, and still seemingly willing to linger a moment longer to take to itself any impression by which the true artist may be facilitated in his labors. This, however, is a critical period of not more probably than fifteen seconds' duration, and allows of but little delay. Smooth now the molten mass to a level in the pan, and while the quicksilvery glow yet remains on its surface, press steadily down with a firm hand the faultless plaster model to its desirable depth. Every particle of yet *flowing* metal hardens as it receives the impression of the descending form, and is almost instantly, in concert with the rest, in a solid state. The model, if rightly shaped, may now be lifted uninjured from the lead before cooling binds it in. This second or leaden matrix when cool may be painted with a thin solution of whiting and water, and surrounded by a strip of sheet lead two inches high, and filled with tin or type-metal, melted and tempered like the lead so that it will just flow into the matrix and cool instantly on receiving its form. It is advisable before marring the matrix by striking up the plate to take duplicate dies, say one of tin and one of type-metal, which is much the harder of the two. It can but be obvious to every philosophical and practical dentist, that by having the plaster elaborated to the point of "setting" in both cases, taking the gum impression and its model, there must be the least possible amount of contraction. This is, if possible, still more obvious of the low temperature to which the metals are reduced before being used. Experience alone, however, can make any method pleasant and profitable. I will only add, in conclusion, that the whole operation of taking the four dies, namely, the female and male plaster dies, and the corresponding metallic ones, capable of striking up a plate of the most perfect adhesive powers, seldom takes me more than one hour. I cool the lead in water, if in haste, as soon as the matrix is formed, and so the tin and type-metal as soon as poured in and hardened. And better than all, never since adopting this process have I had a patient return with the doleful story of having been shocked and horrified by their teeth dropping out, and "right before the minister."

As my subject, Messrs. Editors, seems to contemplate the gathering up of the fragments that nothing be lost, will you allow me to add a word or two from personal experience in relation to the value of *natural* teeth and *unbroken* nerves to those who are "*talking seriously*" of having their mouths cleared of native occupants, to be filled with the gold and porcelain of the artist. Four years ago I had thirteen teeth extracted at one sitting of five minutes, and without anasthetic agency. It was done most kindly and skilfully, but was still a most cruel outrage on the "harp of so many strings." It stands not to reason that such a simultaneous crash and disrupture of nerves extending to every possible part of the system can be otherwise than disastrous. Sickness, death, and what is worse, the

loss of reason have occurred from such operations, especially in the hands of unscrupulous, heartless empirics. Not a little suffering in this way is silently endured and concealed through fear of railery. If natural teeth must be sacrificed, three, four, or five, according to the constitution of the patient, are as many as should be removed at once, and that only at intervals of several weeks. But where even three or four sound masticating teeth remain in each jaw, their removal is sacrilege. The most perfect artificial teeth ever made can not atone for their loss. I wear as good and useful ones as can be procured, but I know of a certainty that, however well they please the eye, they do not admit of the delicacy and completeness of mastication, the free and nutritious flow and mingling of saliva, and the refined taste, relish, and appreciation of food which every function of the system hankers after and pleads for as indispensable to their healthy action. I have not, however, the least cause or disposition to speak disparagingly of well-made and skilfully adjusted plate-teeth in a mouth which has not sacrificed too much natural advantage for their attainment. They are capable of proving an inestimable blessing to the otherwise toothless, whose knife and fork, by the by, should work well for their benefit, that is, should be of a decidedly "*mincing*" propensity, as food can hardly be made too fine or swallowed too moderately for the good of the wearer. Keep them in water during the night, with a good brushing as they are replaced in the morning.

Yours truly, EASTMAN SANBORN.

ANDOVER, Mass., Feb., 1858.

For the American Farmer's Magazine.

ON THE DURABILITY OF WOOD.

MR. EDITOR:—In the number of your journal for December last, under the head of INTERROGATORIES, your correspondent J. R. B., proposed several "questions, which he desired to have answered satisfactorily, either by yourself, or by some of your scientific correspondents." The most of them were ably, and no doubt, satisfactorily answered, at the time, by yourself. I have been waiting ever since, hoping that some of your many correspondents would reply; but as none of them has done so, I send you the following answer to the other, and only remaining question, to wit, "*On what principle depends the durability of wood.*"

There are several circumstances and conditions upon which the durability of wood may depend, namely, whether it be subjected only to the influence of dry air, or entirely excluded from the atmosphere by being kept under water; or whether it be exposed to both elements, or in any way, so as to absorb oxygen, whereby slow combustion or oxidation would take place, or some other chemical transformation. Its durability materially depends also, upon the nature and properties of the constituents of the juices in the wood. It is to this last, that the most particular attention will be herein given.

Woody fibre or lignin which constitutes the organic structure and tissues of wood, is the same in all kinds of it, and when pure, is very durable. But, wood, in its ordinary and natural state, is prone to rot and decay, whenever its vital action ceases. This is in consequence of its containing in its juices, certain nitrogenized albumenous substances which run spontaneously into fermentation, putrefaction and decay, when exposed to moisture and an elevated temperature of the atmospheric air. To render wood durable, therefore, it is requisite either to neutralize and destroy the septic properties of those substances by artificial means, or to remove them, and thereby counteract or prevent their contaminating and destructive effects.

In order, therefore, to understand the nature of those substances more clearly,

and the reason why some kinds of wood in the natural state are more lasting than others, and how to retard or prevent their spontaneous decomposition and decay, it is important and necessary to know also what are the component elements of the juices of each kind, and their chemical characteristics and properties.

It is a well ascertained fact, that the sap and cambium which constitute the juices in a tree, are compound substances, composed of many different proximate principles, varying in number, quantity and proportions in each kind of wood, to wit, resin, oil, gum, sugar, starch, &c., none of which contains nitrogen. These are called *non-azotised*, or *non-nitrogenized* substances. Accordingly, they are not of themselves, capable of running spontaneously into the *putrefactive* fermentation, nor of injuring the wood by any of the chemical transformations which they are susceptible of undergoing. But, the sap and cambium contain also three other proximate principles, namely, albumen, gluten or vegetable fibrine, and casein, all of which contain nitrogen as one of their ultimate elements, and consequently, they are the only causes of the spontaneous *putrefactive* fermentation, and ultimately of the decay thereby, of all kinds of wood, as well as of all kinds of animal matter.

These three substances are known by various names, namely, *nitrogenized* substances, *azotised* substances, *albumenous* compounds, and also, by the more comprehensive term *protein*. They are all three identical in properties and composition, whether they belong to the vegetable or animal kingdom, differing only in their external character, as the vegetable albumen in nuts, almonds, and the sap of trees, the gluten or vegetable fibrine in wheat flour, and the vegetable casein in peas and beans, are the same as the white of eggs, the fibrine of blood, and the curd of milk. They contain also, the same organic elements, in exactly the same proportions, and are the basis of all the vegetable and animal tissues. They are also alike susceptible of running spontaneously into the *putrefactive* fermentation, when exposed to the conditions necessary for affecting chemical transformations.

These three protein substances possess certain other characteristic properties that distinguish them from resin, sugar, starch, and all the other non-nitrogenized constituents of the juices of the wood, prominent among which, is that of their being susceptible of coagulation by various chemical agents, which produce antiseptic and preservative effects, by converting them into an insoluble and inert coagulum, incapable of fermentation, putrefaction and decay.

Some one or more of these protein substances are contained in greater or less proportions in all kinds of wood, and when it has lost its vitality, and consequently its power of resisting putrefaction, the fermentative process readily takes place, contaminating the sugar, starch, and all the other constituents of the sap, and ultimately involving the whole woody structure in decomposition and decay when exposed to moisture, and a high temperature of the atmospheric air.

There are many instances showing that certain kinds of wood, such as pine, cedar, chestnut, etc., possess naturally greater durability than others, and that "it does not depend upon the *hardness* of the fiber, or the *closeness* of the texture," as J. R. B. says, nor indeed upon anything else pertaining to their organism; but it is generally owing to the circumstance that the juices in some kinds of wood contain relatively but a small quantity of the protein compounds heretofore described, as compared with the larger proportion of resin, oil, sugar, starch, and other non-nitrogenized constituents, some one or more of which they always contain, and which, by vir-

tue of their excess, and by their predominating and preservative influences over the former, counteract and prevent their putrefaction and destructive tendencies, and thereby preserve the wood from decomposition and decay. Many familiar examples might be cited corroborative of this opinion.

The following are the different methods commonly employed by which the putrefaction, decomposition, and decay of wood are checked and prevented, and thereby rendered durable:

1. By *painting* the surface to prevent the absorption of water and of oxygen, as with a mixture of the oxyde of lead or zinc and oil, or by besmearing it with varnish, pitch, or some resinous compound.

2. By *kiln-drying*, or by *seasoning* in dry air, to evaporate the aqueous portion of the sap, and thereby to render the protein compounds dry, hard, and insoluble, and therefore incapable of undergoing the spontaneous *putrefactive* fermentation and decay.

3. By *soaking in water* to dilute, decompose, and extract the sap, as is frequently done by lumbermen. In ponds where the logs are soaking for that purpose, it is a common occurrence for the surface of the water to be covered with a scum of the extracted sap. *Steaming* the wood is a process also employed for preparing timber for ship building and other uses.

4. By *kyanizing*, (the invention of Kyan.) This method consists in saturating the wood in a solution of corrosive sublimate, (perchloride of mercury.) It is done by soaking the wood, cut into blocks, planks, or boards, for seven or eight hours in a tank of the solution, made in the proportion of one pound of corrosive sublimate to five gallons of water. As the protein substances, both vegetable and animal, possess the characteristic property of being coagulated by this solution, the result of the process is, that when it is absorbed by the wood, and combines with the sap, the protein constituents of it are instantly converted into an insoluble coagulum, that is inert and not susceptible of putrefaction, or any other chemical transformation. The wood is rendered by this process very durable for any purpose.

There are other solutions which are also capable of coagulating the protein substances in the juices of the wood, and are used in the same manner for its preservation, as solutions of the sulphate of zinc, (white vitriol,) sulphate of iron, (copperas,) arsenious acid, etc.

It is upon the analogous principle of coagulating the protein constituents of the blood, that the ingredients used in the modern process of embalming the dead bodies of persons, act anticeptically and retard decomposition. It is effected by injecting into an artery, commonly of the arm, with a force pump, a solution of arsenious acid which permeates through the whole body, and on combining with the blood, instantly converts the albumenous and fibrinous portions of it into an insoluble and inert coagulum, and thereby checks fermentation and retards putrefaction and decay.

The bodies of birds and small animals are preserved in a similar manner for exhibition. Solutions of corrosive sublimate and sulphate of zinc produce the same effects.

John B. McMunn, M. D.

Port Jervis, N. Y., March 15, 1858.

TO REVIVE BLACK LACE.

Steep the lace in porter which has stood long enough to become slightly stale, rub it about in a basin until perfectly soaked, then press out the liquid by squeezing, carefully avoiding wringing, which would tear or fray the lace. After stretching it to its proper width, pin it out to dry. This will be found preferable to the use of gum water for imparting to the lace the requisite degree of stiffening or dressing, and will make it appear as beautiful as when new.

Literary.

THE HEROINES OF ONEIDA.

AN ORIGINAL TALE OF NEW-YORK STATE,

FOUNDED ON FACT.

Some few years before the Revolutionary War, a New-England family, whose zeal for the advancement of the Cross amongst the Indian race predominated over their love of the comforts of life, took up their residence near the confluence of the Sequoit Creek and the Mohawk on the borders of Lake Oneida. The son, a boy of six or seven years of age, and their daughter who was much younger, accompanied them. The former the good people had determined to devote to a missionary life; and the red man's introduction to the knowledge of Christianity, was to become the aim and end of his future labors.

In those times nature, in her sublime grandeur, spread far and wide over the surrounding country her towering forests, tracked only by the foot of the Indians; and the mark of civilization was there yet unknown.

Cautiously at first did the native tribes approach the new settlers; but by degrees their intercourse had become more intimate, and frequent visits of short duration were made to the "white man" by his tawny neighbors.

One summer's evening when Mr. and Mrs. Dean were sitting in front of their log house watching the gambols of their little girl and boy, and resting from the rugged toils which were inseparable from the mode of life they had now entered upon, they observed a party of Indians approaching, who, on arriving at the house, proved to be an old chief with whom they were acquainted, and his wife and family, consisting of two or three grown up sons, and a mulatto woman, that had on former occasions acted as interpreter for them.

The chief was named Han Yerry, and he was known to the Deans as one of the most influential men of the tribe of the Oneidas, to which he belonged.

The courtesies that usually passed upon similar occasions having taken place between them, the old chief addressing Mr. Dean said in an earnest manner:

"Are you my friend?"

"Yes," replied he.

"Do you believe I am your friend?" said the chief.

"Yes, Han Yerry, I believe you are."

"Then," said Han Yerry, "if you are my friend, and you believe I am your friend, I will tell you what I want; and then I shall know whether you speak true words."

"What is it that you want?" said Mr. Dean.

The chief reflected for a few minutes, looking around him as though searching for something, and then pointing to Mr. Dean's little girl, replied,

"My squaw wants to take that pappoose home to stay with us one night, and bring her back to-morrow. If you are my friend you will now show me."

The horror of the parents at this unexpected proposition, can be better conceived than described. The mother in her agony was about to catch up her little darling immediately, and run with her into the house; but Mr. Dean checked her. The tumult of conflicting feelings in his own breast was intense. He knew well that distrust was the ever prevailing feature in the character of the red man; and that unfortunately the treatment he had frequently experienced from the whites gave him too much cause for the existence of it. On the other hand, he knew that from time to time the Indians had shown much gratitude for kindness; and where their word

had been taken, they had usually been remarkable for a strict observance of their plighted faith. His judgment led him to the conclusion, that the proposal had been made to him honestly by the chief as a test of his own sincerity; and he therefore felt a confidence that if he complied with it, the child would be safe. Again he felt that, with the revengeful passions of the savage life, if he refused to place reliance upon the chief's word and aroused his anger, the life not only of his little daughter, but of his wife and the whole family, could, and probably would, pay the forfeit of his adverse decision. For with the red man every one who is not his friend must be his foe.

The agonized mother, whose thoughts on the subject were confined for the time to the simple alternative of keeping or parting with her little prattler, could scarcely believe the evidence of her senses, when she heard Mr. Dean, after a short pause, reply to the chief:

"Han Yerry, you are a father yourself, and therefore you can take my child; for I know that as you are my friend, you will take the same care of her that I would take of yours. But you promise me that to-morrow you will bring her home?"

"I will; and till then I will cherish her in my bosom, and protect her with my life," replied he.

The squaw who had advanced towards the little girl, and engaged her attention by kind endearments, now took her up in her arms, and in a few moments the party were lost in the somber hues of the surrounding forest.

It was long before Mrs. Dean could be convinced by her husband that he had acted wisely or justly towards their poor babe. However, when nature's first relief from intense suffering—a flood of tears—had somewhat restored the serenity of her mind; although still in doubt, she perceived the fearful alternative, the full extent of which had presented itself to her husband, and influenced his decision.

In misery was the coming night past in the log house. The morning dawned, and the first gray tints that herald its approach, met the eyes of the disconsolate mother as she sat at the window looking towards the point, in the wild landscape before her, at which the last glimpse of her dear child had disappeared from her view on the preceding night.

The day advanced, and its bright orb, dispelling the mists that hung around the foliage, had lighted up the forest with its meridian splendor. Still sat the mother at the window, her weary eyes dimmed by tears that she strove in vain to conceal. For well she knew that every pang that wrung her breast had its fellow in that of her beloved husband; and she would not willingly increase the severity of his sufferings by adding to them that testimony of her own.

The shades of night were fast drawing near, and still no sign appeared of the lost child. The father almost repented his own course, and half wished he had resolved on any other alternative—he knew not what—rather than that he had adopted. To attempt to follow or trace the Indians, he was aware would be futile; for independently of the impossibility for his inexperience to find their trail, he well knew that if they had played him false, and intended to steal the child, their swift motions and knowledge of their hunting grounds would enable them to elude his vigilance, even if he came within sight of them. The only thing, therefore, that the wretched parents could do was to watch on still!

The moon had risen and silvered over the limpid stream that murmured onward through its devious course at the foot of the rising ground on which their house was placed, and the hopes of the anxious parents were ebbing fast to the verge of extinction, when figures were dimly discerned in the extreme distance, and in a few minutes the tall form

of the chief and mulatto woman were disclosed to the gladdened eyes of Mr. and Mrs. Dean. On the shoulders of the former sat their little daughter, but so changed in appearance that her identity was at first equivocal. The white man's pappoose had been converted into the red man's pappoose; for its new friends had dressed it entirely in their Indian costume.

"There is your child," said Han Yerry. "Now I know you are my friend; you have shown me now that you trust Han Yerry; from this day we will be one. Never can you want a friend to fight your battles or avenge your wrongs whilst Han Yerry draws breath."

From this time the intercourse between the new settlers and their Indian friends increased; and the latter afforded much valuable assistance to them.

A few years only had elapsed since the stirring events that we have mentioned, when the future of their son required that he should become familiar with the language and habits of the race to whom his labors were to be devoted; and as he had now no misgivings upon the subject, Mr. Dean resolved to send his son, now fifteen years of age, to pass some years with the Oneidas, for the purpose alluded to.

This course having been determined on, Mr. Dean sent for his friend, Han Yerry, and thus addressed him:

"Han Yerry, you put me to the test when our friendship first commenced, and we have now known each other long enough to render any further proofs on either side to be unnecessary. But I am now about to afford you good evidence that my confidence in you does not confine itself merely to a trust in your fidelity, but extends to a reliance on your judgment. You worship the Great Spirit, and you do well; but you know not much of his attributes and goodness that the white man has been made acquainted with. To tell your people that, would make them good and happy; but to do it, the white man must know how to talk in your own tongue. I am too old, and my life is too far run out to do your people good in that way; but my young son here will devote his future life to the purpose. Take him with you for a time, and teach him your way of life. When he has learnt to live as you live, to learn your ways and to talk your language, he will know how, when he grows a man, to counsel you, and to make your people understand the things they do not know. But you must remember that all around him will at present be strange to him; and that as he will have no one but you for his friend, upon you alone will he depend for succor and for comfort. Twice a year bring him home to me, that we may thank you for your care of him, and have together some days of happiness and love. And at some future time will your sons, if not yourself, bless the white man who first taught you to look up aright to that Great Spirit that made both him and you."

Whilst Mr. Dean was speaking the eyes of Han Yerry, fixed upon him, filled with tears, and his whole frame gave indisputable evidence of deep emotion. (For during the past few years of their intercourse he had learnt the white man's tongue.) As soon as he ceased, Han Yerry seized Mr. Dean's hand and raised it to his lips.

"My friend, my friend," said he, "if all white mans were like you, all red mans would love him too. Your son, no more your son alone, but mine too. My squaw shall love him and take him for her son, and he shall be taken by our chiefs into the Oneida tribe. And woe to white man or red that touches my new son's head."

The arrangements for young Dean's departure were soon made, and the well grounded confidence of his parents relieved their minds from any feeling of anxiety beyond that consequent upon their son's separation from them, to commence the walk in life that they had

marked out for him; and which the scenes of forest life with which he had now been for some few years familiar, well fitted him to encounter. Of a sturdy frame of body and of a buoyant and ardent temperament, the lad himself stood quite ready to seek and take part in those adventures which the anecdotes that he had heard, had taught him to be inseparable from Indian life; and he entered upon his travels, therefore, with all the enthusiastic anticipations that a young English nobleman, of the same era in the world's history, started with from London under the surveillance of his tutor to make the "Grand Tour."

Young Dean soon became accustomed to his new mode of life, and was adopted into the tribe as the son of Onata, the wife of Han Yerry, to whom as well as to her husband he soon became attached, from the care and anxiety which they uniformly manifested towards him. Open hearted and sprightly he quickly made friends of the younger members of the tribe, and partook alike of their amusements and toils. The latter consisting principally of hunting and preparing the skins of the animals that rewarded their rude sportsmanship.

Amongst the young men of the tribe the son of the head chief, whose name was Omi, had especially attracted James Dean's attention by his proficiency in field sports, and the success and tact that marked his career as a hunter. He was some half dozen years beyond young Dean in age, with an athletic, well developed frame. Omi had no idea, however, that a batchelor's life was essential to his notions of forest freedom; on the contrary he had long cast a wistful eye upon a young maid of the tribe. The beautiful Howaia was a maiden of his own age, and formed in a mould that Venus might have lent to celebrate her birth.

It was now some four years since young Dean had joined the Oneidas, and he had become so much one of them, that they would willingly have kept him amongst them altogether. But the time was approaching when he had arranged with his father upon the last occasion of his temporary visit to him, that he should take leave of Indian life, and return home to prepare himself by a course of study at Dartmouth College for the future duties of a missionary.

The tribe was then on their journey from a distant hunting excursion to the neighborhood of his father's settlement, and he was anticipating the pleasure in another month to enjoy that flood of happiness which, be it regal or humble, is the blessed attribute of "home."

Strolling one afternoon over an open glade in the forest, from the interior of which the view was excluded by a dense thicket of underwood, he heard the piercing shrieks of a female voice quickly reiterated in strains of poignant grief.

Dashing through the thicket into the forest in the direction from which the sounds issued, he at once perceived their cause. At a distance of a few yards from which he stood was his friend Omi struggling in the embrace of a huge bear, and a little way off stood the lady-love Howala wringing her hands in helpless misery, and screaming at the top of her voice.

Young Dean was unarmed, and had no weapon save his knife. Hastening to the scene of contention, he plunged the knife into the beast aiming at his heart, but it struck against a bone. The wound produced pain enough, however, to induce the animal to let go his grasp on Omi, and turn upon his new assailant. The injuries that the bear inflicted upon Omi wholly incapacitated him from continuing the contest, and the whole rage of the infuriated animal was now, therefore, concentrated upon Dean. The fight was sharp and close; Dean was active, and contrived to avoid the embrace which his adversary vainly tried to fix upon him, and plying his knife nimbly, he inflicted numberless wounds,

without being able to strike in a vital part. It must not be assumed, nevertheless, that the laurels were all on his side. Bruin used his claws as efficiently as Dean did his knife. Dean felt that his exertions, added to weakness from loss of blood, rendered it impossible for him much longer to continue the unequal contest; and he knew that unless he could strike the heart, there was no means in his power to put an end to it. Summoning, therefore, for the effort, all his remaining strength, he rushed into the extended arms of the bear, driving his knife before him into the animal. Fortunately he was this time successful; but his victory was gained at the bare preservation of his life, for at the same instant that he delivered the fatal blow, the bear, in its attempt to hug him, had also fixed her huge jaws into Dean's left shoulder, and inflicted a wound of fearful character. They both fell together; and although released by the death of the animal from a grasp which had only been half clinched, Dean remained faint and senseless on the ground.

Omi laid helpless beside him; but as soon as Howala was relieved by the death of Bruin from fear about her lover, she ran off with the swiftness of an arrow for help; and a few minutes sufficed to bring her relations to the spot.

The wounded men were immediately removed with all the care their primitive means afforded, and became objects of the unremitted anxiety and solicitude of the whole tribe. Han Yerry and his squaw watched over young Dean day and night; and the mother of Omi, informed by her intended daughter in-law that nothing could have saved the life of Omi had not Dean released him from the bear, divided her care between her son and young Dean.

The lacerated nature of the wound on the shoulder rendered it doubtful for some time whether permanent injury to the arm would not result. Too far buried in the forest to obtain medical aid beyond that of his adopted tribe, young Dean lay many weeks a cripple; but with youth and a hardy constitution in his favor, nature prevailed at last, and rewarded the assiduous attentions of his nurses with success. The wounds which they had bound up gradually healed; and except from the presence of seams here and there on his limbs, which remained as permanent memorials of his prowess, he at length was enabled to resume his journey homeward, which these events had thus unexpectedly delayed.

The powers of endurance and the resolution that the bear fight had so prominently called into action, were not thrown away upon a race, in whose estimation courage and physical energy are among the first steps to pre-eminence. The elder chiefs now were loud in Dean's praise, and profuse in their professions of friendship; and it was determined to reward the white man that had thus saved one of their number at the expense of so much danger and suffering, with a memorial of their regard and esteem. For this purpose they held a solemn council, in which it was resolved to make him a present of a tract of land, in such locality as he should select, when he was of an age to determine upon his future fortunes.

The longed-for hour at length arrived that restored James Dean to his father's home, but which was to separate him from forest life and forest friends. Han Yerry and his wife were deeply moved when the time for separation came, and Howala and Omi's mother were little less willing to part with him. His young friend Omi, however, consoled them all with the assurance that neither space nor force should long separate him from the preserver of his life—an assurance which young Dean knew his character well enough to place implicit reliance upon.

The next few years of his life were spent by young Dean at Dartmouth College, shortly after which he had the mis-

fortune to lose his parents, who quickly followed each other to the tomb; solaced, nevertheless, by the reflection that they had lived to see their son grown up to manhood, and well provided with friends amongst those to whose benefit they had designed his future labors should be devoted.

Circumstances, imperious in their character and uncontrollable in their nature, soon occurred which completely changed the current of James Dean's after life.

(TO BE CONTINUED.]

THE MECHANIC.

A YOUNG man commenced visiting a young woman, and appeared to be well received. One evening he called at the house when it was quite late, which led the girl to inquire where he had been. "I had to work late to-night," he replied. "Do you work for a living?" inquired the astonished girl. "Certainly," replied the young man, "I am a mechanic." "My brother doesn't work," she remarked, "and I dislike the name of a mechanic," and she turned up her pretty nose.

This was the last time the mechanic visited the young woman. He is now a wealthy man, and has one of the best of women for his wife. The young woman who disliked the name of a mechanic is now the wife of a miserable tool—a regular vagrant about grog-shops—and she, poor and miserable girl, is obliged to take in washing in order to support herself and children.

Ye who dislike the name of a mechanic—whose brothers do nothing but loaf and dress—beware how you treat young men who work for a living. Far better discard the well-fed pauper, with all his rings, jewelry, brazen-facedness and pomposity, and take to your affections the callous-handed, intelligent and industrious mechanic. Thousands have bitterly regretted their folly, who have turned their backs on industry. A few years of bitter experience taught them a severe lesson. In this country, no man or woman in health should be respected, in our way of thinking, who will not work bodily or mentally, and who curl their lips with scorn when introduced to hard working men.—*Ex.*

THE FARMER.

HERE is another. It came within our own knowledge—is true to the letter.

Jemima Drake was a beautiful girl. Her father was a farmer. His wife was a farmer's wife and a good one too—loved her husband, was faithful to her family, had but one fault, and strange was it that she had that one, but it was so;—she always felt that it would have been a little better to have had a husband, as good every way as hers, who had some other employment; and she cherished a hope, seldom uttered, that her daughters would marry well, but would not marry farmers.

Jemima was twenty, with all the glories of young, blushing, just developed womanhood upon her. There were corn-shuckings, quiltings, apple parings, and all such pleasant things in the neighborhood. The *young* folks saw each other at church, and sometimes met between Sundays. James Darlington loved Jemima. John Davenport and Joseph Clark loved her. Jemima loved James, and could have loved John and Joseph just as well as not. She was a girl to love and to be loved. Any young man would have been a heartless fellow not to have loved her, and any girl, not to love James Darlington, would have shown a lack of appreciation for the good and the true hearted.

Between these last two there would have been a solid, bona fide engagement but for the advent in that quiet neighborhood of Mr. Silk Ribbon, from New-York. He talked large, told of brisk business, and rejoiced in princely prospects. Jemima, partly with the hope of a big house up-town, and more to please her mother, delayed to make engagements with James, and in less than a year married the New-York merchant—that was to be.

We must hasten to the end, for we hate a long story. Mr. Silk Ribbon has made money, and lost it; has been up and down in the world, and is just now

down low enough. Twenty years of city life have added nothing to Jemima's charms. Her life has been one of comparative ease, but of incessant agitation by elating hopes and depressing fears; and now at the age of forty she has no very flattering prospects.

James Darlington mourned, as who would not, that she should prefer another. But there was Kate Grimes at the next house. She was plain, modest, good, a true-hearted girl, of eighteen. Her mother was forty, and was handsome. Who could tell but Kate would be like her when she should have borne the cares of womanhood a few years. James Darlington was quite willing to take the risk.

He soothed his sorrows for the loss of his first love, and took the second. He is not rich. You do not hear him talk of millions. But he has provided admirably for the comfort and the education of a family as large as a small flock. He has been prosperous in what the Silk Ribbons would call a small way; but it has been large enough to insure solid happiness; and to-day Kate Darlington, among the host of promising boys and girls that are grown and growing up in the farm-house, looks ten years younger and a great deal happier than Jemima Ribbon; and she has not a single fear, when her husband goes out, that he will encounter a dissatisfied creditor.

Miscellaneous.

THE WEATHER.

APPEARANCE OF BIRDS, FLOWERS, ETC., IN NICHOLS, TIOGA CO., N. Y., IN FEBRUARY, 1858.
By R. Howell.

Feb.	7 A.M.	2 P.M.	9 P.M.			REMARKS.
1	4	34	28	East.	Cloudy.	Snow commenced at 5 P. M., and turned to rain.
2	34	41	35	S.& N.	"	Light rain at intervals all day.
3	34	36	28	West	Fair.	
4	24	30	20	N. W.	"	
5	13	26	19	"	"	
6	20	29	27	N.& S.	"	
7	37	37	30	S.& W.	Cloudy.	
8	26	27	14	North	"	Snow squalls.
9	23	38	37	S. E.	"	Snow squalls.
10	29	26	12	West.	"	Snow squalls.
11	3	12	-2	"	Fair.	Light snow squalls.
12	10	25	6	S.& W.	"	Crossing on the ice on the Susquehanna River at Fonda.
13	1	22	17	S.& N.	Cloudy.	Snow commenced in the evening about 7 o'clock.
14	15	26	24	"	"	Snow at intervals all day.
15	16	20	2	N. W.	"	Snow squalls all the forenoon.
16	20	20	7	"	"	Snow squalls in the forenoon.
17	4	12	-3	"	"	
18	7	18	1	"	"	Lunar halo at 7 o'clock, P. M.
19	4	12	17	"	"	Snow commenced about 11½ A. M., and continued all P. M. from N. W.
20	15	30	21	"	"	Snow continued from yesterday.
21	12	38	27	S. E.	"	A few flakes of snow in the evening.
22	15	22	14	N. W.	"	Susquehanna River frozen so as to cross with teams a number of places.
23	10	22	-3	North	Fair.	
24	-13	31	22	S. E.	"	
25	20	37	28	S. W.	Cloudy.	A few flakes of snow in P. M.
26	22	36	14	"	Fair.	
27	18	49	38	S. E.	"	
28	38	50	34	S.E.&S	Cloudy.	Light rain commenced at 5 P. M.

METEOROLOGICAL.

CHAPMAN'S PRECALCULATIONS.

FIRST DEPARTMENT.

EXPLANATORY.

THE TERM POSITIVE is here given to conditions abounding *more* with *vital electricity*, inspiring *more* health, vigor, cheerfulness, and *better* feelings for business intercourse, etc., and consequently *greater success, enjoyment*, etc.

THE TERM NEGATIVE is given to those conditions which *abound less* with electricity, and consequently *are more unfavorable* to health, feelings, business, social intercourse, etc.

¶ Indicates Sundays.

FOURTH MONTH, (April,) 1858.

Tendency.	*Time o'clock*
1st,	Negative, from 1 morn to 12 noon.
	Positive, from 1 to 12 eve.
2d,	Mixed, from 1 morn to 2 eve.
	Negative, from 2 to 12 eve.
3d,	Positive, from 1 morn to 12 eve.
4th,	¶ Positive, from 1 morn to 12 eve.
5th,	Negative, from 3 morn to 12 eve.
6th,	Negative, from 1 to 9 morn.
	Positive, from 10 morn to 1 eve.
	Negative, from 2 to 12 eve.
7th,	Negative, from 6 morn to 2 eve.
	Positive, from 3 to 12 eve.
8th,	Positive, from 1 morn to 12 eve.
9th,	Positive, from 1 to 6 morn.
	Negative, from 7 morn to 3 eve.
	Positive, from 4 to 9 eve.
10th,	Mixed, from 1 to 11 morn.
	Positive, from 12 noon to 12 eve.
11th,	¶ Mixed, from 1 morn to 6 eve.
	Positive, from 7 to 12 eve.
12th,	Negative, from 6 morn to 12 eve.
13th,	Negative, from 1 morn to 6 eve.
	Positive, from 7 to 12 eve.
14th,	Positive, from 1 morn to 12 eve.
15th,	Positive, from 1 morn to 12 eve.
16th,	Negative, from 1 morn to 12 eve.
17th,	Negative, from 1 morn to 12 eve.
18th,	¶ Negative, from 4 morn to 5 eve.
	Positive, from 6 to 12 eve.
19th,	Mixed, from 3 to 7 morn.
	Positive, from 8 morn to 12 eve.
20th,	Negative, from 1 to 9 morn.
	Positive, from 10 morn to 12 eve.
21st,	Negative, from 3 morn to 12 eve.
22d,	Positive, from 1 to 7 morn.
	Negative, from 8 morn to 5 eve.
	Positive, from 6 to 12 morn.
23d,	Positive, from 1 morn to 12 eve.
24th,	Mixed, from 1 to 10 morn.
	Positive, from 11 morn to 12 eve.
25th,	Positive, from 1 morn to 12 noon.
	Mixed, from 1 to 12 eve.
26th,	Positive, from 1 morn to 4 eve.
	Mixed, from 4 to 12 eve.
27th,	Negative, from 7 morn to 10 eve.
28th,	Positive, from 1 morn to 12 eve.
29th,	Negative, from 4 morn to 3 eve.
	Positive from 4 to 12 eve.
30th,	Positive, from 1 to 6 morn.
	Mixed, from 7 morn to 12 eve.

SECOND DEPARTMENT.

The changes are four minutes *earlier* for each degree of longitude (60 miles) west. Difference of latitude in the same meridian is immaterial. The dry conditions are fair, and the damp conditions cloudy or wet, at least three or four times out of five in the average. When fair, the damp conditions diffuse a cool, damp sensation through the atmosphere.

Blanks indicate very weak, or mixed, or uncertain conditions.

¶ Indicates Sundays.

FOURTH MONTH, (April,) 1858.

Time o'clock.	*Ray-angle.*	*Tendency.*
1st,	At 10 morn R" warm, dry.	
	At 11 morn YV' cool, damp.	
	At 12 noon Y' warm.	
	At 6 eve I,, cool, damp.	
	At 10 eve . ——	
2d,	At 5 morn V" cool, damp.	
	At 6 morn GB- windy.	
	At 7 morn Y' warm.	
	At 2 eve O- ——	
	At 3 eve BI" cool, damp, windy.	
	At 12 eve GI" cool, damp.	
3d,	At 1 eve .. wind stirring.	
	At 3 eve Y,, warm, dry.	
	At 6 eve I, cool.	
4th,	¶ At 8 morn .. warm.	
	At 10 morn · ——	
	At 11 morn G,, warm, dry.	
5th,	At 3 morn V, cool.	
	At 7 morn R' warm.	
	At 12 eve V' cool, damp.	
6th,	At 9 morn Y" warm, dry.	
	At 1 eve R,, warm.	
	At 7 eve I" cool, damp.	
7th,	At one morn YO' damp, windy.	
	At 5 morn G" warm, dry.	
	At 6 morn V,, cool, damp.	
	At 2 eve B" wind stirring.	
	At 4 eve O.. ——	
	At 11 eve Y, warm, dry.	
8th,	At 3 eve O,	
	At 8 eve G, warm, dry.	
	At 12 eve Y,, warm, dry.	
9th,	At 6 morn B, wind stirring.	

At 3 eve V,, cool, damp.
At 9 eve G,, warm, dry.
10th, At 6 morn Y' warm.
At 8 morn B,, wind stirring.
At 10 morn R, warm, dry.
At 11 morn I' cool, damp.
At 12 eve V, cool.
11th, ¶ At 8 morn R,, warm, dry.
At 12 noon I,, cool, damp.
At 6 eve YI" cool, damp, windy.
At 9 eve V,, cool.
12th, At 6 morn O,, damp.
At 11 morn R' warm.
13th, At 8 eve I" cool, damp.
At 6 eve Y- warm.
At 10 eve O, damp.
14th, At 2 eve G- warm, dry.
At 9 eve I, cool.
15th, At 3 morn B- wind stirring.
At 2 eve R- warm, dry.
At 4 eve I,, cool, damp.
16th, At 1 morn V- cool.
At 9 morn O" ——
At 8 eve " warm.
17th, At 10 eve G' warm.
18th, ¶ At 3 morn Y,, warm, dry.
At 5 eve R' warm.
19th, At 2 morn G,, warm, dry.
At 7 morn O' ——
At 6 eve R,, warm, dry.
At 8 eve I- cool, damp.
At 12 eve G, warm, dry.
At 7 morn, end of the zodiacal period, or natural month.
20th, At 9 morn Y" warm, dry.
At 12 noon O,, ——
At 5 eve R, warm.
21st, At 2 morn V, cool.
At 10 morn G" warm, dry.
At 12 eve R' warm.
22d, At 7 morn RI,, cool.
At 10 morn V" cool, damp.
At 5 eve O" ——
At 7 eve Y,, warm, dry.
23d, At 1 morn BI,, cool, damp, windy.
At 11 morn BR- warm, windy.
At 10 eve G,, warm, dry.
24th, At 7 morn I,, cool, damp.
At 8 morn R,, warm, dry.
At 10 morn · ——
At 6 eve V,, cool, damp.
At 7 eve Y, warm, dry.
At 11 eve O,, ——
25th, ¶ At 12 noon .. wind stirring.
At 10 eve V' cool.
At 11 eve G, warm.
26th, At 6 morn R, warm.
At 4 eve V, cool.
At 5 eve I" cool, damp.
27th, At 7 morn . ——
At 10 eve Y" warm, dry.
28th, At 2 morn GI,, cool, damp.
29th, At 3 morn GR- warm.
At 4 morn I,, cool.
At 6 morn R" warm.
At 7 morn B" windy.
At 11 morn " warm.
At 3 eve V" cool, damp.
At 7 eve O- ——
30th, At 5 morn RV,, cool, windy.
At 6 morn GB- windy.
At 10 morn I' cool, damp.

GENERAL REMARKS.

Cool Periods, longer and more prominent, are more liable near the 1st, 11th.

Greater tendency to windy, cloudy or stormy periods, or gusts, near the 1st or 2d, 7th, 11th, 23d.

Periods more prominently negative near the 1st, 2d, 7th to 11th.

Periods of greater electrical deficiency, 1st to 20th.

The natural zodiacal tendency to dry during the month is liable to be much superceded by the nature of the combined currents, intercepted, so much so, perhaps, as to give a more than usual tendency to damp.

GENERAL BEARINGS.

The prevailing electrical tendency from the 1st to the 20th is *negative*, bearing *less favorably* upon health, business and social feelings. I fear not only unusual prevalence of sickness and of spreading disease in epidemic forms, but from the *unusual* deficiency in electrical supplies from the 3d to the 20th, I judge that the cholera will be developed to a greater or less extent in some places during some part of that interval, if the peculiar tendencies of the spring season do not counteract. The bearing of the last week of April is more positive.

I judge that the progress of vegetation will be slow during that interval, and fear that *that* which is more early will receive a check from the cool change indicated near the 11th inst.

COINCIDENCES.

From Feb. 1st to 28th.—Since the 1st of January, I replied to many inquiries that the natural causes which usually produce the coldest weather in winter would operate *near the 14th of February*, which was the date given in the above interval. The coincidence with this date, and with the indications given on the 9th eve, 14th morn, and 16th eve fully corroborate the precalculation. The cool change on the 26th, eve, was slight.

Editor's Table.

AMERICAN INSTITUTE FARMERS' CLUB.

At a meeting held at the Society's rooms in Broadway, March 16th, President Pell in the chair, several important and interesting papers were read by Secretary Meigs.

One was on *Steam Cultivators*, from which it appears that the Royal Agricultural Society of England have, after a trial by four competitors, recently awarded their premium of 500 sovereigns ($2,500) to Mr. Fowler's machine, though not as perfect as they could have desired. (Yankee ingenuity will yet do what British genius has not accomplished—make steam plowing cheaper than plowing by animal power.—Ed.) Judge Meigs expressed the belief that steam plowing will succeed on large, unbroken extents of arable land. (Most assuredly it will, but nowhere else.—Ed.) He said, "we can not be successful farmers if we discard the working ox. We can never dispense with oxen and cows."

A discussion took place in the progress of the meeting on the Long Island lands, particularly the central regions, embracing from one to two hundred thousand acres, known in common parlance, though wrongfully, as *the barrens*. These lands are wholly uncultivated. Various opinions were expressed concerning them. We find ourself represented in some of the daily papers as having said that "these lands would not pay for cultivation except on the old skinning process of surface tillage." We warn our readers that we said no such thing, and we hope the reporter, who represented us as saying it, will hit nearer the truth next time. What we did say was, that to subdue these lands, to bring them to a high state of productiveness, to erect buildings and make fences, where there is no timber but stunted pines and scrub oaks, to procure water, where none exists but far below the surface, and to create an inviting homestead, would require capital; that it would be a good employment of capital, and would pay well in the end; but that the poor man could not undertake it, because he could not get a sufficiently speedy return for his labor. This we said, and nothing more, and this we are willing to stand by.

Solon Robinson, Esq., of the New-York *Tribune*, read an exquisitely amusing and a really instructive paper on the *grindstone*, as an index to agricultural progress and of advancing civilization. Our readers will have seen it in the *Tribune* before this reaches them, or we would publish it entire, that they might have before them a short way of ascertaining whether a man is progressing or retrograding in the world, viz., to look at his grindstone, for if that is right, everything else is, and the man is going ahead. (Wonder if anybody has lately made a large importation of the article.)

Dr. Wellington read a long and exceedingly valuable paper on Agricultural Education, the substance of which will be found in many of the daily, and we presume of the weekly papers.

Hedges and Evergreens; A complete manual for the cultivation, pruning, and management of all plants suitable to American Hedging, especially the Maclura or Osage Orange; Fully illustrated with engravings of plants, implements, and processes; To which is added a treatise on Evergreens, their different varieties, their propagation, transplanting, and culture in the United States. By John A. Warder, Editor of the *Western Horticultural Review*, President of the Cincinnati Horticultural Society, etc. New-York: A. O. Moore, Agricultural Book Publisher, 140 Fulton street. 1858.

In his Preface, the writer of this book says: "The subject is one of immense importance to the future of this country,

inasmuch as it is an efficient aim of the great agricultural interest. The people of these United States have settled the question of distinct inclosures, whether wisely or unwisely, in the affirmative. Fences of some kind being one of the recognized institutions of the country, and the majority of our best farms being destitute of rock for walls, and being rapidly divested of timber for wooden fences, foreign materials, whether of boards or iron, present themselves as candidates for public favor; and I here beg to offer that agreeable alternative—the useful, the economical, the practical, and at the same time, ornamental, Live Fence or Hedge."

We fully agree with Mr. Warder in the importance of his subject, and as we believe he has treated it with ability and fairness, we commend his work to all wishing to be informed, with regard to the increasingly interesting and important subject of live fences, as a substitute for others, for which materials are already becoming scarce. If the same or a little more ground than is required for other fences to stand upon, or as too often happens, to lie down upon, can be made to grow a live fence perpetually, it is worth considering.

Fifth Report of the Children's Aid Society; New-York, 1858. John L. Mason, Esq., is President of this society; J. E. Williams, Esq., Treasurer; and C. L. Brace, Secretary. It would appear from this interesting and able report, as well as from facts that have come to our knowledge from other sources, that the Children's Aid Society is doing, and doing efficiently and economically, a great and good work, in alleviating distress, in preventing crime, and in promoting industry. We believe that Secretary Brace and his coadjutors are eminently worthy of the public confidence. May God and man speed their work.

Belding's North Western Review, Vol. 1, No. 9, is on our table. This is a good number, and we see it contains a valuable agricultural department. It is published at Keokuk, Lee Co., Iowa. Success to it. Its editor shows the right spirit in the matter of agricultural improvements, and we wish he may go ahead and prosper. Farmers of Lee county, sustain your own paper first, and then we will send you ours, if you want another; but we never yet asked a farmer to neglect his own State paper and take ours, and we never will.

The Farmer and Planter, Vol. 9, No. 3, is an excellent number, as all the numbers of that work are. To the S. C. planters, we cheerfully admit that their own editor can tell them many things about southern agriculture better than we, and we say to them the same as to Iowa farmers above—support your own journal first, and then ours if you can afford it.

Monthly Bulletin of the United States Agricultural Society, Washington, Vol. 1, No. 1. This is a neat work of 8 pages, 8vo., and the present number contains an interesting, and we have no doubt, a far more correct report of the late proceedings of the U. S. Ag. Soc., than usually gets into the daily papers. Such a journal, whether to be issued occasionally or statedly, will not fail to be useful.

The Repository; Devoted to the cause of Truth, Virtue, and General Intelligence. Vol. 1., No. 1.; New-London, Conn.; by W. H. Starr & Co. This is a small sheet, but bright and readable, and filled with valuable matter; to be issued weekly at $1 a year.

A VALUED correspondent, who commends our work more highly than we should dare, criticises us on one point in this wise: "What have such narrations as the 'Hermitess of South Salem' to do with agriculture?" Ah! friend, not much, we confess. But then, after giving forty pages of agriculture and horticulture, we must have a little change for variety's sake; and a well written tale, founded on facts, and illus-

trating the early history of the country, and bringing us into communion with our forefathers, will please the boys and girls—will do them good—will benefit us all. Just look at it in that light and be liberal. That you will, friend, we have not one doubt, for we see that you are inclined to be generous.

R. H., on the corn crop, and the varieties for different localities, shall appear in our next.

W. H. G., on *The Culture of the Mind*, (a good subject, and well treated in a short space,) shall also appear in our next.

To T. T. T.—You ask us to "give the best, most simple, and sure way for farmers to make their own superphosphate of lime." We can not in this number. Will endeavor to do so soon.

To D. L.—Is the money expended in the importation of seeds, by the Patent Office Agricultural Department, misapplied? We fear it is, much of it; and yet we feel that the gentleman who presides over that department, has a difficult task to perform. The trial of new plants for our climate is undoubtedly important; and we rejoice that something is being done by Congress to aid in the necessary experiments; but could wish that the business could be so managed through the Patent Office as to encourage and not to discourage home industry. More we are not prepared to say at present.

To the Press.—We are about to correct our exchange list, and to reduce it somewhat. In doing so, it is more than possible that we shall cut off some who are fully entitled to our magazine. Should any find themselves dropped, to whom we owe the work, by any former contract, either expressed or implied, we beg they will inform us at once, as we will shrink from no real obligation, while at the same time we wish to diminish that class of exchanges which is merely a matter of courtesy, with little benefit to us and perhaps none to the other party, owing to the diversity of objects pursued by the journals exchanged.

What's there? On having occasion to cross Park Square, hard by our office, since writing our last item, we were surprised to observe about thirty big sheep standing and lying at ease, chewing the cud, and seeming wholly untroubled as to the object which may have brought them to town. On inquiry we learned that they are the property of Samuel and John Ferran & Co., and were here for exhibition to the passers-by, perhaps to sharpen public appetite for mutton chops and the like. They were grown by Mr. Hugh, of or near Clinton, N. J. Their live weight, we were told, averages 250 lbs. Four are a cross of the Bakewell on the Merino. These were as large as any others. The rest were Bakewells. The wool of the four cross breeds is of a fair quality, that of the others long and coarse. The average of the fleeces can not be much less than 10 lbs. Our reflection is, that sheep of from 200 to 300 lbs. weight, with wool fine enough, in some cases, to make our bed blankets of, and from that to the quality fit for our coats, ought to be more common among us than they are. No meat is healthier. Some, at least, are fond of it, Many like it for a change. The growing of it is not very expensive, and, with a moderate return for the wool, could hardly fail to pay, and yet a good-sized, well-fattened sheep is rather a marvel in this good city of New-York.

An Old Subscriber, who sends us two new names, with the money, one of them the name of his pastor, to whom he gives the work as a token of good will, says:

"I wish I could do more to circulate your magazine. I am well acquainted with several of our best agricultural publications, and I *know* that yours is *second* to no other. It only needs to be known to procure for itself a wide circulation. It has greatly improved since

it came into your hands. I like the discrimination you exercise when giving advice to farmers. The article on deep plowing illustrates my meaning. That article respecting the cleanliness and ventilation of cellars would save much sickness if heeded as it ought to be. The Cattle of New-England is a very valuable essay. Is not the weight given on page 144 too large for *any cattle* raised in New-England or elsewhere?"

Answer.—Few men who write with spirit and force enough to be read, fail of making some rather extravagant statements; and the New-England Cattle man certainly deserves much credit for his research. Few, if any, could have furnished the valuable historical matter that he has, and the view he has taken of the origin and crossing of the cattle of this country by early importation is one of great interest. The men that came to this country were not the worst in Old England; and our friend thinks the cattle were the best, and are still. Our pages are open for temperate articles on the other side, and for more on this. Our own article on breeds of cattle must be again deferred, as we do not like to have too much of one thing in the same number.

Of course our readers can do as they like about believing the story in this number, from some down-east paper, of the 5,800 lb. bull in Maine. To us it sounds amazingly large, and we should think it might be set down for a whopper.

We invite attention to the advertisement of J. A. Wagner. We have not seen his harvester in operation, but it appears like a very perfect machine, and we should think that it would work well. A sample is to be seen at the Globe Iron Works in this city. Many who have seen it have, to our knowledge, expressed the highest confidence in its success; and we understand that it has a diploma and two medals at different exhibitions of the American Institute, also a diploma and a medal from the committee of the World's Fair in New-York, and higher testimonials than were given to any competing machine.

The *Granada* (Miss.) *Republican*, we see, has enlarged its Agricultural department, under the head of "Rural Gentleman." Its motto is "Too much study can not be bestowed upon agriculture"—a good one, and the spirit is well be carried out.

In speaking of *Baker's Rotary Planing Machine*, in a former number, we said that the price was from $25 to $7.50, according to size. This is beyond question a valuable machine, and it seems to us very cheap, but we did not mean to say that it could be had for $7.50. A comma did the mischief in part, and a 0 in part. It should have been $25 to $75.—Ed.

NEW-YORK LIVE STOCK MARKET, ETC.

WEEK ENDING MARCH 16, 1858.

Average number of *beef cattle* received weekly, 3,143. Number received last week, 2,572. Number this week, 2,100, or 1,043 less than the general average.

Prices from 10¼c. for premium cattle, to 6½ for poorest quality. General selling prices from 8c. to 9½c. Average of all sales from 8¼ to 8½c., nearly half a cent less than last week.

Of Milch Cows with Calves, not a large number was received. Sales of poor from $25 to $30; of good, from $30 to $40, of extra, of which there were but few, from $40 to $50.

Calves weighing 100 lbs. net sold as low as $3. Some that were uncommonly fine, sold as high as 7c. per lb. Market bad.

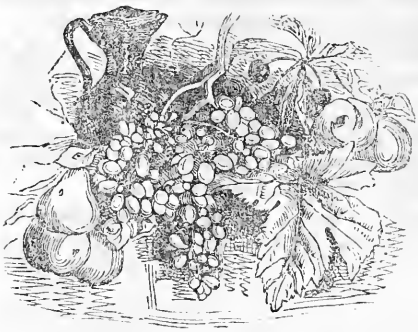
The demand for live sheep was very limited. Carcases and hind saddles arrived in large quantities from Albany and Philadelphia, the former selling at 7c. the lb. Sheep brought to this market usually dress just about half the live weight. Those that are fat and small boned give as high as 55 lbs. to the 100, and in rare cases 60 lbs.

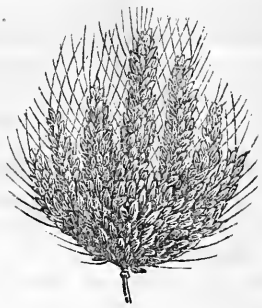
Swine.—Arrivals large, markets abundantly supplied. Prices from 5½c. net, for the poorest, to 7½c. for the best.

Potatoes, according to quality, from $2.50 to $5 per bbl.; Onions, $1.75 to $2.50; Beets, $1.75 to $2; Carrots, $2 to $2.25; Parsnips, $1.50 to $1.75; Cranberries, $11 to $14; Apples, $3 to 5; Turnips, 62c. to 75c.

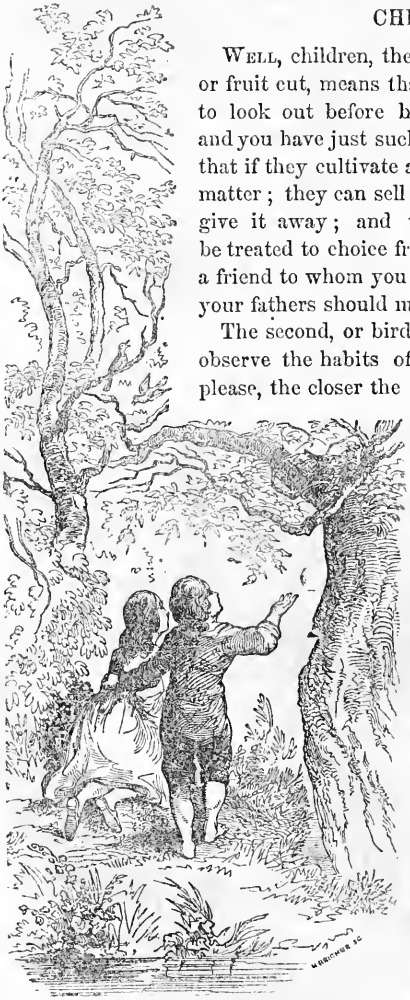
Tobacco, demand rather improving. Kentucky and Maysville, per lb., 8½ to 14c.; Florida, 15c. to 25c.

Cotton on the rise.





CHILDREN'S CORNER.



Well, children, these little cuts have a meaning. The first, or fruit cut, means that now is the time to tease your papas to look out before hand, and see that they and your mamas and you have just such fruits in the fall, and you may tell them that if they cultivate a little more than is wanted at home, no matter; they can sell it, in all probabilily, and if not they can give it away; and there are always enough who like to be treated to choice fruits; nd then, haven't every one of you a friend to whom you would like to make a present of fruit, if your fathers should make a mistake, and raise too much?

The second, or bird-nesting cut, signifies that children may observe the habits of birds and insects as closely as they please, the closer the better, for there is a great deal to be l arned from animate nature, but that they should not wrong the birds by breaking up their nests. If your parents approve you may take a single egg of each kind of bird, and blow it, and then varnish the shell and keep it in your cabinet, though we should rather you would not take even one. But of all things do not destroy the nest. It is too bad. We have seen pretty good boys do it sometimes, but it was only because they had not been properly instructed. A boy who would break up a bird's nest, after his mind had been led to think of it as he should by the teachings of a kind-hearted father or mother, or teacher, we should be afraid, would do worse things when he grows up. We hope our boy and girl readers will never be cruel to any living thing. There is a meaning also in these two cuts coming together. They signify that if you destroy the birds, the insects will destroy the fruit. There is not the least doubt

but that God designed that the birds should live on insects, and by devouring them in great numbers, they prevent their increasing to such an extent as to destroy the fruits.

The third cut represents Egyptian wheat, spoken of as corn in the Bible. If you will turn to the place where the fat and lean kine are spoken of, you will find something said about seven ears growing on one stalk. It was not Indian corn, but just such wheat as you see above. Wheat in England is called corn, and the great Exchange in London, in Mark Lane, where immense quantities of wheat are bought and sold, is called the Corn Exchange. If it rains in that country when the wheat is ripe for harvesting, you will hear the farmers say, "This will be bad for the corn." To an American there it sounds oddly enough, as he knows that the climate in that country is too cool and damp to raise the least of what we call corn.

If any one of the children will send us a description of the *bread fruit*, what climate it grows in, its use as food, whether to be cooked, if so how, &c., we will illustrate the bread fruit in our next by an engraving, showing it as it appears when growing on the tree.

By the way, we should like it, if the children would, once in a while, review the lessons we gave them in back numbers, say in October, November and December last.

Those compositions that we spoke of once, send them on; we will read them with real pleasure, and if any one is first rate we will publish it in the children's corner.

BUSINESS DIRECTORY, TERMS, ETC.

THE AMERICAN FARMERS' MAGAZINE is the result of an earnest desire, on the part of its Editor, to furnish a journal of AGRICULTURE, AND OTHER BRANCHES OF RURAL ECONOMY, of an elevated character, national in its spirit, entertaining, *instructive*, and reliable, at a price somewhat lower than the wealthy and liberal farmer would demand, and such as to bring it fairly within the means of all intelligent family circles.

Its success hitherto confirms our belief that it is what the farmers of this country want, and encourages us to renewed efforts to extend its circulation. The price is $2 a year to single subscribers; $1.50 to clubs of from four to nine; **$1.25 to clubs of from ten to twenty; AND $1 TO CLUBS OF TWENTY AND UPWARDS.**

Clergymen, of all denominations, who cultivate a piece of land, and post-masters, who are also farmers, and desire the work for themselves, are invited to order this work at the lowest club price, $1, payment as in all other cases to be in advance.

Individuals so situated that they can not well club with others, yet desiring to economize, shall receive the work seven months for $1; fifteen months for 2; and two years for $3.

Any person is hereby authorized to become an agent for the work on the following conditions;—he may receive subscriptions at the foregoing rates; send us $1, current money, for each subscriber, with the name and post-office address plainly written, reserving the balance as compensation; and on receipt of the same, we will send the work one year, addressed to each subscriber.

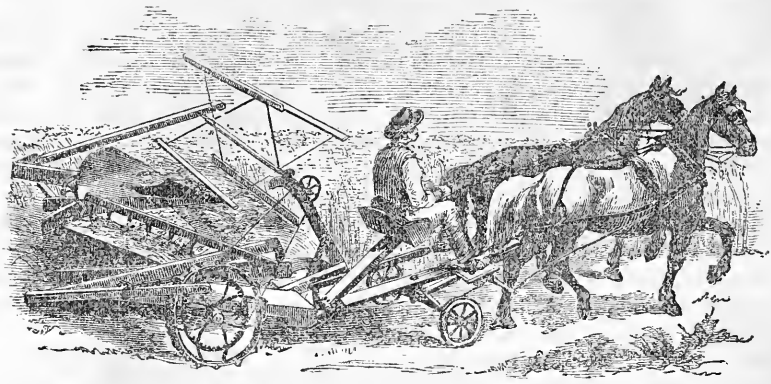
It will be seen by the above that we have put it in the power of nearly all who desire it, to get this work for $1; and yet those who are at all aware of the expense of publication, must perceive that it can not be afforded at that, but with a very large circulation, and hardly then.

Able farmers, therefore, who appreciate our object, which they can not but regard as a generous one, will do us the favor to advance according to our programme of prices, and to favor the circulation of the work in their neighborhood.

Money may be sent at our risk if enclosed with suitable precautions.

Address J. A. NASH,
7 Beekman St., N. Y.

Advertisements



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Being three machines in one, simply adjusted and perfectly adapted to either purpose. These are important features not to be found in any other machine, and need only to be seen to be appreciated.

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THE NEW-ENGLAND FARMER is now generally acknowledged to be superior to any other publication of its class in the New-England States, and equal in merit to any in the country. Its circulation is unequalled by that of any other agricultural paper in New-England.

It is published weekly, on fine paper, and has just been put upon new type throughout. It is ably edited by SIMON BROWN, a thorough and practical farmer, and has the best corps of intelligent correspondents that can be found in New-England. Among these are Hon. HENRY F. FRENCH, of New-Hampshire, Hon. F. HOLBROOK, of Vermont, WILSON FLAGG, author of "Studies in the Field and Forest," &c., &c.

Besides the agricultural matter, the Farmer contains a complete digest of the news of the day, a condensed report of the markets, a large variety of interesting and instructive miscellaneous reading, and everything that can make it a welcome weekly visitant at the fireside of every farmer in the land. Also published at the same office,

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This is a pamphlet containing 48 pages in each number, printed on fine book paper, beautifully illustrated, and devoted entirely to subjects connected with the farm.

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NO CLUB PRICES, and no discount in any case, as our rule is to serve all alike. Send for a specimen copy, and judge of the merits of our publications for yourself.

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Mar. 3t* No. 13 Commercial St., Boston.

Fish Guano.---$35 Per Ton.

THE attention of Farmers and others is called to the FISH GUANO manufactured by the Long Island Fish Guano and Oil Works, at Southold Long Island. It is composed of the *Bones* and *Flesh* of Fish, after extracting the oil and water, and has been thoroughly tested in England and France, and from testimonials received, is found to be equal to Peruvian Guano and other manures; is free from smell and not injurious to health. Price in bags, $35 per ton. Pamphlets containing full particulars and testimonials may be had on application to

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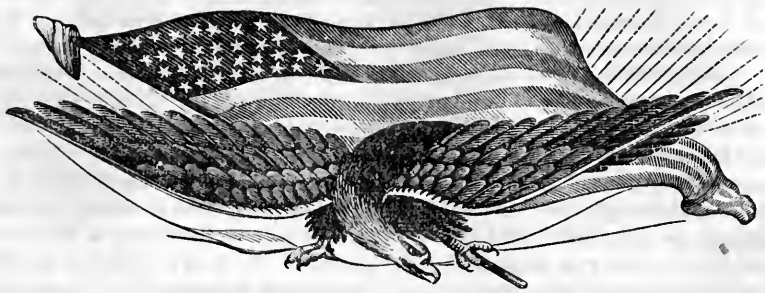
Illustrated Book of Pears.

JUST published and for sale by A. O. MOORE, No. 140 Fulton St., N. Y., and STARR & CO., 4 Main St., New-London, Conn., the above valuable work, containing plain, practical directions for Planting, Budding, Grafting, Pruning, Training, and Dwarfing the Pear-Tree; also instructions relating to the Propagation of new varieties, Gathering, Preserving, and Ripening the fruit; together with valuable hints in regard to the Locality, Soil, and Manures required for, and best arrangement of the Trees in an Orchard, both on the Pear and Quince stocks, and a List of the most valuable varieties for Dwarf or Standard Culture, accurately described and truthfully delineated by numerous beautifully colored engravings.

The above work, beautifully illustrated, should have a place in every family where a taste for good fruit prevails in all its choice varieties.

Orders promptly executed. Dec. tf.



AMERICAN FARMERS' MAGAZINE.

VOL. XII. MAY, 1858. No. 5.

Agricultural.

HINTS FOR YOUNG FARMERS AND OTHERS.

MAY, glorious May, the best month, we suppose, in all the year at the South, and certainly the best in the North, except its successor, more glorious June, has at last come. We have waited for it through a winter as long as usual, though not as cold, and are glad to see it here with its flowers and its promises of fruits, its mild breezes and its charming sunshine.

We need not exhort the farmer to turn out and breathe its exhilarating influences without a wall, or a pane of glass even, between him and the wonderful, elevating, gratitude-begetting works of his Creator. He is out before us, out of necessity, out by a blessed privilege of his calling. Let him not forget that he ought to be the happiest and best of all; and that if he ever envies others of different callings, it is only because he has not the experience of their trials.

If the wives and daughters of the farm homes will accept a homely hint at our hands, we will say to them, what we need not say to their husbands and sons; —be out, breathe the May airs, strengthen your physical nature, and elevate your spiritual by a free communion with nature. Know what the "men folks" are doing, and take an interest in it. Nature is beautiful, lovely, exquisite. But left to herself she is wild, erratic, extravagant, little inclined to the useful. It is the business of your other halves—whether better halves or worse, we can not now inquire—to train and direct her powers to the practically useful — to make her grow sweet roses, sustaining food and luscious fruits, where if left to herself she would produce only tangled underbrush and fruitless trees. What an avocation is his! Can women be indifferent to it? Slanderous thought! We put it behind us.

But American women have not yet sufficiently informed and instructed themselves in the affairs of the farm Earnestly but kindly we say to you, let it not be so always. Give yourselves the great benefit of a little more out-door exercise, and your husbands the benefit of feeling that you sympathize with them in their labors, and rejoice with them in their successes. You know that farm work should be done well and handsomely. There is a right way for doing any thing, and there are

a great many wrong ways. Good sense and sound judgment are the traits in which farmers are apt to excel. An eye to the beautiful in laying off lands and finishing up jobs, can add to the pleasure of their labors without subtracting at all from the profit. If your husbands found you admiring some of their doings, but dubious about others—about twice as ready to see and admire what is pretty and nice in your eyes as to find fault with what is otherwise—it would really do a them deal of good.

Woman's taste should have something to do with the landscape her husband is creating. It is common property for both to look upon. Man's strong tendencies towards the useful, coöperating with woman's keen perception of the beautiful, could hardly fail to arrive at good and pleasant results. In the location of buildings, in the general appearance of the homestead, in the management of the garden, on the question whether the highway through the farm, with the exception of the drive, shall be a neat and tidy lawn, or an "omnium gatherum" of all that is foul and ugly, and on various other points of common interest to the whole household, woman's taste should be consulted, and should not shirk the responsibility of expressing its choices. Aye, many an unseemly spot would assume new beauty and fertility if the "women folks" oftener manifested a modest wish about the out-door matters.

But we turn to the lords of the soil. Is your garden made? We hope so; and we hope you have it neatly laid out, and tastefully fenced, with walks here and there as convenience requires, and the small fruits, such as gooseberries and currants, and such early vegetables as radishes, lettuce and the like up and growing.

And then the manure, unless you have reserved some for composting for the corn hills, should all have been out before this time, mingling with the soil, and working its effects for the coming season. Everything that can add fertility, should be removed from the possibility of vitiating the air to be breathed through a long summer by the household. The farmer can not afford that his family should breathe bad air, because he wants for his fields all that produces it, whether in cellar or garret, in chip-yard or barn-yard, in vault, sty or stall. For field's sake and health's sake, let the premises be immaculate now; let the very sod be clean; and let the grass be growing, with nothing to impede. If we could have a green sod about us here in the city, what volumes of ammonia and other poisonous gases would the growing grass absorb, to make it green instead of making us pale by inhaling it! Don't forget to remove every particle of decaying vegetable matter from the cellar. In February we told you that more than half of the fevers that sometimes afflict families in regions generally healthy, come from the cellar. Eminent physicians have since told us—some have even taken the trouble to write us—that we were true to the letter; and that if we could only persuade all to ventilate their cellars by windows opening on opposite sides, and to keep them well cleaned, we should save thousands of lives.

But to the fields. We spoke largely of the potato crop in our last, and in terms which we believe commended themselves to thoroughly observant farmers. A curious narrative has since been given us, about a remarkably fine crop from remarkably bad seed. The man relating it had a suitable piece of ground well prepared for planting. But lo! a faithless servant had stolen and sold his seed potatoes. He applied to a grocer near by for ten bushels, but was informed that he had none except refuse potatoes—very small, such as had been thrown out as he had served his customers. Enraged at the loss of the seed he had selected the fall before with much

care, and in haste to finish his planting, he put in the grocer's small refuse potatoes, cultivated well, and had an uncommonly fine crop. We have not one doubt of the truth of the statement, because we have seen just such cases before, and because we know the man and can rely upon his word. It is a fact beyond all doubt, that remarkably fine crops have been obtained from very unpromising seed. Still, if there is no imperative reason for using such seed, if medium sized potatoes, sound and healthy, can be obtained at no very exhorbitant price, and planted whole, one to the hill, that is the safest way. Potatoes are not an exception to the general rule that good seed is more likely to produce a good crop than bad.

Indian corn is a more important crop than potatoes. To American agriculture it is of more value than any other. The crops of this grain have varied in past years from less than one to more than a hundred bushels, shelled corn, to the acre; and modes of culture have been practiced which might be expected beforehand to thus vary the results. The smallest crops, of course, have not paid for the cultivation; and probably the largest have not in every case given the greatest net profit. A question arises here;—what is the amount we should seek to obtain per acre? Some would say, the largest amount possible. We like to see a monster crop of corn; and if any farmer could show 150 bushels of shelled corn from a single acre in one year, we would go far to see it, and we should be willing that he should receive a big premium from the agricultural society, although it may have cost him more than it is worth, because we believe there is a benefit in testing the utmost power of manure and soils to produce. But we certainly could not wish that the bone and sinew of the country should be exhausted in growing crops, worth less, however large, than their cost.

The true answer to the foregoing question, we suppose to be, that we should never aim at a small crop, and not always at the largest possible, but to such as can be cultivated with the greatest profit on the quality of land we have to cultivate. If the land be of the highest capability, and near a city, whence manure can be brought cheaply, if cultivated with corn (other crops in that case would be more profitable) nothing less than a hundred bushels, shelled corn, to the acre should be thought of. If, on the other hand, the soil be light, of small capabilities, far from market, where no manure can be bought, and none except the portable can be transported, twenty-five bushels to the acre might be doing well. If this could be obtained by the use of 300 lbs. of guano, or a like weight of superphosphate, and but little labor, you may take out interest on the value of the land, the price of the guano and labor, taxes and something for fencing, and have a profit left.

Taking into consideration the quality of the land, its value, its location, the ease or difficulty of procuring manure, and the market facilities, we believe that no man ought to plant an acre of corn with the view to getting less than twenty-five bushels; and that, *for the sake of profit*, no one should aim at more than a hundred. In farming for a premium, or for fame and notoriety, we may aim only at the maximum crop. But farmers who expect to live by their business, will look for the maximum profit, and that very wisely as we think. Each will inquire what is the most profitable amount to grow on his land; and the answer will vary—25, 33, 50, 75. 100 bushels to the acre. The first is 200 fold on the seed necessary; the second, 264 fold; the third, 400 fold; the fourth, 600 fold; and the last, 800 fold—so many bushels gathered for one planted. We have dwelt on the matter of maximum profit, because we believe it is one which every farmer should study with reference to his own land.

The way to do it. On thin, light, plain land, (not so near a large city that it ought, at any required expense, to be *made into* good land, by deep plowing and thorough manuring,) we would say, plow six inches deep; apply—plowing it under—300 to 500 lbs. of Peruvian guano; harrow lightly; furrow four feet each way; drop a single handful of ashes at the crossings; and plant 4 kernels of corn in the hill. We are satisfied that nothing is gained by planting any but the smallest varieties at a less distance than four feet. Dress the crop three times, doing the work mostly with the cultivator or horse hoe. The first dressing should be as soon as the plants are up five or six inches; the second twelve or fifteen days later; and the last not after the first of July. Nearly level cultivation is the best for such a soil. As to the time for planting, no rule can be given for all latitudes. It may vary within our national domain all the way from the first of March to the last of May.

One principle will hold good everywhere;—corn depends more than almost any other crop upon a good start, and a good start is a sudden start. It is not wise, therefore, to plant before the ground becomes warm, and is likely to continue so. Hence the value of ashes in the hill. Their action is to warm the adjacent soil, and to throw the plants into a healthy, growing condition; and hence also the reason for waiting till the 15th, and, in some cold seasons, till the 20th of May, rather than not have a warm soil and a quick start. Some plants will linger weeks and months with cold soil and cold air, and then become very thrifty after warmth comes; but if corn is kept thus lingering it never becomes as thrifty as it otherwise would. We believe it should be planted the first moment the ground is warm and there is a reasonable expectation that it will remain so, and that this is about as definite a rule as can be given.

But suppose your soil to be of a better quality, and such that you would not be contented with twenty-five bushels an acre, and to lie conveniently for the application of a heavy compost. We would say, plow once and a half as deeply as before recommended, and apply barn manure composted for the purpose, as hereafter to be stated. If the soil be rather light, it is as well to plow in the manure, provided you will plow again and harrow smartly, so as to mix it pretty evenly through the whole soil.

We do not believe in leaving manure in one stratum, at the bottom of a furrow eight or ten inches deep. Whatever the soil is, it should be mixed throughout as evenly as may be. And if the soil be a pretty fair loam, what would be called fair corn land, we believe that harrowing in the manure is quite as good as plowing it in. That part of the manure which consists of insoluble salts works downward. The soluble salts tend downward rather than upwards; and such land as we are now speaking of has sufficient strength to hold the ammonia from escaping into the air.

Depth, in depositing manure, is not so much to be regarded as distribution, mixture, thorough incorporation with the soil.

The compost we are about to recommend, will not be new to those who were our readers several years ago. To them it may be well to have their attention again called to the subject; and to others we trust it will be valuable.

Wherever black swamp mud abounds, as it does almost every where, the farmer should always have large quantities out, sunned, aired, washed with the rains of six months or more, and ready at all times to be put into the stalls, pens, or yard, as an absorbent, or to be composted with barn manure on the cornfield. It is of little value to apply in a fresh, uncured state, but of great value if cured as above stated. If a bushel or two of shell lime, or one of stone lime, were

mixed with it soon after being dug, it will be more perfectly cured of its sourness, and its fertilizing value greatly increased. We believe that its immediate effects are greater on the corn crop than on any other, because corn is a gross feeder, that is to say, it will convert into food and absorb as nutriment coarse, half-decomposed manures more rapidly than most plants.

We know of no way in which corn can be grown at a profit better than the following, wherever the materials are at command, and we contend that they should be at command wherever corn is to be grown on land not abounding in organic matter, provided the swamp mud can be obtained at no great distance from where it is to be used. We say on land not abounding in organic matter. Of course we would not recommend this compost for rich prairies. They already contain essentially the same thing, contain it in too large quantities even for some crops, so that several crops of corn are often grown on the same field, in order to use up this organic matter before wheat can be grown to advantage. Nor would we recommend this compost for peaty soils. It would be too much like carrying coals to New Castle. But for gravelly, loamy, or clayey soils, not over-stocked with organic matter, we do not believe there is any dressing as good for corn, relatively with its cost.

It is this;—take, about the last of April or the first of May, a load of well-cured swamp muck to a load of green barn manure and compost them together. The muck should have had a bushel of lime composted with it last fall, and laid in a large heap over winter. But if that was not attended to in time, add the lime now; and add at the same time a bushel or two of ashes for each load of muck; also common salt enough to give five or six bushels for each acre after applying as much of the compost as you intend; and add also plaster sufficient to give from one to two bushels to the acre.

If you can not conveniently obtain all these ingredients in the hurry of planting time, use such as you conveniently can, only do not fail to put in the lime, as it is this especially that tends to change the muck from an inert to an active state, so that it will influence the present crop instead of lying a year or two inert in the soil, as it often has, and thereby given many farmers the impression that it is of little or no worth. Understand that we are not making an impyrical prescription, so many grains of calomel to so many of jalap. That is the doctor's business, not ours. We are trying to show you, without being troublesomely particular, how you may prepare a cheap dressing for the corn crop—one that will be about certain to give you a rich return next autumn, and quite sure to leave your land in good condition for after crops. The difference between this and some light portable manure, as guano or superphosphate, is, that although the latter might give as good immediate returns, the former lays more effectively the foundation for future success. We would rather see our farmers paying their money for labor done on the farm, than for fertilizers brought from other countries; because we believe that between the home expenditure of crops and the gathering up and saving of the home fertilizers, the farm (as a general rule, not without many exceptions) must be made to enrich itself, or in other words must be made and *kept* rich without sending much money abroad for fertilizers.

But to return to our compost. We would have the load of muck, the load of manure, and the other ingredients, or so many as you choose to employ, well mixed together in the yard or on the field, as you find most convenient. The manure should be sufficiently urinaceous to insure a pretty speedy fermentation, say within ten or twelve days. To this end it should be laid as lightly as may be, and if there is strawy matter in the

manure, not too long and coarse, it will aid the process as the air will more readily circulate among it. If the fermentation becomes too violent, so that fire-fanging is likely to take place before your ground is ready for planting, it may be necessary to check it by forking the pile over, though this is an extra labor that can generally be avoided, either by hastening the time of planting, or by crushing down the fermenting pile so as to exclude as much as possible the circulation of air, and thus checking the process till the time for planting.

The object should be so to time the operation that the compost may be applied in a heated state, and immediately covered in soil. Like yeast it will then communicate its fermentation to such organic matter in the soil as is capable of fermentation, warming the soil and inducing a quick germination of the seed, and a healthy, early growth—a point more important to the corn crop than to any other.

How this compost should be applied, and how much to the acre, are two questions on which we have not much to say, because in some respects every farmer knows his own business much better than any one can tell him. For ourselves we would plow it in six or seven inches, and then harrow smartly with a long-toothed harrow, if the soil were a rather light loam; but if a heavy loam, we would sooner spread on the furrow and only harrow in; and if we had a few ashes to put in the hills, we would apply the whole thus; but if not, we would reserve six or eight loads to each acre for the hills, dropping the seed in it while yet warm, and covering it immediately. Nothing is better adapted to giving the plant that vigorous outset so favorable to this crop. As to the quantity, it is safe to say the more loads to the acre the more corn. Most farmers, we believe, are now convinced that it is better to have a large crop on a few acres than a small one on many, that is, if their land is of a fair quality, and so situated that they can afford to lug heavy, bulky manures to it. But circumstances, known only to the farmer himself, have a controling influence.

We can imagine circumstances in which we would apply as little as ten loads of this compost to the acre. There is many an acre of lightish loam which, with no manure, would give less than twenty bushels of corn, but would give more than forty, with ten loads of this. In other circumstances we might apply as many as a hundred loads to the acre; and would do it with a feeling of all but certainty, that we should get at least a hundred bushels of corn, and what is more, get back the whole cost of the manure in the next three crops. But either of these quantities would seem to most farmers extravagant, the first too small, the last too large, and probably they are so with regard to general practice. Thirty loads to the acre will be likely, on medium corn land not badly reduced by previous cropping, to give at least sixty bushels of shelled corn. We would expect fifty loads on the same land to give from eighty to ninety bushels, and to leave the soil in a highly valuable condition for future crops. Let it not be understood that we are recommending this process for growing corn to all, without regard to climate, location, soil, etc. We are well aware that the farmers on our broad, western prairies would laugh at the idea. In future years they may come to it. But undoubtedly they think the time is not yet, and we presume they are right. So at the South, if the farmers can grow broad fields of corn at a profit with only a few hundred pounds of guano or superphosphate, (and they are certainly the best judges,) they will of course be slow to adopt a more laborious process. But in many of the older portions of the country, where pretty heavy manuring has become a necessity, and where the farmers are not yet convinced of the benefit of neglect-

ing home fertilizers to purchase foreign, we think our suggestions will be tried, and that they will be valued in proportion as they are fairly tested. It is no new thing which we propose. If we had not seen the practice in a great many cases, and seen its good results, we would not recommend it. Our suggestion of putting quick lime with barn manure, will frighten some. But let them consider that we present an antidote. The swamp muck will not fail to retain the ammonia, which the lime might otherwise drive off from the barn manure.

We feel that our subject is a plain, homely affair. The season might suggest more flowery subjects, and a more flowery way of treating them. But if we are understood, and if our suggestions shall lead to the production of increased crops at a diminished cost, or with an increased value of the soil for after cultivation, we shall be satisfied.—Ed.

A NEWLY COINED NAME.

The editor of the *Michigan Farmer* shows himself amusing and classical, as follows:

During March we were among the *Hippomachs*. Don't start, dear reader, we did not go to a foreign country to find them, there is any quantity of them in Michigan, native and indigenous to our soil. The Hippomachs mean the *horse-disputers*. We have coined the word from the Greek *hippos*, a horse, and *mache*, an altercation, a contest, a dispute. Nothing short of the dead languages should give a name to a set of men so nervously alive as the advocates of the various equine tribes. To call them "horsemen," or to speak of them as "all horse," or to designate them as "horsetalkers," is too inexpressive and unjust. In the first place to call them "horsemen," is a perversion of the word as defined by Noah Webster, for whose judgment we have much respect, as hardly one of the hippomachs ever rides or puts foot in stirrup. Second, the hippomachs are not "all horse," as many of them take as much interest in cattle and sheep as they do in horses, and are to be heard with respect when they discuss those subjects. Third, "horsetalkers" would be derogatory and unjust, and would make them appear to be narrow minded and one-sided, as they would thus be always placed among the "neighs." Hence we believe that *hippomach*, as a term logical, dignified, classic in origin, and extremely expressive, as referring to a class of men who discuss matters connected with horses and breeding, is a word that should be adopted at once into the great American language, which is one day to be spread by the legitimate expansive force of our institutions, from Behring's straits and Baffin's bay to Cape Horn.

If the aforesaid editor intends to apply this Greek compound to that class of men who are earnestly endeavoring to improve our horse flesh, who seek to establish improved races, and only differ *honestly* as good and true men always will about matters of so much importance, while all are aiming at the same end, that of producing races of great excellence for the various purposes of life, we must needs doubt the correctness of the application.

We want horses for the road, for the field, for heavy teaming, and for the saddle. It is well to have all these *specialities* in view. But most of all we want horses *for all work*, because, although the European nobleman may be able to keep a dozen horses for each of the various purposes that noble animal is put to, the American nobleman, on his farm of two or three hundred acres, finds it more compatible with his notions of thrift to keep one or a span, and to train that one horse or one span to all kinds of work.

The one horse, if but one is kept, should be able to carry a bag of grain to the mill on his back, with a stout boy on top of it, or to draw it in a lumber wagon; to take the whole family to church "of a Sunday;" to plow among the corn; to carry his master or mistress in the family carriage, to an afternoon or evening's visit; to carry the girls on a side-saddle, and learn to be proud of his charge, for we hold that the future mo-

thers should have rode a great deal on horseback; in short to do anything that horse ever did, and to be about anything that horse ever could—good in the harness and good under the saddle, good every where, and withal good looking enough to make his owner proud of him, for we believe it to be a sin not to be a ittle proud of a well bred and well kept horse, and that, too, although his breast and sides may show marks of faithful service.

But if we are to have horses good for special works, and good for all work; not intolerably fast, nor unendurably slow, but just about right; horses to be proud of, to love, and to show kindness to; and to be grateful to the Almighty for as often as we enjoy their immense utilities, it is no wonder that there should arise differences of opinion as to breeds and breeding, rearing, training, &c. That one honest, earnest seeker for a high development of this noble animal should pursue one line, and another pursue a different line, and that pretty warm contention should spring up, is no marvel. It would be marvelous if it were not so. Good will come out of it; and the result will be, we hope so at least, to give us ere long every possible variety, and the highest possible utility of the equine race.

We rather object to the designation, given by our brother editor out West, to men, who, though on different tracks, may all come out well; and since according to the best recollection of the little Greek that was whipped into us in boyhood, the term is a little reproachful, though we know our western brother did not mean it so, we would reserve it for another class of personages. If we mistake not, there are men among us, who would monopolize our fairs, national, state, county and town, for the horse—no, not for the horse, but for themselves. They care not a fip for the oxen, the cows, the sheep. What is meat for the poor to them? Let who can get milk, butter and cheese. Clothes for all are of little account. And how posterity shall fare in consequence of our doings is quite too remote a thing for them to think of. They want to be cock of the ring to-day, and let to-morrow take care of itself.

Meantime, a good, honest, hard-working farmer—a plain man to be sure, with nothing to recommend him, except that he is one of the best and most useful men in all the country, a trifling recommendation no doubt in the eyes of the horse gentry—has brought up a splendid herd, from a distance of perhaps a hundred, or it may be of five hundred miles. Another has brought far over hill and dale the cows of a magnificent dairy, with beautiful samples of their products; another has brought a flock of sheep, that ought to make us all, M.C.s, and downwards, and upwards too, ashamed of ourselves, that we have hitherto so slighted that important source of national wealth and comfort.

Anybody, whose soul is not narrower than the tip end of nothing, can see that these cattle and sheep men are doing a good thing, actually laying the country under obligation to them, a blessing to their contemporaries and to posterity.

But no matter. Let the herds lie in their stalls, and long for a beholder. Let the flocks display their fine fleeces and goodly proportions for the sun to look down upon. Let the stirling farmer, who has brought them from his far-off home, sigh for a little notice. No matter, the farmers are a very tame set of men—so the fasts think. If they bite their lips a little with chagrin, they will get over it before another year. Will they? We are not so certain of that. If the farmers who are going ahead in the way of fertile farms well stocked, should always be willing to stand in the back-ground at their own fairs; if they should contentedly see all the large prizes carried off by the owner of a horse, that has no earthly merit, ex-

cept that of being as impudent as his master, and scrambling by the crowds on a smooth surface, and with a very light load, faster than any decent horse could; if, in short, the horse, without much regard to real, solid worth, judged only by a capricious, gambling spirit, is to be everything, to fill all eyes, and take all prizes, while his *confreres* of the homestead, the ox, the cow, the sheep, and swine, may as well ruminate and root at home, we have some misgivings, whether the farmers will always bear it patiently.

The ox is patient. His driver is apt to be patient, and it is a great virtue. But we remind the earnest, working, improving farmers of the country—those who desire fair play, and an improvement in all branches—that there is a point beyond which virtue turns to vice; and we advise them to be patient under the horse mania, just as long as is best, but no longer. We think they will be pretty good judges where that point is.

We propose that the 2. 30 men—those who insist upon all eyes, all ears, and all money, at our shows, for their favorite animals, who care not a picayune for the great agricultural interest of the country; who despise honest labor, and if they work at all, would sooner *work down* a bumper, than work up a foot of soil—be called *hyppomachs;* and that our Western friend, who, we presume, remembers more Greek than we do, should coin another term for the men who are striving to improve the horses of our country, and only differ, as good men always will, in matters of importance, about the best means to accomplish the object.—Ed.

For the American Farmer's Magazine.

NOW.

BY N. O. W.

Now! Let us improve the present moment while we are sure of it. "Put not off till to-morrow what can be done to-day." When the thought to do a piece of work enters the mind, proceed at once to put it into execution. You may forget to do it until too late. For instance, a man comes home in the night, and in the cold, forgets to draw the sleigh into the barn. He discovers his forgetfulness in the morning, and says to himself, "When I return from my work I will draw the cutter in." In returning he passes by the spot, but is in a hurry to do something else. Next time he passes he has plenty of time, but thinks some other time will do as well, and so the sleigh remains until a fall of snow fills it and covers up the buffalo robes. In the morning the farmer wishes to go to town and finds his robes all wet, and the snow to be shoveled out of the sleigh before he is ready to start. He is forced to ride on a wet seat, and takes a violent cold. No great damage done, to be sure; but even this trouble could have been avoided by obeying the impulse of the mind, and doing *now* what was thought to be as well done some other time. If you are at loss when to do a piece of work, if possible do it *now*. Putting things off, and doing things "for the present," are some farmers greatest faults. N. O. W.

Antrim, Mich., 1858.

SUMMER FALLOWING, ETC.

A Californian, in the California *Farmer* for March 19th, thus goes in for summer fallowing, deep plowing and subsoiling. If the old globe we inhabit were not considerably large, there would be danger of his plow point meeting those of the Chinese in the other hemisphere.

FACTS ABOUT FARMING.

Messrs. Editors:—I now beg leave to say, through your most valuable paper, a few things in reference to wheat and grain-growing in this part of the State. When I first came to this country, in 1852, I advocated that it was all-important to plow our lands in the spring season for the next year's crop, and was met by this objection: that in this, California, the seasons were dry and

hot, and the lands would be injured by the great drought and heat that prevailed in the summer season; therefore it would not do to plow and leave the ground so exposed, destitute of a covering by some kind of crop. Notwithstanding the argument made, I was desirous to know if such was the fact. I was inclined to dissent and differ in opinion from such notions. So in the spring of 1853 I tried the experiment, this being the first spring I had enjoyed in this State. The result was most astonishingly satisfactory. The ground so plowed was sown in December, fall of '53, and the yield was one-third to one-half more than the same land sown the same day, that was only then just plowed; and those of my neighbors who had opposed this mode of farming, acknowledged their error and began to spring-plow to some extent.

Yet too little attention is paid to this branch of farming, so far as regards spring plowing, as I have stated to you and your readers in former years. And here let me say to your many readers that there is another serious evil in regard to plowing: Often the rains do not come until late in the season, and then not in sufficient quantity to wet the earth properly for plowing; yet the work is commenced, and hurried along with, in a very indifferent manner, and often, too, when the ground is entirely too wet on the surface and not to a sufficient depth. Often the land is cold and unfit to receive the seed sown, and is generally not plowed more than two and a half to three inches deep, and at this season of the year the crows and birds are very troublesome and get a great amount of seed. The result is a light crop, and not sufficient to reward the laborer for seed, time and money expended.

Now let us take another view of this subject. Suppose we all try one acre, if no more; plow in the spring, say this month; get one of Thos. Ogg Shaw's plows, made in San Francisco, large size, say the largest size; put it to three or four yokes of oxen, and plow from twelve to fourteen inches deep; two to three pairs of horses will do as well; and then sow seventy-five pounds of good clean seed in the month of September next; use a cultivator to cover with, or harrow well, then use a heavy roller to smooth down with, which will put the ground in a good condition to harvest and prevent the birds from getting much of the seed, also it will endure more drought; as also it does not take as much seed to sow early as when sown late, for the first rains are generally warm, the grain readily comes up and is not liable to suffer for want of rain during winter.

Now, friend farmers, if you will make the trial this once, and find me in error, you may publish my name to the wide world as a quack, and writing what I do not know to be a fact. And if any of you think I have not made reasonable statements, please call on me at my ranch, and I think the vail may be removed from your eyes. Last season I began to plow for fallow on the 10th day of January, and continued until the dry season forbade plowing. In the month of September I commenced sowing my fallow grounds. The first piece was sown in barley; on the first day of this month the heads began to put forth, and notwithstanding for the last six weeks we have had only one light shower, the promise is good for a crop, and a good crop. On the first days of October I began to plant wheat, this also bids fair for a good crop; and all the lands that I plowed in the fall, and some of them sown on the same day that some of the fallow was, do not bid as fair for a crop, not being more than half the growth.

Here let me state that this fallow land was plowed from six to eight inches in depth. This season I obtained at the State Fair, from T. Ogg Shaw, one of his largest sized steel plows, fourteen-inch cut. It is also a deep tiller; I use with it a team of four horses, and when the ground is sufficiently wet, plow thirteen to fourteen inches deep. If any doubt this, please call, and I will satisfy you on this point. In addition to this I have used a subsoil to some extent, and put that down thirteen inches below the bottom of the plow. And I am satisfied, from actual experience, we can not till too deep. The deeper we till the more rain the land will endure and withstand the greater drought. Yet I wish to be distinctly understood, that although we may plow early, sow soon, plant good seed, and on good ground, yet if we have no fence or that which is not good, or good for nothing but to make breachy stock, our labors will be in vain.

ORDER AND ECONOMY ON THE FARM.

Without order on the farm, peace of mind, success and profit are impossible. Watchfulness and care are implied in this forcible word, *order*. Who is the farmer that does not know of serious accidents happening to animals and crops for want of proper care? Some farmers are negligent of their animals when at grass, as if no accident could happen. We once knew a most excellent horse to get on his back in the furrow of a pasture field that was "seeded down" with a grain crop grown on "lands" or ridges. Sheep of good quality (and what farmer should grow any other) are liable to meet with similar accidents—so, too, to be injured by dogs, etc., and for which *care* seems, after all the experiments that have been made, to be the best remedy.

The farmer should not allow his cattle that are used in his farm work, to be scattered indiscriminately over his fields. In the most busy season it often happens that a great deal of time is lost in catching working animals that are let out on pastures while the men eat dinner. In the heat of a hot day, as at noon, horses and oxen would do much better in the stables if supplied with green food. For such purpose no farmer should be without the necessary quantity of clover to be used as soiling. We do not refer to that grown on meadow land with grasses, but to clover produced on meadow land *heavily manured*. Such clover will be succulent, and while it furnishes a highly nutritive feed for working animals, it prevents them from having a desire to consume large quantities of water. Clover grown in the manner referred to, would produce the second season three crops. After each cutting it should be heavily top-dressed. If the pastures are bare from being over-stocked, or parched by the heat of summer, the cattle should be fed clover or other soiling. The value of it for increasing the quantity and quality of milk and butter, will soon be understood by any person who pursues such a course. This system of practice has its influence in *saving time*. If the fences are bad, or that cattle roam in the woods, by the feeding of special green food in a particular place, thus causing cattle to come in search of it, much time may be saved. We know of a shiftless, disorderly farmer—and perhaps there are others as well as he—who drives his cattle three or four miles to be milked, often when above their knees in mud. He has several horses to spare, and milk cans growing rusty for want of use. He does not estimate the loss arising from such a practice. His cattle travel in coming home twice a day to be milked, and returning to the pasture, make four journeys equal to twelve miles—when the roads are muddy the labor is much increased—the feet of the cattle become subject to disease—while traveling they are not feeding, and consequently not supplying the raw material from which to make flesh, milk, or butter—they dung on the road and its manurial effects are lost to the pasture—and in addition to these losses, arising from carelessness or a want of "order upon the farm," the time of a man or boy is also lost in making the journeys referred to.—*Working Farmer.*

DEEP PLOWING.

We are all too apt to follow blindly in in the beaten track. The first plow was a tough, forked stick, whereof one prong served as a beam, while the other dug the earth as a coulter. Of course, the plowing was only scratching—necessarily so. It would have been preposterous to expect the plowman of Hesiod's or of Virgil's time to turn up and mellow the soil to a depth of fifteen or sixteen inches. Down to the present age, plowing was inevitably a shallow affair. But iron plows, steel plows, subsoil plows, have changed all this. It is as easy today to mellow the earth to the depth of two feet, as it was a century ago to turn over a sward to the depth of six inches. And our fierce, trying climate, so different from the moist, milder one of Great Britain, Ireland, or even of Holland and the Atlantic coast of Germany, whence our ancestors migrated, absolutely requires of us deep plowing. Drouth is our perpetual danger. Most crops are twenty to sixty per cent. short of what they would have been with adequate and seasonable moisture. That moisture exists not only in the skies above, but in the earth beneath our plants. Though the skies may capriciously withhold it, the earth never will, if we provide a rich, mellow subsoil, through which the roots can descend to the moisture. The hotter and dryer the weather, the better

our plants will grow, if they have rich, warm earth beneath them, reaching down to and including moisture. We can not and we need not plow so very deep *each year* to assure this, if the subsoil is so under-drained that the superabundant moisture of the wet season does not pack it. Under-draining as the foundation, and deep plowing as the superstructure, with ample fertilizing and generous tillage, will secure us average crops, such as this section has rarely ever seen. Our corn should average from fifty to seventy bushels per acre; our oats still higher. Every field should be ready to grow wheat if required. Every grass-lot should be good for two or three tons of hay per acre. Abundant fruits, including the grape and the pear, should gladden our hill-sides, and enrich our farmers' tables. So should our children seek no more, in flight to the crowded cities, or to the wide West, an escape from the ill-paid drudgery and intellectual barrenness of their fathers' lives, but find abundance and happiness in and around their childhood's happy homes.—*Horace Greeley.*

LIVE AND DRESSED WEIGHT OF ANIMALS.

The following rules for computation, which we believe to be accurate, and which may be of use to many of our readers, we cut from the *Ohio Cultivator:*

1st. For finding the net weight of stock, etc., where one-fourth is taken ont, or allowed for tare.

Rule.—Multiply the gross weight by the decimal 8 tenths, and the product will be the net weight.

Example.—Suppose a farmer has a hog that weighs 345 gross, how much will he weigh net? 345X.8=276.0. Ans.

2d. To find the gross weight, having the net weight.

Rule.—Divide the net weight by the decimal 8 tenths. and the quotient will be the original gross weight.

Example.—What is the gross weight of a hog that weighs 345 pounds net? 345–:–.8=431¼. Ans.

3d. To find the price per hundred net, where the price per hundred gross is given.

Rule.—Divide the price per hundred gross by the decimal 7 tenths, and the quotient will be the price per hundred net, and *vice versa.*

Example.—How much per hundred net will a farmer get for his hogs, who sells them for three dollars and forty cents per hundred gross? $3.40–:–.8=$4.25. Ans.

Thus it will be seen that $3.40 gross, is the same as $4.25 net. The reasons for these are obvious; comment is therefore unnecessary.

For the American Farmers' Magazine.

ON THE CORN CROP, AND THE RIGHT SPECIES OF CORN FOR THE RIGHT LOCALITIES.

My method of raising corn is: I take an old meadow or pasture that wants plowing up, and if there are any places that appear rather barren, I put on a few loads of barn-yard manure, (but the most of my manure I generally put on my meadow.) In April I generally plow or break up the corn ground. If not convenient in April, I generally try to have it done by the middle of May. I generally intend to plow seven inches deep; a few days before planting, drag thoroughly, and immediately before planting drag again, so that the ground is as mellow as an ash-heap, and mark so as to plant three feet each way, and sometimes three and a half each way. I generally try to plant by the 25th of May, and if the weather will admit, as early as the 18th or 20th, and as soon as the corn is up plaster or ash, and a few days after go through with the plow or cultivator, and go through with hoe and take out the grass and weeds, and place a little fresh dirt around each hill, and a few weeks after plow and go through again, only not hill up much the last time. Plowing here comes generally the first week in July. I cut my corn down by the roots five rows at a time, by taking four or five hills for the middle of the shock, and after the middle generally put fifteen hills to it, so as to have twenty in all, and put one band around the top and another around the middle of each shock, and let them stand from four to six weeks before

husking. In husking we generally select our seed corn by taking all the soundest and largest ears, and leave a few husks on each ear intended for seed, and braid a number of ears together and hang them in some dry, airy place.

The corn I plant, or have planted for a number of years past, is the red glazed, or sometimes called small yellow, and the small Hutton; each kind get ripe at the same time, generally from the 10th to the 20th of September. Those two varieties will generally ripen on the tops of our highest hills; the height of our hills I suppose to be 500 or 600 feet above the Susquehanna River flats, and the flats here are 800 feet above tide, and latitude of this vicinity 42 North. A large amount of money is lost here every year by planting large late varieties of corn that will not ripen on the hills in this vicinity, the hills being generally from ten to fifteen days later than the Susquehanna River flats. It is getting to be well understood here that the large varieties of corn generally raised on the river flats seldom ripen on the hills, or ten or fifteen miles up the creek. Those varieties are the large Dutton and large eight-row yellow and white corn, and if they will not ripen on the hills, etc., it is not very probable they would ripen far north of here in the center of the State. In the summer of '56, Col. B. P. Johnson told me that a large farmer, I think it was near the center of the State, lost several hundred dollars in one year by planting the large Dutton corn that did not get ripe. The Delaware White, a large valuable kind raised on the Susquehanna flats, is said to be an early variety, but of that I can say nothing with certainty. Last season a number of fields of corn on the Susquehanna flats did not ripen good, and not one half the fields back from the river, it being a backward season. I would recommend farmers far north of here and on high lands here, to plant no kinds but the small Dutton, red glazed, small yellow Canada and white flint Canada, and King Philip, and King Philip improved. Last year I raised a few hills of the King Philip improved, but for all its being a Northern variety, it did not ripen earlier than my small Dutton. I think it to be a valuable kind, and shall plant all the seed I have, enough for one acre or more.

R. Howell.

Nichols, March 15th, 1858.

It may be good policy to plant these small varieties as near as 3 feet or 3½; but we are convinced that nothing but extra labor is the result of planting large varieties less than four.—Ed.

APPROPRIATE PREMIUM.

A Mr. Palmer, of Toronto, C. W., recently presented the *Markham Agricultural Society* a plow, all of iron, and of uncommonly good workmanship, estimated to be worth $40, to be given as a premium to the best ploughman, at the spring plowing match, at the village of Markham, C. W. A pretty good idea. The winner will gain a good thing, and the giver will loose nothing.—Ed.

AGRICULTURAL OPERATIONS OF PATENT OFFICE FOR MARCH.

We regret to learn, unofficially, that the publication of the Agricultural Report of the Patent Office will this year be delayed, by a resolution recently passed in Congress, which requires that all reports and documents shall be handed in complete. Heretofore a *programme* of the Agricultural Report has been accepted early in each session, and the publication commenced at once, the compiler furnishing "copy" as the printing progressed.

Among other illustrations in the following report, will be a portrait of "Duke," a Suffolk draft horse, the property of the late Mr. Catling, of Woodbridge, Suffolk, which gained the first prize of thirty pounds at the show of the Royal Agricultural Society of England, at Windsor, July, 1851, painted by Wm. H. Davis, of Chelsea, England, who has been engaged for upwards of forty years in painting prize animals in Great Britain.

Mr. Henry C. Williams, who was last fall dispatched by the Patent Office to make explorations in Western Arkansas, part of the Indian territory, and Northern Texas, for the purpose of obtaining information respecting the grape vines of that region, and making collections of the same, returned about the middle of March. He explored the region extending from a little east of Fort Smith on the Arkansas, to the Lower Cross Timbers in Texas, and includes a considerable portion of the Choctaw Nation. Eight hundred miles of this he traversed on foot, examining and collecting. He brought back a large number of cuttings and roots of the native vines, which the Commissioner of Patents has had so planted as will insure their propagation.

Mr. Williams left soon afterwards for the "Cherokee country," Upper Georgia, to obtain scions of the celebrated apples for which that region is justly famous. These apples originated from seed sent by order of President Jefferson for gratuitous distribution among the Cherokees. Several varieties ripen in May and June—others are later, and will keep the entire year.

Mr. Robert Fortune, whose appointment as agent to China for the purpose of collecting seeds of the tea-shrub, was mentioned in the last *Bulletin*, wrote a letter under date of "London, March 1st, 1858," from which we are permitted to make the following extracts:

"I have now to inform you that in compliance with instructions, I have taken my passage for China, and shall sail from Southampton on the 4th inst.

"It shall be my careful study to accomplish the important objects which you have entrusted to me, and you may rely on my not submitting to exorbitant charges, and on my acting in good faith to the Government of the United States.

"I have had so much experience in packing and shipping seeds and plants from China to India and England, that I venture to suggest to you that my operations should be conducted in the follow. ing manner: It will be imprudent to trust my collections in one or two vessels, as living plants are easily damaged during a long sea voyage. The more prudent course would be to ship by as many vessels as possible, say six or eight. But, as this will occupy some time, I think I had better come home by the overland route, and bring the seeds (not tea-seeds) with me, and endeavor to reach America as early as possible, in order to receive the plants on their arrival. If, on the contrary, I accompany the last shipment, *via* the Cape, the first would necessarily be home several weeks before I could be upon the spot to examine it and do what is needed. My object in offering this suggestion is to secure, if possible, the success of my mission, and I have no doubt you will agree with me in the propriety of such a course of procedure."
—*Bulletin U. S. Ag. Soc.*

A NEW COTTON IN TEXAS.

Mr. D. C. Sharpe, of Cherokee Co., Texas, has sent to New-Orleans specimens of cotton grown by him from seeds brought from Nicaragua, near Leon, in the mountains. It is the third year's production, on land lying near the 32d parallel of latitude, in a prairie country, the soil of which is sandy and saline, crystals of salt, saltpeter and alum being naturally formed on its surface. The stalk and bolls of this cotton, Dr. Sharpe states, are about as large as those of the Petty Gulf cotton; the seeds are much smaller, black and smooth, as a consequence of which, 1000 pounds of unginned yields 500 pounds of ginned cotton. But it is the lint of the cotton that is most noteworthy and remarkable. For fineness and silkiness, as well as tenacity of fiber and tenuity of thread, it has never been surpassed, if at all equalled. These qualities have led some to believe it the Sea Island cotton; but Dr. Sharpe is convinced that it is not, since it differs from that cotton in many material respects, whatever may be the correspondence between their respective staples. For instance, he says that 250 pounds of this cotton can be picked by one hand in a day, whereas of the Sea Island not more than 30 pounds can be picked. He believes that it can be successfully grown in nearly every part of Texas. If so, it may go as a great element of a new agricultural era in that magnificent State.—*Ibid.*

THE WHEAT CROPS.

The accounts of the growing wheat crop, from all the grain-growing States, are favorable. In the western States the quantity of land sown with wheat in the fall was larger than the previous year, the weather during September being especially favorable for it. At the

commencement of winter, the growth was more forward than for many years; the winter has been quite favorable in all the States, and the prospect of an abundant crop was never more favorable at the close of the month of March. Many express the fear, however, that the plants are too thick on the ground, and that, with favorable growing weather during April and May, the growth will be too rapid, producing a weak plant, and inducing rust or "lodging." It seems to be generally conceded that the crop is past the dangers of winter, and that it will do well until about the first of June, when the next crisis of the crop comes.—*Ibid.*

EXTRACT

FROM AN ADDRESS OF HON. N. P. BANKS.

In Holland, in 1841, the product of agricultural industry was $181,000,000; that of manufacturing industry, $144,000,000; and the estimated products of commerce, $65,000,000; thus of $390,000,000, commercial industry gave but little more than a sixth part, while manufactures and mechanics afforded 37 per cent. of the entire wealth of the state. In France, in the same year, the product of agriculture was $800,000,000; manufactures, $400,000,000; commerce and navigation, $268,000,000. Of an industrial product of $1,466,000,000, that of commerce is but 18 per cent., while the mechanic arts furnish a third of the amount The industrial product of England in 1840, was $630,000,000, and of all other pursuits, $855,000,000. Allowing to commerce a fifth of the aggregate, as in the case of Holland or France, or even a quarter part, it is still fer below that of manufactures and the mechanic arts.

NEW-YORK AGRICULTURAL COLLEGE.

The first annual report of the Trustees of the State Agricultural College has been submitted to the Legislature of New-York by Governor King. The report contains a brief history of the early efforts of the friends of the College to enlist the support of the farmers of the State and the favor of the Legislature; of the success which attended these efforts, in the liberal subscription of $45,000, principally by the farmers of the county of Seneca, and in the loan of $40,000 by the State for twenty years, without interest. It further states that a farm of 700 acres, of great variety of soil, well wooded and watered has been purchased in the town of Ovid, Seneca county, on the eastern slope of Seneca lake, on which the College buildings are to be erected; that the site of the College has been agreed upon, and contracts have been entered into for a portion of the materials to be used in the edifice; and that there is every reason to hope that, during the present year, the center building and south wing will be completed and in readiness next spring to receive those who may desire to acquire a sound, practical agricultural education and training.

Appended to the report is a statement of the amounts received from individuals and from the State, the manner in which they have been applied to the purchase of the farm, and in the outlay for managing and providing adequately the necessary stock and implements, leaving an unexpended balance of $30,000 yet to be received from the State treasury. This sum, it is confidently believed, will enable the trustees to complete the center building and south wing of the College, with the principal room for instruction and scientific purposes, and the necessary accommodation for one hundred and eighty students. The trustees declare their intention to make this, in fact as well as in name, an Agricultural College.

AGRICULTURAL PAPERS.

"*On the propriety of farmers supporting none but purely agricultural papers, as such; and is their publication monthly often enough?*"

It is an admitted principle in political economy, that the more labor is divided the better and cheaper it is performed; consequently the manner in which labor is divided in any country is a pretty good index to the prosperity, intelligence, and refinement of its people. Fifty years ago we had no agricultural papers, and few if any religious. Our journals then partook more or less of the commercial, political, religious, and agricultural characters. As we have advanced in civilization and refinement the wants of the reading people could not be met without a division of labor in this department, and we now have separate

newspapers devoted to all the trades, professions, and occupations, and who will say that this division has not contributed to our progress? Take one of the newspapers of even thirty years ago and compare its articles on agriculture with, for instance, the editorials of the *Genesee Farmer* of the past year, and you will find abundant evidences of progress. We have, to be sure, many valuable articles on agriculture in journals devoted mainly to other professions, but they are invariably credited to agricultural papers. If there is any one subject which more than any other requires the undivided energies, mind and attention of a conductor of its journal, that subject is agriculture. The world is just awakening to the fact that more science and intelligence is necessary in this department than in any other, and one of the great reasons is that it is incapable of that division of labor which tends so much to advancement in the mechanic arts. We have journals of law, of health, of medicine, and of mechanics. We have miners' journals, farmers' journals, railroad journals, vetrinary journals, and gardeners' journals—journals hydropathic, homeopathic, phrenologic, scientific, and spiritual—and if a man wishes to turn his attention to any particular branch of industry he can make his selection and pay only for what he wants. Surely these journals can be, must be, and are better conducted than are the same departments in those which have with agriculture a little of politics, love-tales, casualties, shocking accidents and dreadful tragedies, with a sprinkling of conundrums, rebuses, and enigmas. By this division of labor newspapers have become very much reduced in price, while at the same time the ability of the reading community to pay for them has been doubled if not quadrupled, and on the farmer's reading table instead of the weekly miscellany, which perhaps went the round of the neighborhood, we see the quarterly review, the monthly magazine, the weekly, semi-weekly, and perhaps the daily journal. These dailies, semi-weeklies and weeklies, although they perhaps answer well the purpose for which they were intended, must still be got up in somewhat of a hurry, and are liable to many blunders and mishaps, and when received by the subscriber are often laid aside for the moment and never resumed till wanted to wrap up a bundle. In fact they are of little value for future reference. The monthly journals are got up with more care, in less hurry, are less liable to errors and oversights, are in a more convenient form, the subject matter more condensed, contain more grain and less chaff, are more thoroughly read and better understood, contain more useful matter for future reference, seldom condemned to the rubbish heap, but are laid up in the library and read perhaps by the next generation. They take the place among newspapers, of standard works among books. —*Gen. Far.*

CULTIVATION OF TOMATOES.

A WRITER in the *Genesee Farmer* thus describes his method of transplanting and growing tomatoes. We should have said three feet each way; but perhaps he is nearer right. Fruit-bearing plants should not be too much in each others' sunlight.

My method is as follows: Cut with a long-bladed knife the dirt between the rows of plants each way, to the depth of six or eight inches. *Then, with a trowel or sharp spade, carefully take up each plant with as large a ball of earth as possible.* Do not trust their removal to careless hands. With a hoe, dig holes three inches deep; set in the plants with earth attached, and finish by hilling up, making large hills. If the work has been well done, the plants will scarcely wilt under a hot sun. By this method, the roots are brought near the surface, to receive the influence of the sun. The fruit is also well exposed to the sun, and my little mounds of tomatoes are not "forever and the day after" in ripening. No watering is necessary, except a little in the holes before transplanting, and then only in a dry time.

Tomato plants may be grown very well in crocks or boxes in the kitchen window; and inverted sods, nicely cut in squares, and then placed in a shallow box, make an *excellent substitute for crocks*, especially in these hard times. The plants thus grown should be set out of doors a few days to harden, previous to transplanting, taking care to cover cold nights.

Trimming off a portion of the side branches close to main stem, will produce larger and finer fruit.

Tomatoes give the greatest yield on a

rich soil, but do not ripen fruit so soon as when grown on a poorer one.

W. C. P.

DEEP PLOWING.

We are by no means sure that the following is correct in every point; but we are quite sure that no farmer can read it carefully without finding himself better qualified to form his own judgment in this important matter; and to that point we suppose all agricultural writings should tend. Agricultural journals, we take it, are not to do the farmer's thinking for him, but to aid him in being a good *thinker* and a sound judge in his own affairs.

Question.—At what period of the year of rotation would deep plowing be advisable? What kinds of soil does it benefit, and when should it be avoided?

Answer.—Deep plowing is most effective in the autumn, thus exposing the land to the influence of frost, rain, and wind during the winter, which act upon the mineral ingredients of the soil, rendering them available for the succeeding crops, and pulverizing the soil, and thus facilitating the passage of the roots into the subsoil. As regards the period of the rotation it is generally considered that deep cultivation is most beneficial after the wheat crop, as a preparation for the root crop and the whole succeeding rotation. At the end of every rotation it is deemed advisable that the land receive a deeper stirring than would be considered safe or expedient in preparation for a corn crop, in order to disturb the hard impenetrable stratum formed by the continuous treading of horses and the passage of the plow, and also to bring to the surface a fresh portion of unexhausted soil to be incorporated with that from which the previous rotation has derived its nourishment. Moreover, the first crop which follows requires a deep, well pulverized soil; a soil, in fact, which will offer as little resistance as possible to the expansion of the bulbs. Therefore, taking all these points into consideration, we conclude that the most suitable time for deep plowing is in autumn, previous to the root crop, or for the bare fallow after a corn crop in cases where the soil is unsuited for the root crop.

The soils most benefited by deep cultivation are stiff clay lands, those soils resting immediately upon rock can not be subsoiled even if it were desirable, which is very doubtful. As a rule, we may say, plow deep, when the subsoil is of the same character as the surface, if both are tenacious, or when the subsoil is composed of good clay, only requiring atmospheric influence to sweeten it. Deep cultivation should be avoided in nearly all very light soils. It should be avoided when preparing for corn, either for barley after roots fed off, in which case we should by deep plowing bury the manure beyond the reach of the crop, and in plowing the clover lea for wheat it would be especially injurious. In undrained clays deep plowing would be objectionable. Deep plowing benefits most clay soils, in fact to plow such heavy land as No. 4 in the autumn is equal to half dressing of manure. Professor Wey estimates a clay soil to absorb as much ammonia during the fallow as would be contained in 2 cwt. of guano; those clays containing a large quantity of insoluble silicates of potash are generally benefited. Clay, from which the air is excluded, exhibits a dark bluish color. The frost during the winter penetrates the soil, and acts mechanically by destroying the adhesion of the particles. After draining clay it is not advisable to bring to the surface more than two inches of new soil at a time, otherwise more is brought up than the winter frost, &c., can pulverize and sweeten, and the first crop that follows, finding an uncongenial seed bed, will not flourish.—*London Magnet.*

THE POTATO DISEASE.

Another theory has been recently suggested on this subject. It proceeds from a man of much experience and of high reputation as a thorough practical gardener; one who has been in charge of extensive establishments for many years in England. He suggests that the disease is caused by the potatoes that are used for seed having been permitted to become over-ripe when grown; and his remedy is to take up the potatoes that are wanted for the following year's planting at an earlier period than the general crop; that is, as soon as they have grown to their size, and whilst the

leaves remain green. To get a pure sort, free from disease, he advises (as others have done) raising from seed, and thenceforth to propagate as above pointed out. He also recommends potatoes to be invariably planted whole, and never cut into sets.

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This last recommendation we believe to be good, beyond all doubt. Whether the other is, we will not undertake to decide. It may be worth trying.—Ed.

LIFE IN THE COUNTRY.

A merchant, turned farmer, in a letter to one of his old city friends, says:

"You seem to think that the society of farmers and rural residents must be exceedingly dull and stupid. I can assure you it is not so. My neighbors in the country may not be so quick and ready in conversation as my old friends in the city, and their attention may not have been directed to so great a diversity of subjects, but their knowledge is less superficial, and their judgment far more sound and reliable. But even if intellectually inferior, which I do not admit, they are certainly *morally superior*. Take a hundred individuals, without any picking, from my new neighbors, and a like number from the old, and there will be found more among the former than the latter who deserve and might command your moral respect and approbation—men who are honest, sincere, reliable, and of good moral habits and worth of character. For my own part, I take more pleasure in the society of the good than in that of the roguish and unprincipled, be the latter ever so smart. Then, again, I can be more with my family than when keeping store, and can more easily keep my children from the contamination of evil companions. But the crowning recommendation of my farming pursuits is this: I feel that I am working together with God in providing for the primary wants of his human family."

DOGS, HOGS, AND SHEEP.

"What a dog lives upon will keep a hog." If any farmer doubts the truth of the saying, let him kill his useless dog and put a pig in the pen and give it the dog's allowance. He will find in a few months that he has a fine fat porker fit to be eaten, a use the dog could not be possible applied to by any Christian man. There are too many dogs in the country, by far too many—if they had all been killed a year ago, there might be two hundred pounds of good fat pork to balance against every dog so set aside, which would be no inconsiderable item in the supply of food for the country.

If dogs were merely useless, they would not deserve so severe a reprobation as is now their just due. While dogs are so numerous sheep stand a poor chance to get through the world and yield their annual fleece with untorn throats. The increase of the dog population accounts in part for the scarcity of sheep. An exchange paper says that "fourteen farmers of Stockbridge, within the past five years, have suffered the loss, by dogs, of 295 sheep, valued at $1025. One farmer alone computes his killed and injured animals at 177, and their value at $450. Some of the sheep were of choice varieties, and valued at from $5 to $20 per head." We doubt not that of many another town in Massachusetts, a worse story may be told.

The great damages that have been done by dogs to sheep led to the enactment of a stringent dog-law by the last Legislature. Persons owning dogs, whose lives are precious in their sight, will do well to give heed to its provisions. By this law the owner of every dog is obliged to have him numbered and registered on or before the first of May, and any unregistered dog can be killed. It is made the duty of every sheriff, deputy sheriff, or constable, to kill said unregistered dogs upon the call of any legal voter. Any person who allows a dog to remain on his premises is to be presumed to be the owner of the dog, and he is commanded to obtain a collar with his name and the registered number of the dog upon it, and any person killing such a dog without justifiable cause is liable to an action for damages. Male dogs are to be assessed one dollar, and female dogs five dollars, and in case the tax is not paid by the owner on or before July 1st of each year, the dog is liable to be destroyed. All moneys collected under this law in the towns of the State, are to be kept separate as a "dog fund," to remunerate any person who may have had sheep killed, and any dogs found to have been engaged in killing said sheep are to be destroyed provided

the owner is unable to save his life by compounding with the owner of the sheep for a money compensation.

We confidently expect that after the 1st of May the number of the canine race will greatly diminish, and that sausages will be dog-cheap in the cities.—*Hampshire and Franklin Express.*

LONGEVITY OF MULES.

The *Medical World* says that there is a mule in possession of a farmer, near Ballingloss, Ireland, which has been employed in the transit of ammunition, &c., to Vinegar Hill, since 1798. There is a saying that a white mule lives longer than any other mule. Some years ago, one of that color on Col. Middleton's estate, in South Carolina, was over eighty years old, and was still at work.

EARLY BARLEY.

We were favored with a sight of a stalk of fine Barley, grown on the ranch of J. Beam, Esq., near Sacramento. It was a sample of Barley, of which there are forty acres of the same kind, and it was three to three and a half feet high. It was raised upon land which had been *summer fallowed* the year previous, and this was the *second* or "volunteer crop," and it now gives promise of yielding an enormous crop. When will farmers look carefully to the system of subsoiling and summer fallowing for the grain crops of our State? They must come to it sooner or later.—*Cal. Far.*

WHERE THE FIRST MAPLE SUGAR WAS MADE.

In *Dodsley's Register* for October, 1765, it is stated that "a method of making sugar and molasses from the sap of a certain tree called the maple, common in the New-England colonies, has just been discovered and put in practice at several portions of New-England, but especially at Bernardston, about 20 miles from Athol."—*Ohio Farmer.*

ANSWERS TO CORRESPONDENTS.

J. D. inquires, Whether fallowing can be practised to advantage in this country. Had this question been proposed to us a few years ago, we should have said no, and we should have wondered that there could be a doubt on the subject. We should have said that there could hardly be a more senseless practice than to expose the surface soil to the suns and winds through our long and hot summers. And we are still clear that with a shallow plowing, such as has generally been practised among us, and with the object solely of killing the weeds and resting the land, as used to be said, there could be no great difference of opinion. But whether, in connection with deep plowing, with the additional object of warming and ventilating the soil newly turned up from a great depth, it may not be wise in some cases, we are not now so certain, and we invite attention to the extract in this number by Mr. Morley, taken from the *California Farmer.* He seems to have borrowed his ideas from Scotland, where the climate is about as unlike ours as is possible; and yet we are not sure but he may be correct, as regards farming in California, and perhaps in other portions of this country. We would like an article or two on this subject from any who are prepared to state the results of careful experiments.

O. N. rallies us on our notions about deep plowing, thinks we are not up to the times, and says we should write 10 inches, where we say 7, 13 inches where we say 9, and go on towards the point where the Australian's plow and ours should approach each other. We have only to say in reply, that when we say any number of inches we mean that number, and not 40 or 50 per cent. less. The depth of plowing is almost always overestimated. We have heard men bragging that they plowed a foot deep, when we would not have paid them for much more than 6 inches. It will not do to say that land is plowed a foot deep, because here and there a spot is mellowed to that depth. If the whole is pulverized to the depth of six inches, most will give the owner credit for plowing at least eight inches. For many soils, unless manured very highly indeed,

that is deep enough. We are yet willing to stand by what we said in a recent number, where we undertook to discriminate, in what circumstances it would be advisable to put the plow down to the beam, and in what it would not.

"*Can you give me any information about the Hungarian Rye Grass?*" Not much. We have seen it growing in only one field. That was a fine crop. Its appearance is that of rather coarse food for cattle; but all who have tried say they love it exceedingly, and that it is peculiarly adapted to stand a drouth, that in any land it grows fresh and green when other grasses fail; but we do not know the truth of this except from general report. It grows about the height of oats, and the side leaves are numerous and extend almost to the top. The heads are something like those of herds grass but three or four times as large. It produces an immense crop of seed, and one bushel of the seed is enough to sow three acres.

Horticultural.

CALENDAR FOR MAY.

FLOWERS.

Annuals of all descriptions may now be sown in the flower garden. And some should be sown also a fortnight later in a shady border, in small patches to be afterwards transplanted into the flower border, to supply the place of plants gone out of bloom. This may readily be done by taking them up with a trowel with a good ball of earth. When night frosts are gone many *geraniums* and other plants from the greenhouse may be planted in the flower beds, such as *Fuchsias*, *Heliotropes*, *Salvias*, *Petunias*, *Verbenias*, and numerous others.

Climbing plants and vines may be sown and planted against trellises and arbors, or placed at the root of any old dead tree, they will run over it and become beautiful objects during the autumn months. For this purpose *Maurandias*, *Nasturtiums*, *Cypress Vines*, and the *Hop* are excellent plants.

Dahlias may now be propagated by division of the roots, or by placing them in a greenhouse or frame, and in a few days taking off the shoots that will spring forth, which will root readily round the edge of a pot. It is best not to plant out Dahlias until the middle of June, until which time keep them under glass with plenty of air. They will be more healthy and bloom more freely than if planted out earlier.

Greenhouse.—As soon as the weather permits, fires at night should be altogether discontinued, or the new growth making at this season by the generality of plants will be too much drawn up. Give all the air possible, and when night frosts have ceased, place some of the most hardy plants at once out of doors in a north aspect to keep them from the direct rays of the sun, which, striking on the sides of the pots, injures the roots and dries up the soil too rapidly. It is a good plan to plunge the pots in ashes, saw-dust, tar, or some such material, and to let them stand upon it also, to prevent worms from entering the pots. In this situation they will require daily attention in watering.

Before the plants are put out of doors they should be shifted into other pots; giving each plant a compost suited to it.

With the three kinds of compost following almost all kinds of Greenhouse plants will thrive well. One or other of them being suitable for each so as to grow it in good perfection, although florists and nurserymen use a great variety of other compositions.

1st. Half old hot-bed manure; half loam or the top soil of a good pasture; one-sixth in bulk of white sand. This is adapted for Geraniums and other half succulent plants that make a rapid growth in a few months, but much of which growth is cut down in culture after the blooming, and is consequently renewed every year.

2d. One-half of the compost No. 1; one-half of peat earth or leaf mold. This is adapted for Greenhouse evergreen plants, as Camillias, and also for Fuchsias and plants of a slightly ligneous growth, that are rapid growers and have fine roots; also for bulbous rooted plants.

3d. Two-thirds peat; one-third leaf mold; one-sixth white sand. This is adapted for Heaths, Epacris, and New-Holland evergreen plants of a tough ligneous kind, usually called hard-wooded plants.

Special attention should be given to the drainage. An inch at least of broken pot-shards should be filled in the bottom of each pot before putting in the composts.

All the above composts should be thoroughly mixed by turning over repeatedly before they are used, but should be used in the rough state and *not* sifted.

KITCHEN GARDEN.

Celery may now be planted out in trenches from the seed bed.

Snap and *Running Beans* may be sown. Of the Snaps the *Early Valentine* and the *Early Yellow* will be the first crop, and *Early Dun*, *Early Rachel*, and *Large White Kidney* are good kinds for succession. Of Running Beans the *Specked Cranberry*, *Dutch Case Knife*, and *White Lima* will give satisfaction.

Tomatoes, *Melons*, *Egg Plants*, *Cucumbers*, and *Marrow Squash* may be planted or sown as soon as the weather is settled; but no time is gained by planting them out too early. To have them and also beans very early, the best way is to sow in frames under glass, and transplant afterwards in the open ground.

Brocoli, *Cauliflower* and *Cabbages* should be transplanted from frames to the open ground. It is a good plan to plant out part early this month, and reserve part to put out a fortnight later, to guard against a return of cold nights, which *may* check those first set out.

It is useless to plant vegetables unless attention be given, especially during the early growth, to their tillage. Weeds must be kept under, or there will not be half a crop.

ON ROSES IN POTS.

BY ROSA.

How often do we see our lady friends at this season of the year purchasing roses in pots, which as soon as they cease to bloom in their drawing-room are either set aside as useless or else drag on a miserable existence without ever after producing a bloom worth seeing. This would be avoided if in May or June they were turned out into the open borders and then treated as the following remarks suggest:

Roses in pots may be bloomed by a little forcing as early as Christmas. But without that, they may with the aid of a garden frame to protect them in winter, be very successfully had in bloom in April and May, and in a greenhouse still earlier. It is best when roses are standing out in the borders in the autumn, not to take them up for potting until the first sharp frost has checked their growth. But then no time must be lost, but the whole stock required for pots must be at once taken up, and they may be brought into a shed or under the greenhouse stage, and have their roots there covered over with earth, when they will take no harm for a week or two until attention can be given to getting them into pots. In taking up the roses, however, from the ground, great

care should be taken to *lift* their roots well out of the soil with the spade, and not merely loosen and then pull them out to the destruction of half the roots.

Roses do not require very large pots. Those from six to eight inches across will be sufficient, unless the plants are very large. The best mode of potting roses is to have two good heaps, the one of good loam, the other of very well decayed stable manure. Fill the pot one-third full of the manure, then place a little of the loam on that, and then the rose, filling up the pot with loam only. We know that some persons prefer mixing the above ingredients and adding to them some peat or leaf mold, and in such a compost roses will grow very well. But from many years' experience we consider that both in size of bloom, color, and fragrance, roses will be found far superior if potted as we have above directed. Some additional caution, however, is required in giving water to roses thus treated, because the loam is more retentive of water than the compost would be; and therefore, until they have made their bloom buds and these are rapidly swelling for expansion, water must only be given when the loam is becoming dry. A little practice will regulate this.

After potting, the plants will require to be moderately cut back. The pruning will depend upon the kind of rose. The China, Tea, and Bourbon Roses should not be too severely cut. The Hybrid Perpetual will require closer pruning, say to six or eight buds on a shoot, and the Common Moss, Cabbage, Gallica and Provence roses should have each shoot cut back to the third or fourth bud at their base. After pruning the plants require to be neatly tied to sticks; and then they may be placed in a garden frame or on the stage of a greenhouse. If they are in a frame, it is a good plan to plunge the pots in tan, sawdust, or cinder ashes; in such a situation they will require no water scarcely until March; and the glass light on the frame with a little straw or a mat over will be sufficient protection. During severe frost, care must be taken *not* to remove the mat or straw *entirely*, so as to expose the stems of the plants to the action of the sun; but still some light and air should be given whenever the weather permits. When frost has touched the stems they should *never*, until thawed, have the sun upon them. Let them thaw in shade.

As the season advances and the roses progress towards blooming, care must be taken to guard against the ravages of insects, especially the green fly (or *aphis*) and the red spider. The syringe is useful for this purpose; and tobacco smoke will also remove the fly. They should be especially attended to in this respect just before the season of the principal bloom, because when the flowers are expanded they sustain injury from these remedies. But at all times the inroads of these insects must be prevented, for if the plants once become badly infested with them their beauty will be destroyed for the year.

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We have the pleasure of knowing Rosa very well; and we assure our readers that all her articles, like herself, are characterized by good sense; and under whatever name they appear, are always well worth reading. Sound judgment and an entire freedom from all affectation are the marks by which you may recognize them.—Ed.

For the Am. Farmers' Magazine.

TREES AND FRUIT BUDS *vs.* COLD WATER.

Mr. Editor:—I may not be regarded as a "careful observer," but I will nevertheless attempt to give my views on the causes that kill fruit trees and fruit buds. Now, I may err in what I shall advance on this subject, for it is a theme upon which many singular opinions can be put forth, and yet all of them may look more or less plausible.

In the county in which I live, (and it is more or less so in all the Northern States,) we often, in the winter months, have very cold weather, particularly, you know, in January and February. The bud of the peach tree and other fruit trees sometimes expands in the fall, so that it is made more or less forward. Well, now, the cold weather of January comes on; mercury drops in the tube of the thermometer down to 14° or 15° below zero; the germ of the bud—a little peach in every sense of the word, just fairly organized—can not withstand this condition of the weather (15° below zero) and consequently dies; and when the weather "slackens up," or grows more moderate, the small miniature peach turns *black*, and never again recovers from the stroke it has received. The tree, which has grown rapidly, the shoots of which are vigorous and juicy, also receives a death stroke many times through intensely cold weather, when the thermometer indicates a condition of the atmosphere 15° or 20° below zero. There is a point in almost every thing beyond which it will not do to go. The peach tree in our more northern climates is particularly subject to be killed by frost, and there are counties in New-York State where the peach can not be raised, the country being too frosty. On high elevations it seems to do the best. We hear it reported that in Northern Illinois the people have not raised many, if any peaches, within the last two or three years. Why is this? Plainly because the weather was too cold for the trees to recover from its effects in the spring. The apple and other trees also have died in that State, as well as in Wisconsin. Now, we have a large peach orchard, and in the winter of 1856, the weather being *very cold*, thousands of branches died, and I removed them in the spring. Our apple trees also suffered amazingly hereabouts. Indeed, we really thought that a new system of the laws of nature had dawned upon us, so poorly did many of our quince, apple, peach and other trees look. Sometimes, very many times, fruit buds are killed in consequence of the cause which you mention, namely, "*a sudden freezing after mild weather*," but I believe this is not the case so frequently as through intensely cold weather. A peach blossom, or any other blossom, will stand quite a little frost, and yet the fruit will not be materially injured. Now, for instance, I have been making an examination of some of our peach buds. I notice that about two-thirds of them are dead this season, while what remain look very well. Where the west wind struck the most severely during the 24th of February, or about that time, mercury being about 8° or 10° below zero, at that point the buds are more frequently dead than on the east side of the limbs or trees. Immediately after the cold "snap," I went into the orchard and made the examination, and the buds turned out to be dead as above mentioned. We all have our peculiar notions about these matters, but I know that a shoot on a tree which has had a rapid growth during the summer, is most likely to suffer from the cold of a subsequent winter on account of its tender organization. Now, a tree that is thoroughly acclimated, a native of the country, will stand the winter much better than some of "those celebrated imported varieties" from France, &c. We can not raise the "raisin grape" with any kind of success in New-York, and it does not grow very well, I believe, in the southern part of Ohio. From these observations, if they be mainly true, it will be seen at once that the weather has its perceptible effects upon trees and their organizations, and that fruit buds must die on peach trees when the thermometer indicates from 12° to 15° below zero. Apple tree buds are more hardy, and will come out safe many times when the weather is intensely severe, but when you gather the fruit, then you see what perceptible in-

roads the cold weather of the previous winter has made upon your apples, &c.

About the contraction and expansion of water—that matter I shall willingly leave to yourself and your correspondent. The subject is a very good one, but how to preserve our trees from the effects of cold weather is still more important in my opinion. Last winter the weather was generally mild, though we had our "cold snaps" in February. The season, however, promises very well for fruit of most kinds. The country will not, I think, be over supplied with peaches, but aside from this wholesome fruit, we may look forward to a bountiful fruit harvest.

In conclusion, allow an old reader of your journal to express his approval of the variety of matter which the "*Farmers' Magazine*" contains. Give us a variety, with a rich spice of miscellany if you please. It is taken for granted, though, that you know how to manage your own journal. W. TAPPAN.

BALDWINSVILLE, Onondaga Co., N. Y., April 10, 1858.

POWERS OF VEGETATION TO RESIST EXTREMES OF TEMPERATURE.

BY A FRIEND.

IT is most essential to the success of the operations, both of the agriculturist and the horticulturist, that as comprehensive a view as possible should be obtained of the organization of the vegetable kingdom, and of the powers of resistance that it possesses of the extremes of temperature. For although practically he may pass through life without ever even seeing the moss which in Lapland not only lives, but *grows* beneath the snow, and furnishes the frugal meal of the docile reindeer, and without boiling eggs for his breakfast reposed upon the herbage which we shall presently advert to as growing in the hot springs of the Himalaya mountains, yet the knowledge of such powers of endurance in different families of plants, when combined with other knowledge of various descriptions, connected with the organs of plants, tends immensely (if it does nothing else) to make the inquiring agriculturist cautious and careful in his experiments, and in the deductions which he draws from them.

Hastily-formed conclusions are seldom very accurate in whatever branch of scientific inquiry they are arrived at, and applied to. But in no department of practical knowledge is it more needful to guard against them, than in the prosecution of agricultural pursuits. Slight differences of temperature, of moisture, or of atmospheric change, have frequently been sufficient to confound and to obscure the most carefully conducted experiments. And in the much canvassed, but yet unsolved, problem of the potato disease, we have at this moment unfortunately patent evident that our present acquirements in agriculture, have by no means attained a degree of efficiency, with which we can rest satisfied.

Nothing is more surprising in the study of vegetable physiology than the variation of the *powers of endurance* of the extremes of heat and cold in different families. And this is the more remarkable, because those powers appear to have little or nothing in connection with the *texture* of their organization. In reference to the powers of endurance of moisture and drought, it is otherwise, at least to a considerable extent. For we find the *Cacti* family, and many others that are indigenous to climates that have long seasons of drought, are provided with organs that are calculated to retain, as it were, reservoirs of moisture, whilst the organization of their cuticle is such as to lessen evaporation and exhalation from their surface. But in regard to the powers of resisting extremes of heat and cold, many families of plants with organizations of the most fragile texture, are found to have these powers equally; some as to heat, others as to cold.

This is a subject that deserves consideration in connection with the study of climate, to which we have directed attention in recent numbers of this magazine, and the following description of the hot-springs of the Himalaya from Dr. Hooker's Journal, to which interesting work we referred in a preceding article, are well deserving attention :

"The hot-springs (called Soorujkoond) near Belcuppee (altitude 1219 feet) in the Behar Mountains, north-west of Calcutta, (lat. 24 N., long. 86 E.,) are four in number, and rise in as many ruined brick tanks about two yards across. Another tank fed by a cold spring about twice that size flows between two of the hot, only two or three paces distant from one of the latter on either hand. All burst through the Gueiss rocks, meet in one stream after a few yards, and are conducted by brick canals to a pool of cold water about 80 yards off.

"The temperatures of the hot springs were respectively 169°, 170°, 173°, and 190° of the cold, 84° at 4 P.M., and 75° at 7 A.M. the following morning. The hottest is the middle of the five. The water of the cold spring is sweet but not good, and emits gaseous bubbles; it was covered with a green floating *conferva*. Of the four hot springs the most copious is about three feet deep, bubbles constantly, boils eggs, and though brilliantly clear, has an exceedingly nauseous taste. These and the other warm ones cover the bricks and surrounding rocks with a thick incrustation of salts.

"Conferva abounds in the warm stream from the springs, and two species, one ochreous brown and the other green, occur on the margins of the tanks themselves, and in the hottest water; the brown is the best salamander, and forms a belt in deeper water than the green; both appear in broad luxuriant strata, whenever the temperature is cooled down to 168°, and as low as 90°. Of flowering plants, three showed in an eminent degree a constitution capable of resisting the heat, if not a predilection for it; these were all *cyperacea*, a *cyperus*, and an *elescharis*, having their roots in water of 100°, and where they are probably exposed to greater heat; and a *timbristylis* at 98°; all were very luxuriant. From the edges of the four hot springs I gathered sixteen species of flowering plants, and from the cold tank five, which did not grow in the hot. A water-beetle, colymbetes, and notonecta, abounded in water at 112°, with quantities of dead shells; frogs were very lively, with live shells at 90°, and with various other water-beetles. Having no means of detecting the salts of this water, I bottled some for future analysis."

From the foregoing quotation it will be perceived that the temperature of the hottest spring was 190° Farenheit, which is but little below that of boiling water. And although not so luxuriant as in the cooler springs, yet vegetable life was found to exist and grow in that high temperature. Had a cabbage or a potato been placed by the side of the *conferva* in that spring, it would have been soon cooked ready for the dinner table; and the powers of endurance of the action of heat possessed by a living plant, therefore, can be easily conceived.

With such well attested facts before us, we may well hesitate before we form a decided opinion upon the adaptability of any plant of a new character, that it may appear desirable to introduce as an agricultural crop. It is not possible to judge of many, from the result of two or three trials only. Because although oftentimes we may be quite right in the view we take of our first experiments, yet it will frequently occur that until by repeated trials we become by experience well acquainted with the constitution of a new plant, we may attribute our success or our failure to causes which in fact had nothing to do with either. And therefore we may so be led into error which further experiment would dispel.

That this is so, will be evident to any

one who is familiar with the vast changes that have taken place within the last few years in the cultivation of fruits and vegetables. Many crops that some years back were considered to require years (especially in fruits) of previous care of the plants to produce them, are now produced in less than one. And this with things that have been familiar to the gardener for above an hundred years.

In fact the agriculturist no less than the horticulturist, who would prosecute his calling with due reference to the guidance of scientific principles, will never assume that he has arrived at a knowledge of the *best* mode of cultivating *any* crop. Whilst he will be cautious not to experimentalize without due regard to prudence and to principles, he will nevertheless be ever earnest in the "forward" effort, and will take care that his labors are as steadily directed by his judgment, as his plow is by his hand.

For the American Farmers' Magazine.

GROWING CUCUMBERS.

BY A N.H. MAN.

Something for Boys to do.

Nothing is more profitable than cucumbers as a crop. A few hills will yield enough fruit to make pickles to amount to a much larger sum than anything that can be planted. The general culture of this plant is fully understood; but I find by placing a frame of latticework for the vines to run upon, the yield is much larger, the fruit more easily gathered, and is also kept up from the grouud. The frame is placed near the plant, and allowed to slant at an angle of forty-five degrees, the vines trained upon it, and the cucumbers allowed to hang through the spaces between the slats forming the frame.

If the fruit is raised to sell, the smaller it is the better—from three to four inches in length is the proper size. Pick every morning, and lay carefully in barrels, and cover with whisky (? ! Ed.) and water—one part of the latter to three of the former. Lay a cloth over the pickles, and when more is added take it off and rinse it. When the barrel is full head it, and it is ready for market.

I have known a dozen hills to yield two barrels of pickles, which sold readily for nine dollars per barrel. The barrels were such as are used to pack pork in. Let the boys try raising cucumbers, they will at least make enough to spend of a "Fourth of July."

Antrim, Mich., 1858.

Yes, boys, that is a good thought. We will give a beautifully bound volume of the *Plough, Loom and Anvil* to the boy who will verify to us the best story about growing cucumbers this summer, on a plot of not less than one or more than two rods. He must give us his age; must do the work with his own hands; give us a handsomely written statement of the process and results; and send us the certificate of his father and a good neighbor that his statement is correct. That will be a sufficient guaranty for us, for we do not believe any father would wish his son to win by a false statement.—Ed.

THE GARDEN OF THE FARM.

With all the improvements, and they have been many, three-fourths of the farm gardens in the State are still a disgrace to our husbandry. The most easily raised vegetables are not to be found in them as a rule; and the small fruits, with the exception of currants, are the rare exceptions. Not half the farmers in the State have ever tasted an Early York Cabbage.

If they get cabbages or potatoes at all by August 1st, they think they do pretty well. They do not understand the simple mysteries of a hot-bed, and force nothing. Now, with this article, which need not cost five dollars, and which a boy of ten years can manage, you can have cabbage and potatoes, the last week in June, and beans, tomatoes, cucumbers, and squashes, and a host of other delicious vegetables a little later.

By selecting your seed, you can have lettuce, green peas, onions and beets, by

the last of June, or before, without any forcing. A good asparagus bed, covering two square rods of land, is a luxury that no farmer should be without. It will give him a palatable dish, green and succulent from the bosom of the earth every day, from May 1st to July.

A good variety of vegetables is within the reach of every farmer the year round. They are not only an important means of supporting the family, paying at least one-half of the table expenses, but they are conducive to health. They relieve the terrible monotony of salt junk, and in the warm season prevent the fevers and bowel complaints so often induced by too much animal food.

Make your preparations this month for a good garden—better by a hundred per cent than you have ever had before. Get the seeds now, before they are sold. Look over the advertising lists, as if they were meant for you. If you do not go to the market yourself, this is an age of expresses, and even post-office carries seeds cheap enough for you to use it. Cabbage, lettuce, onion, carrots, parsnips, and other seeds can all come by mail, at small cost.—*The Homestead.*

PRUNING AND MANAGEMENT OF BLACK CURRANT.

Black currants require quite a different system of pruning from the other varieties; the great point to aim at is to get as much young wood as possible every year from the lower part of the tree. This is increased by thinning out the old wood from the bottom, and the finest fruit is obtained from the young wood. In striking the black currant you should select young shoots about 10 or 12 inches long, insert them in the ground, with the buds on, about six inches. The buds of the other sorts are rubbed off except about four, which are left on the portion out of ground. I have had black kinds struck on the same system, but they never lasted long; they die off limb by limb about the time they ought to make good trees. They like a moisture holding soil; if planted on dry ground they suffer much in hot summers. Red and white sorts like a much lighter soil; they produce their fruit from spurs on the old wood. In pruning cut a portion of the young wood back every year and thin according to the growth of the tree.—*London Gardeners' Chronicle.*

Literary.

THE HEROINES OF ONEIDA.

AN ORIGINAL TALE OF NEW-YORK STATE, FOUNDED ON FACT.

[CONCLUDED FROM THE APRIL NUMBER.]

Scarcely had young Dean performed the last sad duties to his honored parents, when the Revolutionary War broke out, in which, on one side or on the other, red man and white, were speedily involved. At such a time missionary duties were out of the question; and instead of entering upon them, James Dean found himself in 1775 appointed Indian agent, (for which office his previous experience had well fitted him,) with the rank of a major in the army. The duties connected with his new calling he continued to discharge throughout the war, being principally employed in Oneida and its neighborhood, where his influence with the Indians was of infinite value to the service.

About the time the war was growing to a close he married; and when it ceased, and his official duties with it, he reminded his Oneida friends of their promised gift, a call to which they readily responded, and made him a grant of two square miles of land near Rome, which they subsequently, at his request, exchanged for a tract in Westmoreland, to which he removed about 1786 with his newly married wife.

The next two or three years of James Dean's eventful life were passed in the tranquil pursuits of the farmer—clearing and improving the lands and laying the foundation for that scene of future development of the resources of that fine country which, at the present time, has taken the place of his primitive labors.

His wife had presented him with two pledges of her love.

It is an opinion strongly maintained by some learned men of the present age, that amongst the red race of North America is to be found remnants of the lost ten tribes of Israel, who, as they contend, found their way to the north-western shores of this continent from the north-eastern part of Asia. How far the evidence adduced is adequate to warrant this dictum, we can not stop to inquire. Be this as it may, many plausible coincidences of customs and habits have been brought forward in aid of it, and amongst them the fact that in the traditions and customs of the Indians at the present day, may be traced a similarity to some of the provisions of the Mosaic laws too specific to be rationally accounted for, except on the supposition that they both owed their existence to a common origin. The custom that we are about to mention is one of these coincidences.

Amongst the Oneidas and some of the neighboring tribes, a custom has from time immemorial prevailed, that if one of their number is murdered, the nearest relative of the victim shall follow the murderer and avenge his death if it be committed by a member of the same tribe. But if by a member of another tribe, then it becomes the duty of the whole tribe to take the matter under their cognizance, and to inflict retribution by seizing and immolating a man of the tribe to which the murderer belongs.

This custom or law of their polity is not regarded simply as an act of retributive justice or of personal revenge; but as being essential to the happiness of the departed spirit of the victim. And it is looked upon, therefore, as a religious duty agreeable to the will of the Great Spirit. It is in this assumed origin of the custom itself, as emanating from the supernatural source, that the presumed connection exists, which some persons see between the Mosaic and this Indian law. Because were that wanting, the vengeful passions of human nature, especially in the uncivilized state, (and, alas, it is scarcely needful to refer to *that*,) are amply sufficient *otherwise* to account for the practice of the righteous law of blood for blood.

During the years that had elapsed since Dean's youthful domicile amongst them, his friends amongst the elder chiefs had many of them died, and most of the leading men were now those, who at that period were mere boys. The natural consequence of which was, that as Dean had long ceased to have any connection with the tribe, except in his official character of Indian agent, and as *that* had now also ceased for some years, his ties with the tribe were limited to the few remaining old friends of his early life. Of these Han Yerry and his wife, who adopted him as her son on his admission to the tribe, and his friend Omi with Howala, who had become his wife, and her mother Hama, still survived. Faithful to their grateful remembrance of him, these kind-hearted redskins paid him periodical visits, and evinced towards him a warmth of gratitude and strength of affection, that in the civilized world too frequently is lost in that selfish indifference and forgetfulness of our benefactors, which affords but poor testimony in favor of the improvement, that the culture of the mind, is said to produce upon the feelings of the heart.

An event, however, now occurred that brought Dean again, for a short time, intimately in contact with his Indian tribe.

About three years after James Dean had settled upon his Indian grant, it happened that one of the Oneida Indians was murdered by a white man. That he *was* a white was known to them, but all attempts to trace the murderer proved futile.

In this state of things the chiefs of the tribe held a council to determine upon the course to be adopted. That *some* white man must be sacrificed to satisfy

the requirements of their ideas of duty, was unquestionable; but the mode to be adopted to effect that, and the selection of the victim, became the subject of long debate. Some of the younger chiefs proposed that Dean should be selected for the purpose. He was well known to them from the office he had held, and was therefore assumed to be a man of great influence and character amongst the whites. They therefore urged that his immolation would be calculated to strike terror into the whites, and be a probable means of rendering it less likely that they would again be guilty of a repetition of the crime, on account of which the Oneidas purposed to take his life.

Against this it was urged by older members of the tribe, that Dean having been in early life adopted as a son into the tribe, could not without breach of honor and an outrage on their own internal polity, be now treated as a stranger. And further, that his death would not, on account of the relationship into which they had taken him, satisfy the requirements of their law, or rather, that it would be inefficient to give peace to the spirit of their murdered brother; seeing that as the murderer did not belong to the Oneidas, the atonement for the offense must be made by the death of one of that tribe to which the murderer himself belonged, and *this*, it was contented Dean could not be considered to be, since his adoption into the Oneida tribe. This view of the question it may well be supposed was strenuously supported by Han Yerry. The council broke up, however, without any decision being agreed upon, and the subject was left open for further discussion.

Knowing the revengeful character of his associates, and seeing that the chiefs favorably disposed towards Dean were in a fearful minority, Han Yerry's mind foreboded an unfavorable result, and his heart yearned towards his *white son* with the affection almost of a parent. He was nevertheless, as an Indian, a stern disciplinarian, and regarded submission to the customs of his tribe and conformity to their solemn decisions, as duties to which private feelings must give place. Still he had sworn to be the friend for life of Dean, and the struggle in his savage breast, to satisfy his sense of duty to his tribe, and at the same time to his friend, gave rise to emotions that he could not conceal from his Squaw. Though children of the forest, their devotion to each other had given rise to, and kept alive feelings as keen, and observant eyes as sensitive, to detect the sorrows of each other, as if these estimable, but too often absent, amenities of married life, had resulted from the refinement of highly cultivated minds.

The deliberations of chiefs in council were secret; no women were allowed to take part in them, or to be present when they were held. Nor were the chiefs permitted to divulge the result of their decisions, until they were formally announced to the tribe by the head chief.

The state of mind which the conflict in his breast produced, rendered it impossible for Han Yerry to conceal from his wife that some unusual excitement, of no ordinary character, was harrowing his most sensitive feelings.

Seeing that it was impossible for him to avoid some violence on one side or the other to what he deemed to be his strict line of duty—for he must either divulge the proceedings of his council, or run imminent risk of sacrificing the life of his friend—Han Yerry resolved to tell his wife the true cause of his distress. He knew well his Squaw's energetic character, and her tender regard for Dean; and it is by no means impossible that he thought it likely that her fertile imagination and ingenuity would devise a way to save their friend, without his own honor being directly compromised in the transaction.

The instant that Han Yerry had made this unlooked-for communication to his

wife, she understood the delicacy and difficulty of her husband's position, no less than the danger of her adopted son. The fire of woman's anger flashed for the moment in her eye, with the vividness of lightning. But as transient as lightning was its presence. Thoughtful for a few minutes she sat motionless; then springing from her seat she exclaimed:

"By the Great Spirit, Han Yerry, our white son shall not die! But leave all to me. Do your duty, and I will do mine. You see this cup of water. When the council have decided, if our son is safe drink it; if not, pour it out on the ground."

Having said this Onata, without waiting for a reply, ran at once to her friends Howala and Hama, whose affection for Dean she knew to be little less than her own, and in conclave together the three heroines (for such the sequel will disclose they proved themselves) meditated over the matter. Numerous were the plans that they discussed, first adopting and then rejecting them, for securing the safety of their friend. At length they resolved upon their course.

No sooner had this been resolved upon than Onata started off to apprise Dean of his danger, and to prepare him for its consequences. He was, as may be supposed, astounded at the announcement, and had he not known that he could place the most implicit reliance on his informant, he would have distrusted the correctness of the intelligence. Having told him all she knew, her aged checks the while overspread with tears, she desired him to remain quiet. To take no step himself for security, nor to attempt escape, assuring him that should her tribe, unfaithful to him as their son, and ungrateful for the many services he had rendered them, determine upon his destruction, that she had secured a mode of escape; but she steadfastly refused to disclose to him the means by which it was to be effected. To his earnest desire to know how she could be sure of success, her only reply was: "My son, you are safe; the Great Spirit has given your life to me. You will be safe."

Notwithstanding his confidence in the sincerity of his Indian mother, and his knowledge of her ability in that peculiar species of cunning which forms so prominent a feature in the life of uncivilized man, he was by no means so confident that he was as remote from the threatened danger as she had assured him.

His first thought was to fly instantly; but the impracticability of removing his wife and children, one an infant, without exciting suspicion in the Oneidas, by whom the vicinity of his abode was thickly surrounded, precluded the possibility of making the attempt. He resolved, therefore, to wait the course of events until some mode appeared possible to avert the catastrophe. And knowing that to tell his wife of the threatened danger, would only be to create a pang of misery which he would have no mode of soothing, he determined to confine to his own breast a woe that providence alone could avert.

The councils were renewed from time to time, and were as often postponed through the strenuous efforts made by the chiefs friendly to Dean to save him, for several weeks, until at length the fatal die was cast, and the formal decision came to that Dean must expiate with his blood the crime of the unknown murderer.

Han Yerry and his wife had by a kind of tacit consent observed to each other a perfect silence on the subject of the councils; but no sooner had the dreadful issue of the deliberations been pronounced, than Han Yerry hurried home, took up the cup of water, and dashed it to the ground.

His wife turned pale on the instant; the next, recalled the lightning to her eagle eye, and she ran with the speed of the antelope (for woman's vengeance

nerved her aged limbs) to join her confederates on mercy's errand.

A bitter winter's night had closed in with unusual severity around James Dean's woodland home; the wind rushing in gushes through the leafless forest, lulled for the moment only to gather strength, as it seemed, to reïterate with redoubled might its previous efforts to drive all obstacles before it, that crossed its boisterous tract. The rain, made plaything by the air, was hurried downward and onward by its impetuous force, and threatened to beat in the well-barred door.

Dean awoke by the uproar of the contending elements, lay pondering over the phases of his dangerous position; and calculating in every way his imagination could devise, the chances of his o'erhanging fate.

The gale lulled for a few minutes, and he was again trying to sleep, (a solace and relief that for some weeks now, his anxieties for those to him more dear than self, had almost denied his wearied frame,) when to his horror the war whoop of the Oneidas burst suddenly upon his maddened ear, and he doubted not that *he* was the object of their rage.

Waking his loved wife, he quickly *now* told her his fears, desiring her to keep quiet with her little ones, whilst he went to receive the Indians in the adjoining room, and endeavored to turn them from their purpose. Commending his wife and children to HIM who careth for the widow, but with aching heart, (for he presumed his Indian mother had failed in her intended purpose for his relief,) he left his wretched family, and went to meet his fate.

Eighteen chiefs entered, whose solemn countenances and war-dresses at once announced their purpose. Amongst them was Han Yerry, whose downcast aspect and heaving breast, bespoke the wretchedness that dwelt within!

The head chief immediately entered upon the object of their visit.

"We come," said he, "to take your life! To you we bear no ill; but the justice of our ways demand it. One of our brothers has been killed by a white man; and in the world of spirits he can not have peace till we have given to the Great Spirit a white man's life. Our council has resolved that yours must be that life, and duty, therefore, brings us here. You must die. If you have a word to speak, we will hear."

"My friends," said Dean, "you do me much wrong; and yourselves no less. Although a white man, I am one of you. You took me for a son into your tribe. You taught me your ways of living, and your laws; and by your laws, you know that you must seek vengeance of the murderer's tribe; not of your own. I therefore am free, and your council must think again. Besides, was I not of your tribe, would the Oneidas take the life of an old friend that has for years brought benefits upon them? Would you make my poor wife a widow, and my dear children fatherless? No, no, Oneidas, I know you well. You have warm hearts, and love *your own* dear pappooses too well to wish to see *mine* wretched and forlorn."

"We know you well," replied the chief, "and sorry are we for your fate. 'Tis not for vengeance that we seek your life, but for the happiness of our poor murdered brother. True, you are our son, but you are white man still, and that will satisfy the Great Spirit. For your wife, your children, we will well provide. Your land shall be theirs, and more will we give them if they want, as we gave this to you. But you must die. Our chiefs in council have the death-lot cast, and so must your lot be."

Poor Dean felt that his chance of life was ebbing fast, without vestige of hope, when suddenly the door opened, and Onata entered the apartment. She stood by the entrance without speaking. Another minute and Howala entered also, and stood beside her companion; a

pause, occasioned by so unwonted an intrusion, was broken by the door opening a third time, and Hama appeared, and placed herself by the other two women. The three stood motionless, with their blankets drawn closely around them.

The chiefs appeared to be astounded at the hardihood that had induced the women to intrude into their presence, when they were met in council; and for a little time they waited in silence, apparently expecting the women to tell the purport of their visit. The latter, however, neither moved nor spoke.

At length one of the chiefs desired the women to retire. As before, they remained motionless and silent.

The head chief then addressed them, commanding them instantly to quit the place, and leave them to finish their business.

Onata immediately replied,

"Oneidas, I know your business here. You come to take this good white man's life. He is my son—your son, for you gave him to me for the tribe, and he is one of us. But he is more; he is our friend with the white man. He has for a hundred moons been faithful to us, and has made the white mans of this country love us. He has saved our brother Omi's life, and for it, all but gave his own. Curst be that chief that scalps this white man's head. He is my son, he is son to Omi's mother and his wife now here, and the first blow that falls upon his head shall plunge these scalping knives into our breasts. Never shall Oneida's daughters live to see that white man murdered by his friends."

As she gave utterance, with the vehemence of intense passion, to the concluding words of her harangue, the three heroines opened their blankets and displayed each, in their upraised hands, a gleaming blade, the bright luster of which afforded evidence that their resolves were not empty threats.

Had a thunderbolt descended from the stormy heavens above them, the effect upon the chiefs could not have been more electric. They seemed petrified and lost in astonishment at the scene before them, and they gazed for a short time vacantly around.

Han Yerry, availing himself of the consternation and uncertainty which he saw visible in their countenances, exclaimed,

"Oniedas, we are wrong! The Great Spirit has caused this. These women could not do this but for Him. Let us reverse the decree. 'Tis not his will that the white man should die!"

Lost in amazement, the chiefs unanimously adopted Han Yerry's proposal, the decree was reversed on the spot, and James Dean owed his life to

THE HEROINES OF ONEIDA.

Note.—The leading incidents in the above tale in the life of the Dean family are founded on fact, with the exception of that with which it opens relative to the little girl's visit for twenty-four hours to the Indians. This, however, is a true account of a similar circumstance that occurred to another family about the same period of time. It has been introduced to increase the interest of the narrative, as well as to point out the importance of circumspection in the exercise of a sound *discretion* in our conduct to others.

The influence that *slight* circumstances frequently exercise upon our future welfare, is oftentimes far beyond their apparent sphere. A courteous word or even gesture has often won an opinion, that subsequent intercourse has ripened into esteem and friendship. And few people, we fear, have arrived at what are usually called "years of discretion," without being able to charge themselves with many instances of *indiscretion* that have weighed, in their unforeseen results, heavily upon their after life.

We must not close this note without adding that meed of praise which the female character undoubtedly deserves, when viewed in the general, for perseverance and true moral courage. In the hour of difficulty and danger, whatever may be its kind, both history and daily experience prove that (after the first

outburst of alarm) the *weaker* sex almost universally at such times sets an example of energy, combined with patience, endurance and resignation which her *stronger* helpmate finds a useful stimulus to *his* failing powers!

For the Am. Farmer's Magazine.

CULTURE OF THE MIND.

BY WM. H. GAIGE.

"Mind makes the man—
Want of it the fellow."

This motto, somewhat altered from Pope, has a peculiar bearing upon the agriculturist. The farmer possesses all the advantages of other classes of the community; and if he will improve his mind, his influence will be as potent, and his example as salutary, as the influence and example of any other profession. The richest soil will produce neither bread nor meat without culture. Good culture not only improves the mind and fits it for high mental qualification and enjoyment, but it lightens the toils and greatly increases the profits of labor. Franklin owed his usefulness, his fortune and his fame to his early habits of study, of industry, and of virtue. Without these early habits he probably would have risen to neither fortune nor fame.

Some minds, like some soils, are richer than others, yet even apparently sterile minds like unfertile soils may by good culture be made to yield great returns. However menial and servile agricultural labor may have been considered among the privileged classes of Europe, and however degrading it may yet be held by the would-be aristocracy of America, it has commanded the highest respects of good men in every age, and constituted in our country the favorite study of a Washington, a Jefferson, a Jackson, a Madison, a Monroe, and a Humphrey, of an Livingston, a Shelby, an Armstrong, a Lowell, a Lincoln, and a great many others whose names will stand out in bold relief among the future annals of our country. Let then no young aspirant for fame and usefulness shun rural employment because it does not feed his hopes of distinction, and let no one engaged in this employment forego the opportunity which his condition presents of cultivating his mind as the surest means of sinking *the fellow* and rising to the dignity of *the man*.

Chaumont, N. Y., March 3, 1858.

From Dr. Waterbury's Lectures on Physiology and Natural History.

NATURAL HISTORY FOR THE YOUNG—THE CAT'S PAW.

Fair and softly Miss Pussy! Come and sit with us a minute. We'll smooth your back until you purr—become magnetized, as our friends the mesmerists would say, and then you must let us look at your foot, that dainty little foot of yours, that you take such nice care to keep from the wet.

First let us notice the soft pad at the bottom, on which she treads. How noiselessly she steals along through the dark! When she approaches, the long ears of the mouse, though they can detect the slightest rustle, hear no sound. When the ox or the horse moves as swiftly, the very earth trembles beneath his tread; but the whole cat tribe steal on their prey and doom them in death-like stillness.

Both these tribes of animals are alike in this—they walk on the ends of their toes; that is, what corresponds to the toes in man. Hence they are called *digitigrades;* to distinguish them from such flat-footed animals as we, and the bears—the *plantigrades.*

The feet of digitigrades are all made after one plan. In the horse and cow the toe nails are very thick and stout; in fact are *hoofs*, and enclose the pad, which is then almost as hard as horn, and is called the *frog.* In the horse there is but one toe, and consequently but one toe nail on each foot; but that one is made very large and hard, in order to bear fast travel on firm ground. In this respect the foot of the horse corresponds in structure to the iron rails on a railroad; while the cloven foot of the ox and other ruminating animals more nearly corresponds to the mechanism of a plank road. Hence the horse prefers dry, hard ground, and shuns wet, swampy places, for when his foot is once sunk in the mire, it is very difficult to draw out.

When the ox, however, treads on soft ground, his split hoof spreads a little as it sinks into the earth, so that when he begins to extract it, it becomes smaller, and comes out more readily. Hence oxen are better adapted than horses to boggy ground or deep snow, and this structure of the foot allows of a habit cows have of frequenting marshy pools in hot weather.

In the reindeer, an animal made to inhabit the polar regions, the two rudimentary toes above the heel, which in oxen and swine are called *dew claws*, are so large as to be used in deep snow, like the other toes; thus making the animal's foot spread over a great surface, like a snow-shoe; yet when the foot has sunk into the snow, it is drawn out as readily as that of the ox. The feet of birds that wade in marshes are made after the same plan, and for the same reason.

When we place the finger on the pad under the cat's foot, and press gently on the upper side of the toes with the thumb, four sharp claws protrude. Their points are like needles. The dog, the squirrel, and the woodchuck also have claws, but they are so exposed to the weather and the dirt, that they are dull. How are the cat's claws kept sharp?

By a very simple and beautiful arrangement. The last joint of the toe, that which supports the claw, *doubles backward* and to one side, into the space between two toes; so that when she walks she does not, like other animals, put that joint foremost, but rather the *second* joint. When the nails, together with the last joint, are doubled back in this way into the space between two toes, the cords which run to them are placed at such disadvantage that they can only move the toes for the purpose of walking. When the cat seizes her prey, however, a little muscle throws the last joint of the toe, that which supports the claw, over into the same position as in other animals, and then the claw is driven by the same muscle and with the same power with which the animal moves the foot. The tiger wields these terrible weapons with as much force as a horse kicks; so that a single blow from the front side of one of his claws, as the beast was leaping over, has been known to fracture the skull of a man.

In animals like the squirrel, made to inhabit trees, the claws are intended for holding fast to the bark, and so are not retractile like those of the cat tribe. One of the toes also is turned backwards, so as to act like a thumb in clinging to limbs and in holding nuts. By means of these thumb-like toes, squirrels run down a tree almost as readily as up.

In the sloth, a South American animal that lives almost exclusively in trees, hanging by its fore paws, the claws of the fore feet are enormously large and long—quite too large to be retracted like those of the cat. When on the ground, they must be doubled directly under the foot, so that the animal walks very awkwardly, as it were on its knuckles.

Mr. Jefferson, having discovered some of the claws and bones of the foot of an extinct animal of this sort, supposed they must have belonged to a kind of lion, as large as an elephant. He sent the bones to M. Cuvier, the great French naturalist, who, on examining them, could find no marks of the backward and sidewise joint, that exists in the cat tribe, and so concluded the animal to have been rather a hugh sloth, than a lion.

SCRAPS OF TENNESSEE.

BY A. L. B., A TENNESSEAN.

It has been but about two centuries since the first one of the Japhetic race set foot upon the soil of this new well peopled State. The sons of Shem, found here, had no scepter of empire or of effectual government. Possessing some art, they had cultivated the soil but little, they were idolatrous in religion, in fact but little less savage than the wild beasts upon which they lived. No refugee from Ham's progeny had escaped hither. The Red man had absolute sway. The Christian had not long traversed the country until he named the country in tragical parlance the "Bloody ground." Penetrating still deeper into her unbroken cane brakes he added "The *dark* and bloody ground." Digesting what of history relative to Tennessee, it was in 1665 or thereabouts that the first white man inhaled the vital fluid, or trod the ground of Tennessee. The

company was from Virginia. The buffalo, bear, panther, wolf, deer, and other wild beasts fed in thousands on the high rustling cane, or skulked in the dark ravine to grind the bones of the lesser animals. The Indian's arrow had no music or fire to alarm them. If their then tameness could be now experienced or told, the sight or recital would doubtless astonish the most valiant. Most of the animals named have followed or receded in advance of their landlords, westward, for westward the star of Empire took its way. Well might the sturdy pioneer in the year stated exclaim, "I am richer than he who had his flocks of a thousand hills," because he knew no king but God. These twenty decades have passed away. *How?* The Tennessee pioneer suffered, lived, and died. What were his feats of daring will never be half told—no historian has performed half the task. Yet upon the true heart of every Tennessean is inscribed as upon a lasting cenotaph some of the honor's due, "*requiescat in pace*," for *Olim meminisse juvabit.* There is a melancholy consolation in retrospect of the past, though the life's blood of many watered the ground under the stroke of the tomahawk of the swifter savage. The future recollection will be pleasing, when we compare what Tennessee is to be, and what she now is. I will leap over the space intimated as perhaps uninteresting, and proceed to quote from recent data.

In 1850 Tennessee had attained a high rank in comparison with her sisters. The euphony of the Indian *Tanasee* was nobly contended for in the United States Congress as the appropriate name for this territory by her valiant son, Jackson. The independent integral Franklin or Frankland, as a sovereign state, had died away. The name, in Indian dialect meaning "a spoon," was given instead. She wears the euphony brighter and more beautiful, whilst the emblem, the spoon, obtains. Some idea, I think, in that name. She has an area of 45,600 square miles, five-sixths arable—in size is about medium in the sister family. She had over one million of inhabitants, being the fifth in population in the Union. In improved acres the eighth. In live stock the seventh. She produced 52,137,863 bushels of Indian corn, while ten years before she exceeded all her sisters in the growth of this valuable cereal. But she stands at the head of the galaxy in home made manufactures, and averaged about $3 to head of population in value of articles sold that year. She strikes hands with eight of her sisters in geographical location, an emblem I claim of the social character of her children. Two Presidents have hailed from her border. I don't mean to discuss whether the old Dominion is justly entitled to the appellation of the mother of statesmen, but I claim Tennessee, as have others, to be the mother of States. She has peopled more States than any other. For the truth of this proposition I refer to the emigrants in all the States south and west of her. The warlike and lethal weapon of the Tennessee soldier has been beaten into plowshares and pruning-hooks, and from her fertile knobs and loamy valleys, and still more productive bottoms, she has now in store from the crop of 1857 a surplus of the necessaries of life sufficient to feed for the present year twice her population. All you have to do is send in your orders, and we would like to have you all speak at once. *More anon.*

Mill Bend, Tenn., March 5, 1858.

For the American Farmers' Magazine.

INSTITUTIONS OF MICHIGAN—HER PROSPECTS.

BY A NEW-YORKER.

An Eastern man being asked his opinion of the West, replied, "It is a most beautiful country, and for farming can not be surpassed, but, for my part, I had rather live at my old home in th

East, where I can see hundreds of young people pass my window daily to and from the halls of learning, than be proprietor of the most extensive farm in the West." He loved learning, and loved to see those who were acquiring it. But the West will not always remain behind in this important particular. Already has a decided stand been taken in favor of education. Michigan can claim warmest praise for the part she is taking in the cause of education. The same interest that prevails at the East in regard to educational privileges, is noticeable here. The fact that the only Agricultural College in the United States is located in this State, is a favorable indication that, ere long, she may rank among the first in education, if not in agriculture.

Michigan has won the title of a temperance State by the decided interest she has manifested in favor of this cause. Temperance organizations were formed, and the beneficial results were apparent from the influence they possessed. Such seeming the earnest wish of the people, a prohibitory law was passed. For a time the good efforts of such a law was seen; but the officers whose duty it was to enforce it, for fear of losing their offices, ceased to prosecute its violators, and, until quite recently, no effect has been made to stop the sale of liquor. Now, however, we are glad to observe that the people are taking the matter in hand, and in the towns where prosecutions have taken place, no liquor is sold publicly, except for medicinal purposes. If the thing is pushed forward, Michigan may deserve the name of a "Temperance State."

If there is anything in which this State is deficient, it is her *Press*. The number of her presses is large enough, but they seem to be in the hands of party demagogues, who look only to their own interests. The press does not exert that influence it is capable of producing. A turbid river bears a ship upon its bosom quite as well as though its waters were clear; but when drank, the water does not quench thirst, but produces sickness. The press of Michigan bears *news* to its patrons; but the moral tone which should pervade the columns of all newspapers, is seldom found in those published in this State. 'Tis true there are a few excellent papers published here, but their numbers should be multiplied.

A large number of the farmers in this section commenced their labors without sufficient capital, and a kind of "slip-shod" method of farming has, in many instances, been commenced. A patch of "girdlings" in the edge of the forest, and a log house among them are indications of this kind of farming. But thrift is visible in many places. Elegant farm-houses are being reared around us, and the march of imrpovement is apparent. Here, too, can be witnessed the almost wonderful effects of draining. Our farmers know the value of this invention, and their marshes are transformed into the most beautiful meadows by a thorough practice of this system.

The winter of 1857 destroyed nearly all the peach trees here, and fruit growers seem to think it useless to try again to establish this fruit. Other fruit flourishes well, and in a few years fruit will become one of the principal productions of the State.

The abundant yield of grain, and the high prices of 1856, induced the farmers to contract debts, which they intended to liquidate this fall; this could have been done readily enough had the prices for grain remained high, but the extremely low prices has made the farmers unable to meet the demands of the store-keeper. In many cases the prices paid for grain will scarcely pay for carrying it to market. The merchant becomes enraged at the long delay of the farmer in making payments, and dispatches an officer to enforce payment. Thus it happens that many are sued for debt who never were before sued in their lives.

The farmer's credit is impaired—for the merchant spares no one—and in many cases discouragement comes upon the new-comer, who is not long in denouncing the tradesmen of the West. The press is unjust in its censure of the farmers for not selling their grain when the prices will not pay for harvesting.

Michigan needs union of sentiment. There are so many who entertain different thoughts on subjects of interest. I have seen a man disregard his own interest, for the sake of opposing the wishes of his neighbor. This feature can be observed to a greater extent in Michigan than in the State of New-York. Give this State *union of sentiment*, and a free, unsullied, uncontaminated *press*, and she will rank among the first States in the Union in every particular.

O. A. Goold.

Antrim, Mich., Feb., 1858.

SPRING.

AN ACROSTIC.—BY J. MC. C.

S-pring with its balmy air invites the muse with tender strain,
P-ortraying with a gentle hand its sunshine and its rain,
R-eflecting in its ope'ning flowers the life and bliss and love—
I-n store for every child of God in yonder courts above;
N-ew pleasures there will fill the soul,—no winter with the spring—
G-ive then your heart unto your God,—an humble offering.

New-York, 1858.

(From the *British Tribune*, Canada West.)

THE ENGLISH LANGUAGE.

Celtic was the language originally spoken by our ancestors, which, by successive invasions, gradually changed its form into the Anglo-Saxon, which became developed into our modern English. Chaucer and Wickliffe were the first to make use of the spoken language in writing; and hence our language is not yet five hundred years old. It assumed in the Elizabethian age its most perfect form. The received Vernacular Bible has helped to render our language more stable. Our language has never yet been equalled, take it in all its branches. It is more widely spoken than any language under the sun; and it is highly probable that it will, in future, become the universal tongue. That is to my mind its glorious destiny.

READING FOR FARMERS AND MECHANICS.

Mr Editor:—Believing the old adage to be no less true at the present time than in its infancy that "reading is the avenue which leads to intellectual greatness" and feeling it the duty of man, whatever may be his profession to secure for himself the benefit of the experiences and investigations of others, I have thought proper to solicit a space in your columns in which to offer a few suggestions on the propriety of the farmers of this county securing for themselves more agricultural reading matter, and not only the farmer but the mechanic should be supplied with a journal containing well-considered, reliable articles on all the leading questions which directly and materially affect the interests of both. I believe that every man should be intelligent in his business, that the great industry of the country should be wisely conducted, that it is simple nonsense for him who "feeds the race" and who "smites the soil and the harvest comes forth" to remain forever in the furrow, or the wielder of the plane and mallet to for ever lie hidden beneath the litter from his bench. I would that every laboring man would feel the importance of taking that position among his fellows which belongs to those who hold the balance of the world's life in their stalwart hands.—*Courtland County Republican.*

☞ Great men never swell. It is only your "three-cent individuals," who are salaried at the rate of two hundred dollars a year, and dine on potatoes and dried herring, who put on airs and flashy waistcoats, swell, blow, and endeavor to give themselves a consequential appearance. No discriminating person need ever mistake the spurious for the genuine article. The difference between the two is as great as that between a barrel of vinegar and a bottle of the "pure juice of the grape."

Scientific.

CHEMICAL.

Ammonia.

The fact stated in our last, that certain substances, usually found on the farm, or, if not found there, easily obtained, as clay, charcoal, and swamp mud, or peat, have a strong attraction for ammonia, affords ground for a practical application to farm practice.

Clay and charcoal are the two substances to be relied upon for retaining the ammonia of manures. It is true there are other substances which will answer the purpose. Sulphuric acid, for instance, if diluted with water and sprinkled about the stalls and the fermenting manure heaps, will change the carbonate of ammonia into a sulphate, which is not volatile, and will therefore prevent the dissipation of the non-volatile carbonate. Muriatic acid produces a like effect—changes the volatile carbonate of ammonia into a non-volatile muriate, and thus prevents its escape. Plaster, to a limited extent, and especially in a moist state, produces a similar effect.

But the farmer would sooner use such substances as his own farm affords than be dealing with the apothecary. Sulphuric acid is sold by the quantity for 2½ cents a pound. Country apothecaries seldom charge less than 12½ for small quantities. Besides, these acids are not things that the farmer is much conversant with. They are unsafe, unless managed with discretion and care. Practically, then, clay and charcoal are the substances to be relied on for retaining ammonia.

Clay, constituting as it does a portion, though in some cases a very small portion, of all soils, is the principal thing which gives them the power of retaining ammonia; and it is this mainly for which loam is valuable for composting with manures as a retainer of ammonia.

Charcoal, on the other hand, is what gives to peat, leaf-mold, earth gathered from old hedges, etc., their value as retainers. Is there charcoal in these? Strictly there is not. Charcoal is the result of a slow combustion, with partial exclusion of air, by which the oxygen and the hydrogen of wood are driven off, while only the carbon is left. But decay is but a sort of slow combustion—a combustion so slow as to produce but little heat; and there is a point in the process of decay where the same effect has been produced—the oxygen and hydrogen gone from the decaying body, and nothing but the carbon left. If a wisp of straw were ignited, and then suddenly extinguished by covering it over with something that would exclude the air, it would be reduced to charcoal. But if the same straw were left to decay in the soil, or wherever the air is partially excluded, there would be a point in the process where it would be almost as black, owing to its carbonaceous character, as if charred by fire. Swamp muck, leaf mold, indeed any vegetable matter that has turned black in the process of decay, may therefore be regarded as a sort of charcoal.

It is often recommended to use an abundance of charcoal—coal dust—with manures; and this is well, where it can be readily obtained, since nothing is better as a retainer of ammonia and other gases. Where it can be readily obtained, it should be used freely for this purpose—thrown into the sink run, the privy, the pig pen, or wherever foul gases are likely to escape to the injury of the health, or to diminish the value of a fertilizer.

But as coal dust, in most places, can not be had in sufficient quantities, swamp muck, or any black mold, made up as it is mostly of vegetable matter, reduced

to a state strongly resembling charcoal, affords a good substitute—is very effective in seizing hold of and retaining floating gases, and especially ammonia.

In view of what we have said, let us ask and answer three practical questions:

1. What is the use of applying clay to a sandy soil? In addition to the physical effect of amending the soil, so as to render it more solid and more retentive of water, it serves to aid the feeble powers of such a soil for retaining the gases generated from the manures put into it, especially the ammonia, for the nutriment of plants. On many a light soil, we suppose one load of clay (pulverized by a winter's frost) and one load of barn manure will benefit the soil and produce an increase of crops equal to two loads of manure without the clay.

2. Why apply swamp muck, leaf-mold, hedge cleanings, etc.? These also tend to a physical amendment of soils. If a soil be very sandy and light, they render it more compact, more retentive of water, better suited to the conditions of vegetable growth; if clayey and compact, they open its pores and make it more pervious to the air; and in their further decay in the soil, they afford carbonic acid largely, and, in a small degree, ammonia, as food for growing plants. Their own matter, like that of ordinary manures, is manufactured into new and living forms. But their main object after all, especially when used in the yard, stall or pen, or for the purpose of composting, before being applied to the soil, as they ought in most cases to be, is to retain the ammonia of other manures. And here again we say that on many soils—on nearly all that are of a lightish texture and not very well supplied with organic matter—one load of swamp muck composted with one of barn manure, will give just about as good results as two loads of manure. The farmer, therefore, who has a muck bed on his premises, has the power of doubling the quantity, without much if any deteriorating the quality of his manures.

3. Should the farmer make a liberal use of these substances, notwithstanding the expense of the labor required? We think he should, because we think that the labor so expended will save a greater amount of ammonia and other fertilizing matters than an equal money value will bring from the Chincha Islands.—Ed.

METEOROLOGICAL.

CHAPMAN'S PRECALCULATIONS.

FIRST DEPARTMENT.

EXPLANATORY.

THE TERM POSITIVE is here given to conditions abounding *more* with *vital electricity*, inspiring *more* health, vigor, cheerfulness, and *better* feelings for business intercourse, etc., and consequently *greater success, enjoyment*, etc.

THE TERM NEGATIVE is given to deficient, or less genially modified electrical conditions, which consequently *are more unfavorable* to health, feelings, business, social intercourse, etc.

These conditions *do not* depent on the weather. A negative condition is often *fair*, and a positive condition *cloudy*, and *vice versa*.—*w* shows weak conditions.

¶ Indicates Sundays.

FIFTH MONTH, (May,) 1858.

	Tendency.	*Time o'clock*
1st,	Positive,	from 1 to 5 morn.
	Negative,	from 6 morn to 11 eve.
2d,	¶Positive,	from 1 morn to 4 eve, *w*.
	Mixed,	from 5 to 12 eve.
3d,	Negative,	from 1 to 8 morn.
	Mixed,	from 8 to 10 morn.
	Negative,	from 10 morn to 12 eve.
4th,	Positive,	from 6 morn to 9 eve.
5th,	Positive,	from 6 morn to 12 eve, *w*.
6th,	Negative,	from 1 morn to 12 eve.
7th,	Negative,	from 1 morn to 1 eve.
	Positive,	from 2 to 12 eve.
8th,	Positive,	from 1 morn to 12 eve.
9th,	¶Mixed,	from 1 morn to 9 eve.
10th,	Negative,	from 1 to 9 morn.
	Positive,	from 10 morn to 12 eve, *w*.
11th,	Negative,	from 1 morn to 12 eve.

12th, Positive, from 1 morn to 12 eve.
13th, Positive, from 1 morn to 1 eve.
Negative, from 1 to 12 eve.
14th, Positive, from 6 morn to 12 eve.
15th, Positive, from 1 morn to 6 eve, *w.*
Negative, from 7 to 12 eve.
16th, ¶Negative, from 1 morn to 3 eve.
Positive, from 4 to 12 eve.
17th, Positive, from 1 morn to 4 eve.
Negative, from 5 to 10 eve.
18th, Positive, from 1 to 11 morn.
Negative, from 12 noon to 10 eve.
19th, Mixed, from 1 to 8 morn.
Positive, from 9 morn to 3 eve.
Negative, from 4 to 8 eve.
20th, Mixed, from 1 morn to 1 eve.
Positive, from 2 to 12 eve, *w.*
21st, Negative, from 3 to 11 morn.
Positive, from 12 noon to 12 eve.
22d, Positive, from 6 morn to 9 eve, *w.*
23d, ¶Mixed, from 7 to 10 morn.
24th, Negative, from 7 morn to 12 eve.
25th, Positive, from 1 morn to 12 eve.
26th, Positive, from 1 morn to 3 eve.
Negative, from 4 to 12 eve.
27th, Negative, from 1 morn to 12 eve.
28th, Positive, from 1 morn to 12 eve.
29th, Positive, from 1 to 11 morn.
Negative, from 12 noon to 12 eve.
30th, ¶Negative, from 5 morn to 10 eve.
31st, Negative, from 6 morn to 5 eve.
Positive, from 6 to 12 eve.

SECOND DEPARTMENT.

The changes are four minutes *earlier* for each degree of longitude (60 miles) west. Difference of latitude in the same meridian is immaterial. The dry conditions are fair, and the damp conditions cloudy or wet, at least three or four times out of five in the average. When fair, the damp conditions diffuse a cool, damp sensation through the atmosphere.

Blanks indicate very weak, or mixed, or uncertain conditions.

¶ Indicates Sundays.

FIFTH MONTH, (May,) 1858.

Time o'clock. *Ray-angle.* *Tendency.*

1st, At 5 morn Y, warm, dry.
At 12 eve Y' warm.
2d, ¶At 9 morn R, warm, dry.
At 3 eve V, cool, damp.
At 4 eve G, warm.
At 7 eve GV- cool, damp.
3d, At 8 morn GO" damp, windy.
At 9 morn Y,, warm, dry.
At 10 morn V' cool.
At 12 noon G' warm.
4th, At 5 morn I" cool.
At 10 morn R,, warm, dry.
At 3 eve BR- warm, windy.
At 4 eve V,, cool.
At 5 eve O,, ——
At 9 eve G,, warm, dry.
5th, At 3 morn OV" damp, windy.
At 4 eve O, ——
At 12 eve .. wind stirring.
6th, At 1 morn Y" warm, dry.
At 7 eve B" wind stirring.
At 9 eve R" warm, dry.
7th, At 1 eve G" warm.
At 9 eve I' cool, damp.
8th, At 4 morn BI,, cool, damp, windy.
At 11 morn R,, warm.
At 12 noon V, cool, damp.
At 3 eve Y,, warm.
At 12 eve I,, cool, damp.
9th, ¶At 6 morn R,, warm, dry.
At 7 morn O,, ——
At 8 morn .. warm.
At 12 noon OR" windy, exciting.
At 9 eve Y' warm.
At 12 eve G,, warm, dry.
10th, At 9 morn O' ——
At 11 eve O, damp.
11th, At 4 morn I" cool, damp.
At 5 morn G' warm, dry.
12th, At 10 morn I, cool.
At 3 eve YB- wind stirring.
At 12 eve B- windy.
13th, At 5 morn I,, cool, damp.
At 12 noon R- warm, dry.
At 1 eve V- cool.
14th, At 11 morn G- warm, dry.
At 5 eve YI,, cool, damp, windy.
15th, At 11 morn .. warm.
At 6 eve O, ——
At 9 eve B' wind stirring.
16th, ¶At 7 morn Y' warm, dry.
At 3 eve YO" windy.
At 9 eve B,, wind stirring.
At 12 eve .. damp.
17th, At 6 morn I- cool, damp.
At 8 morn O,, ——
At 10 morn Y,, warm, dry.
At 1 eve R,, warm.
At 3 eve V,, cool.
At 4 eve B, wind stirring.
At 10 eve G, warm, dry.
18th, At 9 morn YV, cool, windy.
At 11 morn V, cool.
At 10 eve B" wind stirring.
At 11 eve G,, warm, dry.
19th, At 8 morn O" ——
At 3 eve YR- warm, dry.
At 6 eve Y" warm.
At 7 eve V" cool, damp.
At 10 eve G, warm, dry.
20th, At 11 morn YV- cool, windy.
At 1 eve I' cool.

At 3 eve O, ——
21st, At 2 morn B, wind stirring.
At 5 morn, end of the zodiacal period, or natural month.
At 11 morn G" warm, dry.
At 2 eve O,, ——
At 5 eve I,' cool.
22d, At 1 morn R,, warm.
At 4 eve I, cool, damp.
At 9 eve B, wind stirring.
23d, ¶At 7 morn R' warm.
At 9 morn RV- cool.
At 10 morn Y' warm.
24th, At 2 morn G,, warm.
At 3 morn I" cool.
At 4 morn .. cool.
At 7 morn " warm.
At 8 morn GI, cool, damp.
25th, At 10 morn Y' warm, dry.
At 10 eve B" wind stirring.
26th, At 2 morn GO, damp, windy.
At 7 morn G, warm.
At 8 morn O- ——
At 3 eve I,, cool, damp.
At 11 eve R" warm, dry.
At 12 eve V" cool.
27th, At 1 eve Y" warm, dry.
At 9 eve I' cool, damp.
28th, At 5 morn .. warm.
At 1 eve GV, cool, windy.
At 3 eve I, cool.
At 9 eve B, wind stirring.
29th, At 11 morn GR, warm, dry.
At 4 eve G" warm, dry.
At 10 eve O' ——
30th, ¶At 4 morn R, warm, dry.
At 7 eve V' cool, damp.
At 10 eve R' warm, dry.
31st, At 1 morn B,, wind stirring.
At 3 morn O,, ——
At 5 eve I" cool.

GENERAL REMARKS.

Cool Periods, longer and more prominent, are more liable near the 5th, 16th, 20th.

Greater tendency to windy, cloudy or stormy periods, or gusts, near the 2d or 3d, 5th, 8th, 9th, 14th, 16th, 18th, 20th, 23d, 25th or 26th, 28th.

Periods of greater electrical deficiency, 29th to 31st.

Natural tendency of the zodiacal period from the 1st to 21st dry. From the 22d to 31st damp.

GENERAL BEARINGS.

From the 1st to 6th a mixed condition prevails, in which the negative predominates. From the 7th to the 29th the general tendency is more positive with the exception of short intervals near the 9th, 16th, 19th. From the 29th to 31st negative.

Near the above negative dates, especially the 3d, 5th, 9th, 16th, the atmospheric conditions tend more to nourish combustion, rendering fires and explosions more liable. They also tend to more excitable contentious feelings and to spreading disease in epidemic form of an inflammatory or typhoid nature as small pox, scarlet fever, sore throat, etc.

COINCIDENCES.

From March 1st to 31st.—The brilliant aurora on the morning of the 12th inst., rousing the fire departments, etc., occurring at a date given to the public some three weeks previous, as more predisposing to auroras, is another of those coincidences which give the impress of unevadable truth to the reality of the discovery I claim.

The cold interval from the 3d to the 7th was strongly indicated in the table by the four combined currents ending with V or I on the 3d, (BI, GV, BV" BV,—*see explanation,*) more than occurred on one day so ending, for months previous or since. This interval was more marked than the subsequent cooler alterations.

Of the periods given for greater windy, cloudy, or stormy tendency, 10 of the 14 were fully corroborated.

☞ Early mailing to distant patrons precludes the convenience of giving the coincidences of the immediate preceding month.

GENERAL EXPLANATORY REMARKS.

The First Department, giving the positive and negative electrical conditions of the atmosphere, constitutes the chief importance of this document.

These alternating conditions not only affect all the minutia of life, health, and enjoyment among mankind, but also bear universally upon the various animal and insect tribes, and even upon the vegetable world. For electricity is the universal principle of *physical* vitality.

By glancing at the first department *synopsis* the physician can usually judge whether he will find his patients better or worse. The out-of-door business man may also judge when in a strongly positive day, he may succeed more in all business depending on the will of others, especially of the sensitive, than in often

several negative days—*not from luck, chance, or fortune!*—but because mankind usually act as they feel.

The synopsis is of universal bearing and application, and of great usefulness to all professions and classes of mankind.

The general tendencies are given, but their effects vary according to mental discipline and constitutional sensitiveness. A robust person may only feel a shade pass over his mind from a condition that would prostrate another by sickness.

The Second Department, or synopsis of changes in the atmospheric temperature is less important, because not infallible. Yet it is sufficiently correct to be deemed useful by many. The changes usually corresponding to within the hour before or after, three or four times out of five in the average.

In this synopsis the first letter of each colored ray is given, instead of the word in full, after the words morn, eve. *They* show the angle of the solar spectrum in which the current of reflected light that produces the condition is intercepted. *Thus*, R for the red ray, O for the orange, etc. *Currents* intercepted in the angles of the Y., or R., or G., rays tend to a warm and usually fair temperature. R, sometimes showery. V, or I, to cool and damp—three or four times out of five cloudy or wet. B, and often V, to electrical, and more or less wind stirring. O, to variable—in most cases cloudy or wet; but when dry to sultry or exciting. *Single* letters show single currents. *Double* letters show combined currents which usually operate longer and with greater force; often so superceding the effects of passing single currents that the *latter* becomes only modulations in a long dry or wet, warm or cool period, induced by the former. They can not be calculated so accurately as the single currents, but seldom vary many hours.

Longer or more prominent cool periods usually occur near combined currents ending with V, or I.

Warm periods usually occur near combined currents ending with R, or G.

Windy, or cloudy, or stormy periods, or gusts, usually occur near combined currents which end with B, V, I, or O.

Periods of greater electrical deficiency are such as predispose more to vegetable defection or *blight*, to cholera, etc.

All the combined currents predispose more to electrical disburbances, earthquakes, auroras, etc.

Periods (.) in the place of letters, show currents under investigation — *Double periods* (..) combined currents—*Hyphens* (-) after letters show confluent currents —*Commas* (,) after the letters show positive—*Apostrophes* (') negative condition. See second department. *They* also show the force of the intercepted current. *One* comma or apostrophe shows weaker, *two* commas, etc., (,,") stronger currents.

Many of the weaker changes are perceptible only by instruments. Those instruments are the Prism, Thermometer, Barometer, Hygrometer, Electrometer.

To Agriculturists.—The electricity supplied by the reflected light of the moon during her increase is more positive. During her decrease more negative. Hence fruit trees should be pruned, and vegetables growing above the ground should be sown, etc., between the first quarter and the full moon, to thrive best. Esculent roots, potatoes, etc., thrive best planted in the decrease of the moon.

THE ATMOSPHERE.

Our atmosphere may be viewed as an ocean 50 miles in depth, and being extremely elastic, the lowest portions, or those nearest the earth, are under a pressure of 15 pounds to the inch. As by atmospheric tides this portion rises up the mountain side it expands, and its capacity by such expansion, for heat is increased. It therefore robs the heat from the dews of the mountain top, and causes the eternal snows, while the same portion re-descending by currents to the valley, gives up its latent as present heat, and renders them verdant. It may be viewed as Nature's porter, carrying and disseminating all the lighter portions of decomposition, and giving them up where most required under the organic law.

At all times a large amount of water occupying our globe is to be found in the atmosphere in the form of vapor, and during its motion it deposits this general lubricator of nature on all surfaces colder than itself. Every plant is kept moist by condensations from the atmosphere. Every particle in nature is lubricated by moisture thus supplied, and prevented from abrading itself. The under-draining, plowing, and general manipulation of the soil, are mere adjuncts to the admission of atmosphere for the deposit of moisture and of gases, foreign to itself,

but held mechanically in suspension. All chemical laws owe their activity to its presence, and even the effects of light, heat, and sound, would be unintelligible without it. Its refractive force prevents the sun's heat from aggregating to such an extent on the surface of our globe as to melt it, while its mechanical action spread over so immense an area causes all those manipulations which tend to assist mankind in accelerating the operation of Nature's laws. It is Nature's motor, and equilibrated to her will. It carries the decay of continents across the surface of oceans, and fertilizes islands; it is the vehicle by which the *furina fecundi* of plants meets the desires of organic life, and gives birth to varieties. It maintains precise proportions of its two constituents in their combination as atmosphere, despite extra quantities of either that may be thrown upon it, and thus, while one of its constituents, oxygen, will cause immediate apoplexy, if breathed alone by animals or plants, and the other, nitrogen, would cause *asphyxia*, from its inability to sustain life; still the two in the proportion in which they are combined, exhibits that function to which we are all indebted for continuous existence. It, in common with water, is Nature's regulator. All the known changes in inorganic matters would be arrested by the absence of either. It completes the chain of the wonderful machinery which, within itself, has all the elements of creative power developed through these engines from the primary principles emanating from a great first cause.—*Work. Far.*

TRANSFUSION OF BLOOD IN THE HORSE.

Mr. Farrall, an Irish veterinary surgeon, has published in the Dublin *Quarterly Journal of Medical Science*, a report of his successful experience in the transfusion of blood in the horse, in diseases attended with low vital action. Mr. F. says:

"Having selected a healthy young horse from which to obtain the blood to be transfused, I opened the jugular vein in the patient and in the healthy subject, and having inserted the tube into the vein of the healthy horse, I placed the india rubber tube in the tin trough containing the hot water, to maintain its temperature, and the other curved tube into the descending portion of the vein in the patient. As soon as the current from the healthy horse had completely expelled all atmospheric air, the blood flowed freely from the vein of one horse into that of the other in an unbroken current. The average quantity of blood transferred in each of these cases was about three quarts. I observed no particular symptoms to follow from the transfusion until two quarts or more had passed from one to the other; but as soon as about that quantity had flowed into the diseased subject, there appeared to be produced an amount of stimulation indicated by an increased degree of action of the heart, at the same time the pupils began to dilate, and the countenance evinced an anxious expression. My former experiments led me to watch with great care the progressive dilation of the pupil, and I deemed it expedient in each case when this symptom was well developed, to compress the tube so as to diminish the current, and allow the transfusion to proceed more gradually. Occasionally I almost completely interrupted the current until the subsidence of this symptom, and I found that when about three quarts had been transfused, any additional quantity was followed by unpleasant symptoms, which indicated the necessity of stopping the operation. On removing the tube and closing the vein, all symptoms of irritation gradually subsided, and the pulse, from being rapid and irritable, became slower, stronger and fuller, gradually approaching the healthy standard. In every instance I found action in the healthy animal sufficiently strong to propel the blood into the vein of the patient; but if it be found requisite, the circulation may be strengthened by giving the horse from which the blood is to be abstracted, a little brisk exercise immediately before the performance of the operation.

"In each of my four cases the reaction was steady and progressive. The natural warmth of the extremities was gradually restored, and in the course of ten or twelve hours the patients presented other equally unmistakable symptoms of amendment, such as returning appetite, more quiet and steady respiration, cheerfulness of countenance, willingness to move about, and in a short time they were pronounced cured."

FOR THE AMERICAN FARMERS' MAGAZINE.

THE WEATHER.

APPEARANCE OF BIRDS, FLOWERS, ETC., IN NICHOLS, TIOGA CO., N. Y., IN MARCH, 1858.

By R. Howell.

Place of Observation, 42 degrees North, on a Diluvial Formation, about 40 feet above the Susquehanna River, and 800 feet above tide, according to the survey of the New-York and Erie Railroad.

Mar.	7 A.M.	2 P.M.	9 P.M.			REMARKS.
1	30	40	22	N. W.	Fair.	Light snow before daylight, half an inch.
2	13	19	11	"	Cloudy.	Light snow before daylight, one-fourth inch.
3	0	23	13	S. E.	"	Snow squalls in P. M. and evening.
4	2	15	6	N. W.	"	Snow squalls.
5	3	8	4	"	"	Snow squalls at intervals all day
6	9	22	11	"	Fair.	
7	9	24	16	West.	"	
8	14	33	18	N. W.	"	
9	16	22	20	"	Cloudy.	Light snow squalls at intervals all day.
10	23	38	25	"	Fair.	Light snow squall in the morning.
11	38	46	31	"	Cloudy.	
12	24	43	35	"	Fair.	Light snow squall at 9 P. M., and aurora at 9 P. M.
13	26	40	32	South.	"	Small or light aurora at 9 P. M.
14	36	46	40	S. E.	Cloudy.	Light rain from 6½ to 9 A. M.
15	40	52	45	S.& N.	"	Light rain at intervals all day; first blue bird seen.
16	42	65	47	S. E.	"	Ice in some places moved down the river.
17	42	75	57	South	Fair.	First blackbird and butterfly, and red and black caterpillar seen.
18	50	53	39	"	"	First robin seen; ice all went down stream.
19	35	46	27	"	"	The bee bird first seen, and frogs first heard.
20	26	56	47	"	"	First flock of pigeons, and ground squirrel seen.
21	46	61	39	S &W.	"	Light dash of rain before light and through the day.
22	34	43	30	N&W.	"	
23	27	41	26	N. W.	"	Plowing commenced.
24	25	45	25	"	"	
25	31	50	38	"	Cloudy.	Light dash of rain in P. M. and evening.
26	31	42	28	"	Fair.	
27	28	48	34	"	Cloudy.	A few very large flakes of snow at 5 P. M.
28	35	43	31	"	"	Snow in the morning; lunar halo at 9 P. M.
29	29	48	30	"	Fair.	
30	27	52	31	"	Clear.	Meadow larks first seen.
31	30	59	31	"	Fair.	

Mechanical.

PATENT CLAIMS

ISSUED FROM THE UNITED STATES PATENT OFFICE.

CULTIVATRRS. — Joseph Banks, of Dadeville, Ala.: I claim the construction, arrangement and combination of the body of the implement and its movable teeth, as described, whereby it is readily adapted to properly receive in turn the several scrapers employed for performing the various modes of cultivation specified.

MACHINES FOR HULLING AND CLEANING CLOVER SEED.—J. V. Blackwell, of Ovid, N. Y.: I claim the application of the gravitating curtain, H, at the point of the eduction of the blast, for the purpose of modifying and diffusing the same, and preventing the waste of seed, substantially in the manner shown and described.

I also claim the combination and arrangement of the overshot grating cylinder, C, and feed roller, D, with the blast generator, G, and blast-regulating curtain, H, the whole operating conjointly in the manner and for the purpose described.

HARVESTERS.—George E. Chenoweth, of Baltimore, Md.: I claim compensating for the wear of the worm or groove

in the driving cylinder, by making the parts of that cylinder adjustable, as described, thus giving increased certainty to the action of the cutters.

Horse Hay Rakes.—Asahel Cowley, of Harpersfield, N. Y.: I claim the described combination of a separator with a wheel rake, the whole being constructed, arranged and operated in the manner and for the purpose as set forth.

Compositions for Tanning Leather.—Clinton Daniels, of Elk Horn, Wis.: I claim the combination and use of cream of tartar and bicarbonate of soda with catechu in making a liquor, and using the same for tanning hides and skins, no claim whatever being made to the discovery and use of the catechu alone, for tanning purposes, by me.

Self-Loosening Horse and Cattle Tie.—John J. Eshleman, of Lancaster, Pa.: I claim the bolt, B, in two sections, connected by the sliding scarf joint, H, for the purpose of instantly loosening the horse, as set forth.

I also claim the devices of the bolt, B, spiral spring, F, and casing, A, all in combination, operating together, substantially in the manner and for the purposes set forth.

Method of Lighting Gas by Electricity.—Samuel Gardiner, Jr., of New-York City: I claim placing a coil of platinum wire, or its equivalent, in the relative position to the jet of gas, as described, for the purpose of lighting the jet by electricity, and for the re-igniting it when blown out under the circumstances and for the purposes set forth.

Horse-power Machines.—Jas. Grant, of Rochester, N. Y.: I claim making iron horse-powers with an open center to the caps, A, and an adjustable or a fixed bridge-piece, a, and making a double length or reversible pinion, B, as and for the purpose specified.

Straw Cutters.—W. W. Hollman, of Eddyville, Ky.: I claim the combination of the movable bottom, when constructed as set forth, with the cam shaft, C, cams, A and B, and connecting rod, D, for giving a projection of straw under the knife by raising the lever, W, said projection being gaged and furnished by the upward and downward motion of the lever, in the manner and for the purpose set forth.

Churn.—J. A. Jordan, of Shelbyville, Tenn.: I claim the employment of the revolving wheel, D, and stationary wheel, C, constructed and operating in the churn as set forth, the bottom of the same being fitted to a stove casing in the manner and for the purposes specified.

Washing Machine.—James McVicker, of Green Co., Pa.: I claim forming a receptacle within the wash-box for containing the clothes to be steamed preparatory to their being washed by means of the ribs or slats, m, attached to the wash-box, and the ribs or slats, r, attached to the lid, P, so that upon opening the lid of the wash-box, the receptacle also is opened for the introduction or removal of the clothes, substantially as described.

HYDRAULIC CEMENTS AND MORTARS.

The wonderful powers of durance which some mortars possess is to be explained with ease; but before doing so, let us recollect that the mortar and cement found in Herculaneum and Pompeii, now nearly two thousand years old, is as hard and compact as the volcanic rock on which it is found; and there are many specimens of cements in the museums of Europe, that, after having been under water for centuries, are as good, if not better, than when put down. Recollecting also the vast importance of good hydraulic cements in the construction of lighthouses, breakwaters and piers, and all submarine works, perhaps more attention may be given to the subject than otherwise would by non-interested readers. These hydraulic cements are such as *set* under water, and are not decomposed by its action like ordinary mortars. They are made either from natural or artificial mixtures of carbonate of lime with silica, or silicate of alumina or magnesia. The mineral *dolomite*, when calcined at a moderate heat, exhibits the property of hydraulic lime; and half-burnt lime (containing still a quantity of carbonic acid,) will *set* under water. From a French engineer—M. Vicat—we learn that the hardening depends much on the amount of carbonic acid left in the lime; thus he informs us that a stone that had thirty per cent of carbonic acid left in it after burning, hardened in fifteen minutes, while another, in which there was twenty-six per cent, hardened in seven minutes, and one

containing twenty-three per cent, took nine days to become hard. Two varieties in Europe are known as Trass and Puzzolana; and there is an hydraulic mortar used in England known as "Roman cement," made by burning some nodules found in the tertiary formation.

Neither clay, (silicate of alumina,) nor lime alone, will set under water, but if an intimate mixture of clay and chalk be calcined at a moderate heat, and afterwards mixed with water, a hydrated silicate of alumina and lime is formed as a hard mass, and this is hydraulic cement. If the clay or limestone should contain a little alkali, it seems to aid the solidification. There is an excellent cement made near Paris from one part of clay and four of chalk, which are intimately mixed with water, afterwards allowed to settle, and the deposit thus obtained is molded into bricks, which are then dried and calcined at a gentle heat. This hydraulic lime, like the best from natural sources, is entirely dissolved by acids. All mortars, but especially hydraulic ones, are solidified quicker and better under the influences of pressure and high temperature.

When an hydraulic cement is required, it is advisable to collect specimens of the minerals of the district in which work is to be carried on, and send them to some chemist for analysis. This will, in many instances, save much time and money, for we have known cases where Roman cements, and other hydraulic cements, have been brought from a great distance to carry on a work, quite close to which there was plenty only wanting the trouble of burning.—*Scientific American.*

AGRICULTURAL COLLEGES.

The following, which we take from several of the western papers, will give an idea of what is in contemplation and in progress, in that growing quarter of the Union, for the promotion of agricultural instruction. Could a better use be made of a portion of the public lands than by encouraging such enterprises?

Michigan.—It seems that the example of Michigan in founding the first Agricultural College on our side of the Atlantic, is deemed worthy of emulation. We give below sundry extracts showing that several other States are earnestly engaged in establishing institutions of the kind. They seem to be regarded as a necessity of the age, destined to supply a great *desideratum* in the otherwise admirable educational systems of many of the States.

Our own Institution has succeeded educationally beyond the expectation of its most sanguine friends, in spite of the severest tests, and those inevitable obstacles incident to all new and important enterprises.

The next term commences on the first Wednesday of April, and we understand that applications are on file already, for four times as many vacancies as will exist, many of them from other States. The public confidence seems firmly established in its triumphant success.

In addition to the States mentioned below, we notice that Maryland has during the past winter actually organized an Agricultural College and established it upon the estate of Mr. Calvert, near Washington. It is the joint work of the State and individuals.

Iowa Agricultural College.—We last week gave a brief synopsis of the establishment of an Agricultural College in Maryland. In another column will be found a notice of the Bill establishing a similar institution, on a comprehensive plan in Wisconsin. We have now received a Bill reported to the House of Representatives of Iowa, designing to establish a similar institution in that young and vigorous State.

The Bill in question establishes a State Board of Agriculture and a State College, and affiliates them closely. At the same time it contemplates a paternal charge over the general agricultural interests of the State. It authorizes the purchase of a tract of Land, the erection of buildings, the election of Professors, under proper restrictions and limitations. The Bill, in its general features, resembles the Act of Organization of our own College. In this case, as in the case of Wisconsin, the founders and promoters of the College, look with great satisfaction and solicitude to our own pioneer institution in Michigan, and its educational success thus far. No legislation nor act of Michigan, has ever elevated the State so highly in the opinion of her sister States, as the bold sagacity manifested in the establishment of her Agricultural College. The probability, indeed the certainty, seems to be establish-

ed, that our own will be the harbinger of other institutions of the kind in nearly every State in the Union.—*Lansing Republican.*

Wisconsin Agricultural College.—A Committee of the Senate in Wisconsin have reported a Bill for the establishment of an Agricultural College in that State. It adopts the main features of the Act creating the Michigan Agricultural College, a rare compliment to our State.

It is proposed, however, to do what Michigan did not do, endow the Institution permanently at once, with a fund to be created from 20 per cent. of the proceeds of the Swamp Lands. The interest of the fund so created is to be forever appropriated to making Tuition *free* in the College.

Labor and study are to be indissolubly united in the Institution, and the student is to be educated physically as well as mentally.

As soon as $40,000 is subscribed and received by individuals, the same sum is to be supplied from the Treasury for the immediate purchase of a farm, erection of buildings, &c. We learn that the citizens of two or three localities tender in advance the subscriptions of $40,000, provided the institution can be located among them.—*Detroit Tribune.*

Kentucky for Agricultural Colleges.—The Board of Directors of the State Agricultural Society of Kentucky recently adopted the following Preamble and Resolutions:

Whereas, A bill has been introduced into the Congress of the United States, appropriating a portion of the National domain for the endowment of a school in each State of the Union, for the education of farmers and mechanics—therefore, as the sense of this Board,

Resolved, That the Kentucky Agricultural Society, and the Farmers and Mechanics of Kentucky, do most cordially approve of said measure so far as it is known to them without distinction of party as to national politics; and that our Senators and Representatives in Congress are requested to use all reasonable and honorable efforts to promote its passage.

Ohio Agricultural College.—The Bill which Mr. Raymond has introduced, pursuant to the views of Gov. Chase as contained in his Annual Message, provides for the purchase of a thousand acres of land in one body, at no more than $25 an acre, and appropriates $50,000 for that purpose, and for the erection of buildings, purchase of furniture, apparatus and library. The College to be under the supervision of the State School Commissioner and State Board of Agriculture. The course of instruction to include a thorough English course, Mathematics, Natural Philosophy, Chemistry, Botany, Animal and Vegetable Anatomy and Physiology, Geology, Mineralogy, Meteorology, Entomology, Veterinary Art, Horticulture, Political Economy, Civil Engineering, Book-Keeping, and the Mechanic Arts directly connected with Agriculture. The sum paid to Professors the first year shall not be more than $5,000, the rent $6,000, and any year thereafter such sum as the Board of Supervision shall deem necessary. Tuition in the College shall be *forever free* to pupils residing in Ohio, and in case more pupils apply than can be accommodated, they shall be apportioned to each county, according to the ratio of its population.—*Toledo (O.) Blade.*

ENGLISH AGRICULTURAL IMPROVEMENTS.

The New-York *Tribune* alludes to several improved machines and processes recently produced in England. One, by Alfred Newton, relates to the cultivation of land by spades, operated by locomotive power as the machine progresses in the field. It breaks up, disintegrates and turns over the sward more thoroughly than can be done by the plow. A series of spades is made to enter the land in succession, and cut it into the arc of a circle, when the cut slices are suddenly thrown up against a shield plate, at once reversing them and breaking them almost into powder. This machine is only a new form of steam plow, at which English mechanics are still trying with unabated activity. Mr. John Fowler has also invented an improvement in the mode of operating the ordinary steam plow, which greatly simplifies its movements, and enables it to travel through the furrow with more certainty and freedom. Mr. William Dray, of London, has patented an improvement in plows, which applies to such plows as are provided with a share in the form of a pointed bar, and con-

sists in the means of securing the bar in its position, after being pushed forward, as may be from time to time required by the wearing away of the point thereof. The patentee claims the construction of plows which are provided with movable share bars, in such a manner that the bars can be tightened or slackened by means of an eccentric roller or collar. Mr. Robert Reeves, of Wiltshire, has patented a cart body for the purpose of delivering manure over a field, without requiring it to be thrown out by hand. The bottom of the cart is supplied with longitudinal openings, in which revolves drags or blades attached to an axis under the body. As the cart moves, these drags pull down the manure in a condition of complete pulverization.

ACTIVITY AMONG INVENTORS.

During the week ending April 10th, says the *Scientific American*, there were filed in the Patent Office thirty-two applications for patents from this office alone, exclusive of a number filed by the branch office of Munn & Co., located in Washington. For the same week there were issued at the Patent Office twenty-four patents to parties whose cases were prepared at this office and conducted through the *Scientific American* Patent Agency.

The above statistics for a single week shows that the inventors throughout our land are not slumbering.

ARCHITECTURAL DECORATIONS.

The ordinary house decorations that usually have any connection with their architectural proportions are, if not of the same material as the front of the house itself, generally made of plaster or stucco. When the house is new, these answer very well, and after a short time look in keeping with the whole; but it does not take long for the weather to cause them to crack, then little bits break off, and finally the whole crumbles away. A new material has been introduced to supply the place of these friable plasters and stuccoes, which is easily molded and can be cast into any pattern; it is basalt. There are works in Birmingham, Eng., where architectural decorations are cast from it in hot molds. The products are very firm and beautiful, and are represented as possessing characteristics of great durability. When cast in cold molds, a glassy lava termed obsidian is produced. The material genefally employed is the rag, stone of the neighborhood, but furnaces are in operation for the reduction of quartz by direct fusion according to a peculiar process, in which the pulverized quartz is mixed with flour spar, lime, and oxyd of iron, which agents combine with the silica and render the whole perfectly fluid.

ANOTHER AMERICAN TELEGRAPH.

There is a project on foot at St. Petersburg for establishing a strictly overland telegraphic company with North America. The plan has been presented to the government by a Belgian engineer, and consists in carrying a telegraphic line by Siberia, and to establish a submarine communication between Capes East and Prince of Wales, then to join the line to those of the United States through the territories of Russia and England.—*Scientific American.*

☞ An alchemist, who knew that Leo the Tenth was a great encourager of the arts and sciences, addressed him on a discovery he had made of turning other metals into gold. The Pope read his address with great attention. Whilst the philosopher was gaping after his remuneration from his holiness, he received from the Pope a very large empty purse, with these words, "You can fill it."

☞ Eggs by Weight.—Many of our people are in favor of the sale of eggs by weight. We saw an experiment made this forenoon by one of our grocers, who had just received a fresh lot, that converted us. He first selected a dozen of the large sized and placed them in one scale; and then put *twenty-one* of the smaller sized in the opposite; to balance them. The customer chose the dozen paying the price that was asked for the twenty-one.—*Lowell News.*

☞ Six barks are now preparing at Chicago to make voyages to Liverpool. Last year one—and the first—made this voyage, and seemingly with success, or others would not be induced to follow the example this year.

Miscellaneous.

COAL ASHES FOR POTATOES.

☞ A successful gardener in Norwich, Ct., last year planted half an acre of potatoes, partly with bad seed, very much decayed, on land where potatoes had rotted for several years before. He put a large handful of anthracite coal ashes into each hill. The crop was large and perfectly sound. All around him potatoes rotted badly. These are the facts.

Our comment is, that the ashes saved the potatoes. But coal ashes are not unique in their composition, neither are the causes of the disease always precisely the same; and hence, although the above statements are undoubtedly accurate, yet we would not infer that coal ashes will always prevent the disease.

The experiment, however, is well worth repeating by all who have coal ashes on hand.—Ed.

CURE FOR DRUNKENNESS.

"The best cure for drunkenness that we can recommend is total abstinence from all intoxicating drinks. Where the unfortunate victim does not possess the necessary firmness to resist the temptation of the intoxicating draught, we would recommend those interested in his fate to first employ those delicate means which are dictated by the spirit of Christianity, to bring him to a proper sense of his condition, before resorting to the forcible ones too often attempted. Instead of trampling upon him, strive to nurse into life the still glimmering embers of a nearly exhausted virtue. Think of him as a being whose frame is still capable of being agitated by feelings the most refined, delicate and intellectual, and endeavor to inspire in him a desire for those virtuous joys which he experienced before he became a victim to this terrible habit."

So says a much-valued contemporary, and we believe every word of it. A kind and Christian spirit that, most truly. But virtue that will not withstand temptation, is no virtue; and the drunkard should be made to feel, not when he is drunk, but in his sober moments, that it is a *terrible sin*, and not merely a *sad misfortune*, to be a drunkard, against God, against himself, against his family, and against the whole world. —Ed.

THE ENGLISHMAN'S SNUFF-BOX.

The French papers have not, under the influence of the alliance, ceased to have their jokes upon Englishmen, and one of the drollest is told as follows, by the *Union Bretonne*, from which we translate it:

Lord C., well known for his eccentricities, went lately to the establishment of one of our most celebrated workers in fancy articles.

"I want you to make me," said he, "a snuff-box with a view of my chateau on the lid."

"It is very easily done," was the reply, "if my lord will furnish me with the design."

"I will; but I want also, at the entrance of my chateau, a niche in which there shall be a dog."

"That, too, shall be provided," answered the workman.

"But I want, also, that some means should be contrived by which, as soon as any one looks at the dog, he shall go back into the niche, and only reappear when he is no longer looked at."

The workman looked inquiringly, as if to ascertain whether his customer was not the victim of some mystification. Reassured by his examination, and like a clever man, understanding how to take advantage of the affair, he said to the Englishman:

"What you ask of me is very hard to comply with; such a snuff-box will be very expensive; it will cost you a thousand crowns."

"Very well; I will pay you a thousand crowns."

"Then, my lord, it shall be made according to your wishes, and in a month I shall have the honor of delivering it to you."

A month later the workman presented himself to lord C.

"My lord," said he, "here is your snuff-box."

Lord C. took it, examined it, and said, "That is my chateau with its turrets, and there is the niche by the door-way. But I see no dog."

"Did not your lordship," said the workman, "say that you wished the dog to disappear when he was looked at?"

"I did," replied his lordship.

"And that he should re-appear when he was no longer looked at?"

"That is true, also," was the reply.

"Well," said the workman, "you are looking at it, and the dog has gone into the niche. Put the box in your pocket, and the dog will re-appear immediately."

Lord C. reflected a moment, and then exclaimed, "All right, all right." He put the box in his pocket, and took out of his pocket-book three bank bills of a thousand francs each, and handed them to the skillful workman.

HORSE RACING.

We are convinced that the whole system of racing for heavy bets is quite unnecessary to keep up high breeding in horses among an enterprising and industrious people like our own, while it is even rather prejudicial to the keeping up of hardihood and bottom, and ten times more injurious, morally, to all immediately engaged in it.

We say nothing of cruelty to the horses engaged, and danger to the men, as the race-course, last year and this, both exhibited. This, however, causes horse racing to differ much from boat racing. But we speak particularly of the gross and wholesale systems of betting vast sums, common on such occasions, leading to frauds and defalcations to an immense amount.

It may indeed be said, that for the proprietor of a horse to have a large interest at stake on his success, makes it worth his while to produce the highest possible speed. But what can be said in regard to the mere spectators betting amongst each other? Each one, if he wins, obtains money without having performed any corresponding benefit to society. Such money, because it comes easily, goes easily; and habits of waste and profligacy are introduced; and men are educated to seek for money, and find it most readily, not by industry and economy, which are the true foundations of national prosperity, but by low cunning, idling and chance. Their money is usually lost much in the same way in which it is made.

Those who lose have to pay over money first earned by some one honestly and industriously, money that those who squander had no right thus to appropriate. How many a family, brought up in affluence and with large expectations, has been reduced to beggary by these reasons, let each English race-course declare. Indeed, the best families everywhere, having a mind to maintain their position and wealth, are learning increasingly to avoid the dangers of the race-course and its betting.—*Philadelphia Ledger.*

MICE.

A good trap? That soon ceases to be of much effect. Cats? There are a nuisance in themselves, unless where trained as pets. Poison? That is dangerous.

Listen a minute, and I will tell you a plan of a very simple nature, which experience teaches me is efficient. On entering the house the writer now occupies—a rather old one, as it was built in the reign of James II—the floors and shelves exhibited the usual proofs to eye and nose that they were a haunt of large numbers of mice. It seemed hopeless to trust to the ordinary remedies. Thinking over what else might be done, I bethought me that, if it could be made not worth their while to remain, the mice would be sensible enough to desert the house for better quarters. It was resolved, therefore, to act upon the principal, that prevention is better than cure. The reader must excuse a somewhat minute detail on a domestic subject of no small importance.

We chanced to have a thoroughly clean and rather reasonable cook at the time, who though fond enough of her own way in most other things, did me the favor to let me have mine in this affair, and to carry out my plan with the greatest strictness and fidelity. On that very evening, after the last meal at night, every crumb of bread was carefully swept from the table, dresser, and kitchen floor, and the sink was carefully sluiced and clensed from all culinary debris. The sweepings were thrown, not into the dirt heap, but into the kitchen fire, so as to secure their perfect destruction. This was done regularly every night; and of course the mice soon found out that there was nothing for them to eat, excepting a trifling morsel of cheese in a common trap, by which a few were caught. In about a fortnight, one weakly mouse was

caught by the hand; but from that time to the present—about a year and a half—not a trace of a mouse has been visible, though they have been heard running behind the wainscotting in some parts of the house. No trouble has been taken to stop up the mouseholes, which remain as at first; not a single cat has been known to enter the house, and no dog has been kept. It is evident that what is carelessly left on the floor, &c., of mealrooms, constitutes the chief support of mice; and if the trouble were taken to deprive them of this, they would soon be so far reduced in numbers as to be rarely seen or heard. Every occupant of a house, might, at all events, in this way compel the mice to migrate to his less cleanly and less pains-taking neighbors; and if the custom of removing every particle of food every evening, were established in all houses, as it might very easily be, the propagation of these troublesome little animals would nearly cease in large towns; at all events those which did exist would confine themselves to their proper habitats, the drains and sewers. An unlooked for additional benefit, moreover, of a similar kind, was the result of this practice, which may possibly be mentioned on another occasion.—*Chambers' Journal.*

THE WAY TO COMMENCE.

The following is the testimony of a distinguished and very wealthy merchant of this city, of how to commence making a fortune and how to push along:

"I entered a store and asked if a clerk was not wanted. 'No,' in a rough tone was the reply—all being too busy to bother with me—when I reflected if they did not want a clerk they might a laborer, but as I was dressed too fine for that, I went to my lodgings, put on a rough garb, and the next day went into the same store, and demanded if they did not want a porter, and again 'no,' was the response; when I exclaimed in despair almost, 'not a laborer? Sir, I will work at any wages—wages is not my object—I must have employment, and I want to be useful in business.' These last remarks attracted their attention, and, in the end, I was employed as a laborer, in the basement and sub-cellar, at a very low pay, scarcely enough to keep body and soul together. In the basement and sub-cellar I soon attracted the attention of the counting room; and of the high clerk. I saved enough for my employers in little things wasted, to pay my wages ten times over, and they soon found it out. I did not let anybody commit petty larcenies without remonstrances and threats of exposure, and real exposure if remonstrances would not do. I did not ask for any ten hour law. If I was wanted at 3 A. M., I was there, and cheerfully there; or if I was kept till 3 A. M., I never growled, but told everybody, 'go home and I will see everything right.' I loaded off at daybreak, packages for the morning boats, or carried them myself. In short I soon became indispensable to my employers, and I rose and rose—and rose till I became head of the house, with money enough, as you see, to give me any luxury, or any position a mercantile man may desire for himself or children in this great city."

TOMATOES FOR WINTER USE.

Dear Farmer:—We are now enjoying the luxury of table tomatoes, as fresh as when first prepared, and at very little expense. We prepared one bushel of ripe fruit by removing the skins and cooking, seasoning only with salt and a very little sugar. They were cooked till thoroughly done—rather thicker than for immediate use, having been stirred with care to prevent scorching, and poured, boiling, into common stone jugs, and sealed while hot. We used grafting wax. One jug was not quite full, and we feared it might not keep well, but on opening it a few days since, we found it covered with a white coating, resembling mother in vinegar, but entirely sweet, as were also the tomatoes.

The first gallon was opened the day before Christmas, and remained, only corked, in a cool dry cellar, keeping good till the first of February.

When wanted for the table, add butter, pepper, etc.; and scald. We were careful to use only sound fruit, scalding it just enough to separate the skin, (which is best done by keeping the water boiling and dropping in four or five at once and skimming out immediately) which may influence their keeping.

I send you this now that all lovers of this fruit may prepare for the coming winter by planting abundantly. I assure you that we shall not make one gallon last us more than a month another

winter, if we can get the tomatoes to make up.

Spiced Tomatoes are also nice. Prepare as above, and throw into boiling vinegar and sugar (at the rate of four pounds of sugar to one gallon of vinegar) without cutting, cooking till reduced to the desired consistency, and kept in jars, or better in large mouthed jugs (as they will not cook to pieces) and sealed. Season to the taste by enclosing ground spices in a cloth and boiling with the fruit.

We have them as good as if used at first, saved for pickles, green or nearly so, (not having tried ripe ones,) by putting them up late, in water with only salt enough to season them, say three pints to the barrel; if much salt is used the seeds harden and they are not good. When required for use you have only to prepare them as in the fall when they come from the salt water. Do not fail to put out plants.

MRS. E. P. F. BRADNER,
in Mich. Far.

REDFORD, March, 1858.

A MICROSCOPIC WONDER.

THE mold on decayed fruit, stale bread, moist wood, etc., is shown by the microscope to be plants, bearing leaves, flowers, and seeds, and increasing with incredible rapidity, for in a few hours the seeds spring up, arrive at maturity, and bring forth seeds themselves, so that many generations are perfected in a day.—*Scientific American.*

☞ WE know a man so mean that he won't draw his breath for fear that he will loose the interest.

☞ MRS. TWADDLE says one of her children don't know nothing and the other one does. The question now is, which boy is ahead. Answers may be forwarded till the mail closes.

☞ ONE of the Western editors, speaking of a large and fat cotemporary, remarked that if all flesh was grass, he must be a load of hay. "I suspect I am," said the fat man, "from the way the asses are nibbling at me!"

☞ IF a man empty his purse into his head nobody can take it from him. An investment in knowledge always pays the best interest.

SMALL THINGS.

A TRAVELER through a dusty road,
Strewed acorns on the lea,
And one took root and sprouted up,
And grew into a tree.
Love sought its shade at evening time,
To breathe its early vows;
And age was pleased, in heats of noon,
To bask beneath its boughs.
The dormouse loved its dangling twig,
The birds sweet music bore;
It stood a glory in its place,
A blessing evermore.

A little spring had lost its way
Amid the grass and fern,
A passing stranger scooped a well,
Where weary men might turn;
He walled it in, and hung with care
A ladle at the brink—
He thought not of the deed he did,
But judged that toil might drink.
He passed again—and lo! the well,
By summers never dried,
Had cooled ten thousand parching tongues,
And saved a life beside!

A dreamer dropped a random thought,
'Twas old, and yet 'twas new—
A simple fancy of the brain,
But strong, in being true;
It shone upon a genial mind,
And, lo! its light became
A lamp of life, a beacon ray,
A monitory flame.
The thought was small—its issues great,
A watch-fire on a hill;
It sheds its radiance far adown,
And cheers the valley still.

A nameless man, amid a crowd
That thronged the daily mart,
Let fall a word of hope and love,
Unstudied from the heart;
A whisper on the tumult thrown—
A transitory breath—
It raised a brother from the dust,
It saved a soul from death.
O germ! O fount! O word of love;
O thought at random cast!
Ye were but little at the first,
But mighty at the last.

☞ THE housewife who has fruit in her cellar and neglects to place it on her table, neglects the health of her family, and undervalues one of the richest ornaments for table garniture in her possession.

☞ A FARMER said to a barber that he ought to reduce his prices now that corn is cheap. "No, siree," replied the shaver, "for when corn is low, farmers make such long faces that I have twice the ground to go over."

A BIG STORY, BUT TRUE.

JASON CLAPP, a carriage maker, a farmer and a gentleman in the eyes of all who know him, in Pittsfield, Berkshire Co., Mass., weighed four tons of well made hay, of the very best quality, every ton worth a ton and a quarter of medium hay, from one acre of reclaimed swamp, heavily dressed with horse manure; and he has grown crops approaching this in value, every year for nearly a quarter of a century, on that acre.

We do not think much of big stories but know this to be true; and it is only one of many that go to show that our filthy swamp holes may be reclaimed, with much advantage to the health of the people living near them, and with paying results.

A YOUNG lady in one of the leading circles at Washington was complimented by a gentleman on the simplicity and good taste of her dress at an evening party. She replied, "I am glad you like my dress; it cost just seven dollars, and I made every stitch myself." When young ladies pride themselves upon the cheapness of their attire, instead of expensiveness, we shall have fewer "broken" fathers and husbands.—*Colorado Citizen.*

That is the right sort of a young lady. Where are the young men? There is a chance.—ED.

☞ CHARLES LAMB is reported to have said: "The water cure is neither old or wonderful; for its only as old as the deluge, which, in my opinion, killed more than it cured."

Rather severe. The water treatment kills more than it cures only when not administered with care and great good judgment.

☞ SENATOR HAMMOND, of South Carolina, has, it is said, one of the largest landed estates in the South, his farm comprising over 11,000 acres.

☞ A MERCHANT lately advertised for a clerk "who could bear confinement." He received an answer from one who had been seven years in jail.

LEARNING AND UNLEARNING.—At five years of age the father begins to rub the mother out of his child; at ten the schoolmaster rubs out the father; at twenty a trade or profession rubs out the schoolmaster; at twenty-five the world rubs out all its predecessors and gives a new education till we are old enough and wise enough to take reason and religion for our pastors, when we employ the rest of our lives unlearning what we have previously learned.

AN old lady combated the idea of the moon being inhabited by remarking, with emphasis, that the idea was incredible, "For," said she, "what becomes of the people in the moon when there is nothing left of it but a little streak?"

ARAB PROVERBS.—If your friend is made of honey do not eat him all up. If you travel through the country of the blind, be blind yourself. When you are the anvil have patience; when you are the hammer, strike straight and well. He who can not take a hint, can not comprehend a long explanation. Take counsel of one greater and one less than yourself, and afterward form your own opinion.

☞ A STRICTLY orthodox old gentleman in Massachusetts, returned home on Sunday afternoon from church, and and began to extol to his son the merits of the sermon.

"I have heard, Frank," said he, "one of the most delightful sermons ever delivered before a Christian society. It carried me to the gates of heaven."

"Well, I think;" said Frank, "you had better dodged in, for you will never get another such a chance."

☞ A PRETTY woman pleases the eye; a good woman pleases the heart. The one is a jewel, the other a treasure.

☞ CURE FOR POLYGAMY. — Punch says that President Buchanan need not throw away powder and shot upon the Mormons. Let him send them fashion books. The necessity of crinoline will destroy polygamy. It will render Brigham Young himself unable to support more wives than one.

Children's Corner.

Above is represented a position into which we would advise children to put themselves as often as they have opportunity—out of doors, with some one who has learned more than they yet have, though not as much perhaps as they will, but who is now in advance of them and can teach them something they did not know before.

May is a fine month to be out in the open air, to absorb the genial influences of the sun without being scorched by his too fiery beams, and to observe the operations of nature. Nature is an ever present teacher; but children will comprehend her lessons more readily if they have some one to direct their observations. The girls even should be out this month, and their mothers should sometimes go abroad with them. But look below. What a fine employment for boys. If the girls work a little in the garden it would do them good. If their mamas fear it would make their hands too large and coarse, we think that an idle fear. But never disobey your mother, even if she should forbid you to handle a light hoe and spade, or a trowel, to dig about the flowers. But here are some boys and they are well employed.

It would be well if every boy in the country knew the use of farm and garden tools. If they should go to college by-and-by and learn to be great men, would it do them any harm to know first a good deal about farming and gardening? Not a bit. If they were to be Clays, Calhouns and Websters, it would do them no harm, but, on the contrary, much good to be so trained, as to know how work should be done and to be able to do it.

Nothing so contributes to the great end of education—*a sound body and a sound mind*, as farm and garden work in early life, to be continued at intervals, till the mind is severed from the body

and soars above all weights and hindrances.

Next after work in the open air, those thousand and one plays which boys love to engage in are best adapted to expand the chest and develop the muscles. Boys love to be useful, to aid their parents, to do something which benefits some one besides themselves, and for which they feel that they deserve approbation. That is right. There is not a purer, nobler pleasure than that of doing good, of feeling that we are of some consequence, are benefitting somebody.

But then there are times when boys, and men too, must have their relaxations. Especially should boys have them; and all kind parents love to see their children enjoying themselves in some innocent sport. Well they may; for in one-half hour's play, such as is going on above, the lungs are filled a thousand times; the blood is purified by the inhaled oxygen and the exhaled carbon better than by all the quack medicines recommended for that purpose; every muscle is brought into exercise. In short, those boys are nature's pupils just now. They are practising the lessons she distates. They will be men sooner, and probably better men for what they are now doing.

The children, listening to instruction above, are doing well, and the man there looks as if he wanted to give them a good thought. The boys with spade and rake in hand are doing well. We advise all boys to use such implements. But the other boys in the last cut are doing quite as well as any, provided they have done their more important duties first, and are now playing innocently and honestly (fair in their counts) with each other.

An Arkansas Father's Advice to his Son.—"Bob, you are about leaving home for strange parts. You are going to throw me out of the game and go it alone. The odds are against you; but remember always that industry and perseverance are the winning cards. Book larnin' and all that sort of thing will do well to fill up with, like small trumps, but you must have the bowers to back 'em, or they ain't worth shucks. If luck runs agin you pretty strong, don't cave in, and look like a sick chicken on a rainy day, but hold your head up and make believe that you are flush of trumps. They won't play so hard agin you. I've lived and traveled around some, Bob, and I've found that as soon as folks thought you held a weak hand, they'd all buck agin you strong. So when you are sorter weak, keep on a bold front, but play cautious. * * * And above all, Bob, be honest; never take a man's trick wot don't belong to you, nor clip cards, nor nig, for then you can't look your man in the face, and when that's the case there's no fun in the game; it's regular 'cut throat.'

"So now, Bob, farewell: remember wot I tell you, and you'll be sure to win, and if you don't, sarves you right to get 'skunked.'"

☞ A young thief charged with picking pockets, protested that he didn't pick 'em at all, but took them just as they came.

Editor's Table.

LIFE OF GEORGE STEPHENSON, Railway Engineer, by Samuel Smiles, from the Fourth London Edition. Boston: Ticknor & Fields. 1858. 486 pp., 12mo.

This is a beautifully executed book, with a beautiful portrait of its subject. Its chief excellence consists in two things. First, it affords an admirable history of railroad building and management in England, made interesting from beginning to end by the living, acting presence of the hero of the narrative. In the second place it presents a remarkable instance of what a young man, without early instruction, with no powerful friends to lift him, in a country where it is more difficult to emerge from a low to a high position than in ours, can do for himself by the unaided energies of his own mind and will. We wish every young man in our country would read it, review it, ponder upon it, and consider what sort of a man it is possible he may become, if true to himself. Why, young man, it would do you more good to read this one book, than to read columns of love stories, got up by the penny-a-liners, long enough to reach round the globe.

RAN AWAY TO SEA, an Autobiography for Boys, by Captain Mayne Reid, author of "The Desert Home," "Boy Hunters," etc., etc. Ticknor & Fields, Boston. pp. 359.

This runaway boy had a prodigious hard time, and would have given everything to get back again, and so we advise boys, who have a good home, not to run away; but after almost intolerable sufferings, he became a pretty decent man; and so we advise parents, who have a boy that is fool enough to run away to sea, not to be entirely disconsolate, as he *may* see his folly, and behave better. The book is interesting. So says our clerk, who has read it. We can not afford time to read such, but from casting an eye over its table of contents, we suppose it to be one of those true stories, concocted to suit the times, with a good moral *of course;* but we would much rather our own sons would read the book noticed before it.

ANDROMEDA, AND OTHER POEMS; by Charles Kingsley, author of "Amyas Leigh," "Two Years Ago," etc., etc.

This is the old story of the beautiful Andromeda, chained to the rock, and about to be swallowed by a huge sea monster, but delivered by the hero Perseus, done up in a sort of long lined poetry, and pretty well interlarded with Homeric epithets, such as long-haired, fair-eyed, Aegis-wielding, far-famed, ivory-limbed, and the like. We judge the author a pretty good poet; but he does not wield his epithets with quite as much case and grace as blind old Homer did. Our language is not as well adapted to poetry as the Greek. The world, we think, has never seen a poet equal to Homer, and we reckon it never will. Mr. Kingsley's book contains 111 pages, and would be a tolerable desert after a light dinner, or better, after a cup of Oolong at sun-set, for one who wished to revive a nearly forgotten acquaintance with Grecian Mythology.

TRANSACTIONS OF THE NEW-YORK STATE AGRICULTURAL SOCIETY FOR 1856.

We are indebted for this valuable document to B. P. Johnson, Esq., Secretary of the Society, and an indefatigable worker in its cause. It is smaller than some of its predecessors, more select, and is a truly valuable work.

AGRICULTURE OF MASSACHUSETTS, by C. L. Flint, Esq., Secretary of the Massachusetts Board of Agriculture.

This work also is smaller than its pre-

decessors, more select, and therefore better. It is all that could be expected of the gentleman above named, and that is as much as to say it is good. We believe no State has yet beat the old Bay State in the value of agricultural documents for the people.

Report of the United States Coast Survey. Prof. A. D. Bache, Superintendent.

In a national point of view, one can not doubt that these accurate, scientific, recorded surveys are of very great importance and value. For the present volume, a large quarto, with abundant engravings, our thanks are due to Superintendent Bache. It is published in better style than is usual at our national capital; and we can not but hope that, at Washington where so much is paid for printing, the art of printing will ere long be learned.

Transactions of the Michigan State Agricultural Society.

We are indebted to J. C. Holmes, Secretary, for this volume.

It contains a large amount of valuable matter, and is executed in a style highly creditable to that young State.

A single remark with regard to these annuals. Are they not still too large? The State treasury, we believe, usually pays for the printing, and that is well. Nobody should complain of a tax that serves to develop agricultural resources, because it puts into the treasury ten times more than it takes out. But it is never good economy to publish what is not worth publishing. There is no good in making an ass of the State or national treasury, to carry needlessly heavy loads. We have thought that an annual volume of three or four hundred pages, prepared by men who have the talent for condensation, might benefit the people as much as one of six or eight hundred pages, less pruned and condensed, and we throw out these remarks for those especially concerned in compiling them. If much is gained by letting in some writers, as much may be saved, in paper and ink, by shutting out others.

If it should be said that our suggestions would shut out the farmers, the very men who have the richest experience to tell, we deny it. Farmers are more apt to be strong handed, than long winded. They are generally reluctant to write, but when they can be persuaded to undertake it, come to the point quickly. According to our *notion*, they would be more likely to find a place than any other.

It is with no ordinary emotions that we give place to the following too brief tribute to the worth of an old acquaintance, a good man and an intelligent friend of agriculture and of humanity;—

Essex Co., Mass., March 20, 1858.

Friend Nash:—We have lately lost by death one of our most reliable farmers in Massachusetts. Col. Moses Newell died at his residence in West Newbury at the age of 63 years. He and his sisters inherited from their father about 300 acres of the best land in the county of Essex, situated on the southerly bank of the river Merrimack. For nearly 40 years he was a member of the Board of Trustees of the Essex Society, and for four years President of the Society. Always ready with heart and hand to do all in his power to aid the farmer, his loss will be severely felt by them—his physical health giving assurance of ten years more of life and usefulness. When a man so worthy is suddenly called away, it is proper that his virtues should be noticed, that others may imitate his example. Truly yours,

J. W. Proctor.

Convention of Agricultural Editors.—Such a convention we see is proposed, and we go in for it. The place is not yet agreed upon, but we notice a very general expression of willingness to accommodate in this matter, and we conclude, therefore, it will find a location. July or August, of the coming summer,

is the time proposed. Great good can not fail to result from a comparison of views and a free discussion of the more important subjects pertaining to this greatest of all material interests.

Tall Herds Grass.—We have before us a clump of herds grass, grown on the farm of A. N. Smith, Lenox, Berkshire Co., Mass., almost too tall to describe, lest we should get the name of telling *tall* stories. We knew long ago that these Berkshire mountaineers grew the tallest men, but were not aware till now that they grew the tallest herds grass. But it is so. The stalks are as tall as a man six feet high, and the heads are 11½, 11, 10, 9, 8 and 7 inches in length. Who will send us taller herds grass with longer heads?

Lawton Blackberry.—In referring to the advertisement of Mr. Lawton, it is proper to mention that plants put out on or before the 16th of May will give a fine crop of fruit next year, whereas if planting is delayed till autumn, a season is lost. Much has been said of the superior qualities of this fruit, and we most heartily endorse it all. It is an enormous bearer, and the fruit is large and sweet. Any soil which will produce corn is suitable for this plant. A rich loam, rather heavy, suits it best.

HULLED CORN.

The way to make this excellent article of food is this: Boil a quart of sound ripe corn in very strong lye, until the outer kernel of the grain is removed, which will be in about eight minutes. Now wash it in two waters, and cook until tender, and you have four quarts of most excellent and nutricious food.

REMARKS ON THE TIMES.

Congress has now been in session five months. The opponents of the dominent party say it has yet done nothing. Its friends undoubtedly think it has done well. It seems to us that neither are right. An indiscriminate censure of an administration by its opponents, and a predetermined approbation of all its doings by its friends, are alike unfavorable to the best interests of the country.

A patriotism that rises above party, a candor to give opponents *deserved* credit, a fidelity to scan the action of friends, and do even balanced justice to all, is what the country wants, what it lacks now more, we fear, than in the days of our fathers. We will not speak of measures or men, for the reason that this journal is not for such a purpose, and it shall not be perverted to other than its legitimate object, so long as we control its pages.

It is well known to our readers, that we believe it quite possible for our government, within the legitimate scope of its powers, with no frightfully high tariff, without much increasing the price of a single article of consumption, with no legislation purposely partial, and none that would in its effect operate injuriously to any, to secure a state of things in which American wants would be supplied by American hands, and that such a state of things would be favorable to all the great interests of the country, and not less so to the farmer than to the mechanic.

But between selfish, log-rolling schemes to gain undue protection on the one hand, and too much fear, as we must think, of interfering with the laws of trade on the other, the great industrial interests of the country have never yet obtained a judicious, persistent, reliable protection and support at the hands of the government. A consequence has been overtrading, too much buying and too little producing, dependence on foreign nations and terrible revulsions, such as the one we are not yet out of.

In the great religious revival we certainly rejoice. Will it be followed by an increase of honor, truth, fair dealing, sobriety, moderation of desires for self-aggrandisement, patriotism, virtue, cherished in the heart and acted out in the

life. We hope it will; and we believe it will; and that religion will hereafter be estimated more by what a man does, and less by the particular dogmas in which he believes. Believe as I do, and it is not much matter what you do, has been too much the rule. We hope it may be less so hereafter. It would seem as if what has transpired the last few months could not fail to result in great improvements, religious, moral and social.

But we shall see. The next few years, perhaps the next few months, will decide on the value or worthlessness of great religious excitements, as that question was never decided before. A man must live well in order to be a good Christian, as well as pray well—must be straight manwards as well as Godwards. If there shall be as much necessity in this great city to watch men of high professions, lest they cheat you in trade; if there shall be as much mad haste to be rich, heaven willing or unwilling; if as resolute efforts to live by wit and not by work shall continue the order of the day; if there shall be as much trading wildly, on the principle that if the bold operator wins the gain is his, if he loses another bears the loss; if there shall not appear more decided integrity, and if rascality, successful or unsuccessful, does not meet a darker frown in the public mind, and if not put down, at least be put out of the church, then the revival will have done little good here, and we suppose it will be much the same in other cities and throughout the country.

Never was a greater fallacy than to suppose that religion will better a man's condition hereafter otherwise than in proportion as it makes him a better man here.

GENERAL AGRICULTURAL INTELLIGENCE.

New-York, April 22, 1858.

MOSTLY FROM THE N. Y. TIMES.

The Wholesale Produce Markets have fluctuated considerably during the week, especially for Breadstuffs, which varied in price, as the available supplies fell short of or exceeded the requirements of buyers. On Tuesday, the European market news received by the Arago, favorably affected Flour and Corn, which were freely sought after at improved prices. Yesterday the advanced rates claimed checked the inquiry for export, and though a fair demand prevailed for home use, the tendency of prices was in favor of buyers. Rye and Barley ruled heavy. Oats opened briskly and buoyantly, but they closed tamely and languidly.

Cotton has been in good demand and prices close with more firmness. The week's sales add up 11,200 bales. Our available supply is 62,710 bales, against 81,532 bales, same period last year. The receipts at all the shipping ports, to latest dates this season, have been 2,597,251 bales, against 2,706,414 bales to the corresponding period of last season. The total export from the United States so far this season have been 1,714,913 bales, against 1,764,912 bales to the same date last season. The total stock on hand and shipboard in all the shipping ports, at the latest dates, was 605,744 bales, against 473,975 bales at the same time last year. The stock in the interior towns at the latest dates was 98,139 bales, against 50,180 bales at the corresponding date a year ago.

Bale Hay has arrived freely, and been in good request at buoyant rates. Loose Hay has attracted less attention, and has favored buyers. Salt Hay was scarce and quiet. We quote: Bale Hay, ordinary to prime, at 50c. to 75c.; Loose Hay, poor to very choice, at 60c. to $1, and Salt Hay at 40c. to 65c. per 100 lbs. Straw has been more sought after, and prices have been maintained.

Rice has been moderately dealt in at unchanged prices. In Charleston, last week, the movements in Rice were as follows: Receipts 3,081 tcs. clean, and 20,000 bushels rough; the sales include all the receipts of clean, at from $3 to $3 50 per 100 lbs., and 12,000 bushels rough, at 82c. to 93c. per bushel; exports 3,989 tcs., including 2,998 tcs. to New-York, and 88 tcs. to Boston. Remaining on shipboard, not cleared, April 16, 3,904 tcs. Freights—to New-York, 75c. to 87½c. per tierce.

The transactions in Tobacco have been restricted by the small supplies available.

Prices have been well sustained. In Baltimore, during the week, Maryland was quiet. 350 hhds. Ohio changed hands, at $6 to $10. Kentucky was inactive. 1,051 hhds. of all kinds were inspected. In Louisville, Ky., during the week ending April 14, 936 hhds. were sold at somewhat firmer prices. In Cincinnati, a lively inquiry prevailed for Leaf and Manufactured during the week ending April 14, at steady rates. In New-Orleans, during the week ending April 10, sales were made of 2,400 hhds., new crop, closing with Planter's lugs at 7⅞c. to 7¼c.; inferior to common leaf, 7½c. to 8c.; fair, 8¼c. to 9¼c.; fine, 10c. to 10½c.; choice selections, 11c. to 12c. Week's receipts, 3,554 hhds.; exports, 661 hhds.

Wool has been in rather better request at essentially unchanged prices. Sales have been reported of 125,000 lbs. domestic at 28c. to 40c. for common to full blood fleece, and 24c. to 32c. for superfine and extra pulled; with 13,000 lbs. unwashed California at private bargains; 1,600 lbs. California at 18c. to 23c.; and 330 bales foreign, including some Cordova at 17c. per lb., the latter on six months' credit. In Providence, last week, sales were made of 19,000 lbs. fleece at 30c. to 45c., and 11,500 lbs. pulled at 25c. to 36c. per lb.

Provisions have been quite freely purchased, (including Pork, for future delivery,) at improved prices for the leading articles.

No very important movement can be noticed in other descriptions of Produce.

NEW-YORK LIVE STOCK MARKET.

Beeves are sold by the estimated dead weight of the four quarters; the so-called "fifth quarter" (hide and tallow) is not reckoned in here as it is in Boston and some other cities. When cattle are weighed or estimated alive, the dead weight is reckoned at a certain number of pounds to the 100 lbs. of live weight, as agreed upon. The general rule in this market for medium cattle is 56 lbs. to the 100; 44 lbs. being allowed for the "fifth quarter" and offal.

The *average* prices to-day, as compared with last week, are about ¼c. lower.

We quote:

PRICES OF BEEF AT FORTY-FOURTH STREET.

	To-day.	Last week.
Premium Cattle	10¾c.@11c.	none.
First quality	10c. @10¾c.	10¾c.@11c.
Medium quality	9¼c.@ 9¾c.	9½c.@10c.
Poor quality	8¾c.@ 8¾c.	8¾c.@ 9c.
Poorest quality	8c. @ 8¾c.	8c. @ 8¼c.
Gen'l selling prices	8¾c.@10c.	9c. @10¾c.
Average of all sales	— @ 9c.	9c. @ 9¼c.

At Browning's, Chamberlin's and O'Brien's prices do not materially differ from those at Forty-fourth street. Browning reports beeves at 8c. to 10c. Chamberlin reports beeves at 9c. to 10½c. O'Brien reports beeves at 7½c. to 9½c.

MILCH COWS WITH CALVES.

The prices vary somewhat with the supply and demand, and vary greatly, of course, upon the milking value. The particular fancy of the buyer has also considerable to do with the price. Not unfrequently a Cow is sold at $90 to $100, or even $120. The general price throughout the year for ordinary Cows is $30 to $40, or $50. Quite a number sell above $50, and more, perhaps, below $30.

VEAL CALVES.

Veal Calves are sold by live weight, each animal being weighed alive at the time of sale. "Bobs"—that is, Calves a few days old—are usually sold by the head at such prices as can be agreed upon, sometimes for but little more than the skin is worth. The principal places of sale are Allerton's, Browning's, Chamberlin's and O'Brien's.

The markets have been more largely supplied than last week even, and sales are slow to-day, at 5c. to 5½c. for very fair Calves, while "bobs" sell for just what the purchaser offers for them, or all the way from 75c. to $2 each. Some of the stock of to-day has been on hand nearly a week, and the prospect is that all will not be sold at the present market.

SHEEP.

The receipts continue light, but prices remain about as last week, or a trifle lower.

SWINE.

The receipts continue very fair, and the trade, shows an improvement over last week at a trifling advance in prices. We notice sales of the best lots at 5½c.

WHOLESALE PRODUCE MARKET.

WEDNESDAY EVENING, April 21, 1858.

THE prices given in our report from week to week are the average wholesale prices obtained by producers, and not those at which produce is sold from the

market. The variations in prices refer chiefly to the qualities of the articles.

Early vegetables are now coming in quite freely from the South, Bermuda, and New-Jersey. These diminish the inquiry after the old. Potatoes and tomatoes are arriving from Bermuda. Green peas, rhubarb, radishes, lettuce, and strawberries, from Charleston, with plenty of "greens," asparagus, leeks, shallots, &c., from the surrounding country.

Potatoes are essentially unchanged in price, except Nova Scotias, which have fallen under free arrivals. They are now put out at 60c. to 80c per barrel. The West is sending in large quantities, even from Ohio and Indiana. The heavy freights make them costly here, although purchased at low prices. The market may be put down as overstocked with potatoes, and sales dull. We notice the first arrival of Bermudas, consisting of 190 bbls., which were put out at $6 50, and are retailing at $7 per bbl. Another cargo of 1,500 bbls. are daily expected.

With these potatoes came 200 boxes of tomatoes, which were sold at $1 50 per box—retailing at $1 75 to $2.

Apples are a little firmer, though arrivals are fair.

Green peas promise a good supply from the South. Some 60 barrels came on by the steamer which arrived on Monday last.

Butter is unchanged in price, with only a moderate home trade in new, white packages.

Eggs are as abundant and cheap as ever. Philadelphia sent on 300 bbls. yesterday, and 1,200 bbls. were received by the Erie Railroad, making 1,500 bbls., which is about an average number at the present time. As there are some 80 dozen in a barrel, the receipts amount to some 120,000 dozen eggs daily.

Poultry is quiet, with a limited amount in market.

BUSINESS DIRECTORY, TERMS, ETC.

THE AMERICAN FARMERS' MAGAZINE is the result of an earnest desire, on the part of its Editor, to furnish a journal of AGRICULTURE, AND OTHER BRANCHES OF RURAL ECONOMY, of an elevated character, national in its spirit, entertaining, *instructive*, and reliable, at a price somewhat lower than the wealthy and liberal farmer would demand, and such as to bring it fairly within the means of all intelligent family circles.

Its success hitherto confirms our belief that it is what the farmers of this country want, and encourages us to renewed efforts to extend its circulation. The price is $2 a year to single subscribers; $1.50 to clubs of from four to nine; **$1.25 to clubs of from ten to twenty; AND $1 TO CLUBS OF TWENTY AND UPWARDS.**

Clergymen, of all denominations, who cultivate a piece of land, and post-masters, who are also farmers, and desire the work for themselves, are invited to order this work at the lowest club price, $1, payment as in all other cases to be in advance.

Individuals so situated that they can not well club with others, yet desiring to economize, shall receive the work seven months for $1; fifteen months for 2; and two years for $3.

Any person is hereby authorized to become an agent for the work on the following conditions;—he may receive subscriptions at the foregoing rates; send us $1, current money, for each subscriber, with the name and post-office address plainly written, reserving the balance as compensation; and on receipt of the same, we will send the work one year, addressed to each subscriber.

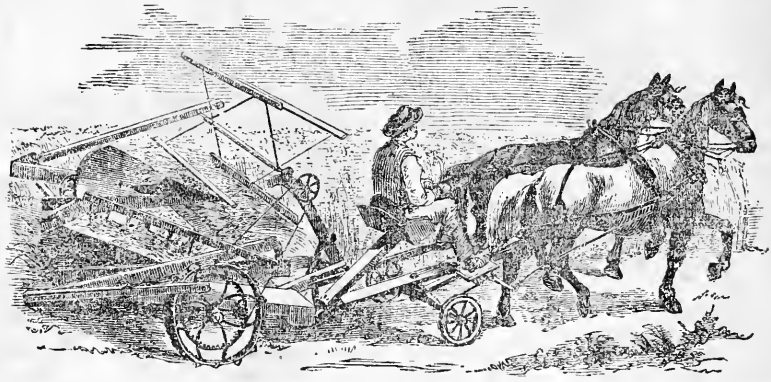
It will be seen by the above that we have put it in the power of nearly all who desire it, to get this work for $1; and yet those who are at all aware of the expense of publication, must perceive that it can not be afforded at that, but with a very large circulation, and hardly then.

Able farmers, therefore, who appreciate our object, which they can not but regard as a generous one, will do us the favor to advance according to our programme of prices, and to favor the circulation of the work in their neighborhood.

Money may be sent at our risk if enclosed with suitable precautions.

Address J. A. NASH,
7 Beekman St., N. Y.

Advertisements.



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Being three machines in one, simply adjusted and perfectly adapted to either purpose. These are important features not to be found in any other machine, and need only to be seen to be appreciated.

THE VERY BEST

Agricultural Paper in New-England.

THE NEW-ENGLAND FARMER is now generally acknowledged to be superior to any other publication of its class in the New-England States, and equal in merit to any in the country. Its circulation is unequalled by that of any other agricultural paper in New-England.

It is published weekly, on fine paper, and has just been put upon new type throughout. It is ably edited by SIMON BROWN, a thorough and practical farmer, and has the best corps of inteligent correspondents that can be found in New-England. Among these are Hon. HENRY F. FRENCH, of New-Hampshire, Hon. F. HOLBROOK, of Vermont, WILSON FLAGG, author of "Studies in the Field and Forest," &c., &c.

Besides the agricultural matter, the Farmer contains a complete digest of the news of the day, a condensed report of the markets, a large variety of interesting and instructive miscellaneous reading, and everything that can make it a welcome weekly visitant at the fireside of every farmer in the land. Also published at the same office,

NEW-ENGLAND FARMER, MONTHLY.

This is a pamphlet containing 48 pages in each number, printed on fine book paper, beautifully illustrated, and devoted entirely to subjects connected with the farm.

TERMS.—New-England Farmer, Weekly, $2 a year.
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NO CLUB PRICES, and no discount in any case, as our rule is to serve all alike. Send for a specimen copy, and judge of the merits of our publications for yourself.

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Fish Guano.---$35 Per Ton.

THE attention of Farmers and others is called to the FISH GUANO manufactured by the Long Island Fish Guano and Oil Works, at Southold Long Island It is composed of the *Bones* and *Flesh* of Fish, after extracting the oil and water, and has been thoroughly tested in England and France, and from testimonials received, is found to be equal to Peruvian Guano and other manures; is free from smell and not injurious to health. Price in bags, $35 per ton. Pamphlets containing full particulars and testimonials may be had on application to

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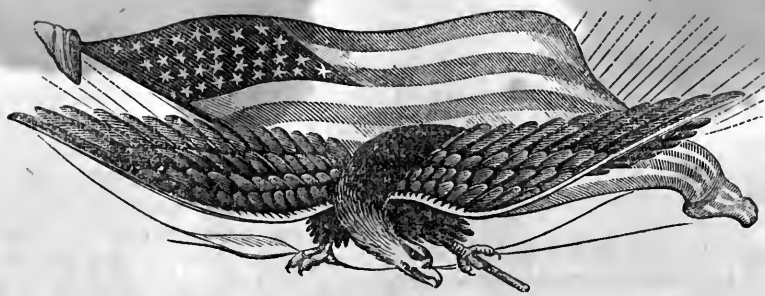
JUST published and for sale by A. O. MOORE, No. 140 Fulton St., N. Y., and STARR & CO., 4 Main St. New London, Conn., the above valuable work, containing plain, practical directions for Planting, Budding, Grafting, Pruning, Training, and Dwarfing the Pear-Tree; also instructions relating to the Propagation of new varieties, Gathering, Preserving, and Ripening the fruit; together with valuable hints in regard to the Locality, Soil, and Manures required for, and best arrangement of the Trees in an Orchard, both on the Pear and Quince stocks, and a List of the most valuable varieties for Dwarf or Standard Culture, accurately described and truthfully delineated by numerous beautifully colored engravings.

The above work, beautifully illustrated, should have a place in every family where a taste for good fruit prevails in all its choice varieties.

Orders promptly executed. Dec. tf.



AMERICAN FARMERS' MAGAZINE.

VOL. XII. JUNE, 1858. No. 6.

Agricultural.

HINTS FOR THE SEASON.

JUNE is a delightful, but for the farmer, a working month. Who would not like to be out in the thickest of its works, whether of the Divine or of human workmanship, whether by the skill of the husbandman, elaborating all beauties and all utilities, or of the bird that builds its nest and rears its young, or the bee that "gathers honey all the day" and lays by plentiful comfort for winter.

Nature now—and in no climate more than ours—hastes to her annual consummation; and the farmer can hardly keep himself posted in her progress. Perhaps you say, June is a fine month to talk about, and we should like it better if it would be a little longer, and give us time to enjoy it; but we are obliged to work the whole time. Yes, it is so. The farmer's work will never be done in June. It will not all be done any time in the year. With one hundred acres and suitable buildings, there will always be enough to do; and it is only by judicious management that the farmer can ever find time to visit his friends and perform the social duties of a good and useful citizen.

You would say, you like to work, it is your happiness; in nothing else do you find so much pleasure. Well that is as every good man will naturally feel about his employment. But you may think that after all, though it is your life and comfort, yet you would like not to be obliged to work quite so closely as this hurrying season demands.

Obliged to work! Why man, you are *obliged* to love your wife, if you would be a good husband, *obliged* to love your children, if you would be a good father, and *obliged* to love your neighbor if you would be a tolerable Christian; but do you love them with any the less pleasure because you are obliged? Not a bit, but the more. And so the work of the farm. It is the best work in the world. What if you had no way to get a living, but to be shaving notes, or peddling quack medicines, or praising goods that you want to sell but nobody wants to buy! You would not respect yourself half as much as now, that you are doing God's appointed work for more than half the human family; you would not love your business half as well. You could not be more than half as good a man. So be contented and work on. You are nature's nobleman, if you did but know it.

O fortunatos agricolas,
Si norint ———

No matter that we have forgot the rest. It means that the farmers are the happiest and best men we have, if they could only be convinced of it. So said the Mantuan bard in our school-boy days; and although we did not believe it then, we know it now. The working farmer is the best and happiest man; and his labors benefit himself and all the world beside.

The Farmer's self.

But what are they at this time? First of all take care of yourself. Read something every morning to feed your thoughts and quicken your observations through the day. Work expeditiously while you are at it, and leave off before you are too wearied, to read more, and to enjoy your friends in the evening. We hardly need say to you, retire early and rise betimes, for you will do this almost of course. Nothing, like your calling is suited to the development of practical wisdom; and sooner or later every profession is destined to be esteemed or despised according to the practical judgment and good common sense of those who follow it. We have ourselves sinned by working on in June, when the suns are long, after we had done a good day's work. Do a day's work, if you please, every day, but never do two in one. We know men, who will not stop, when they have done as much as their conscience would allow them to exact of a man in their employ. If this fault "leans to virtue's side," it is a fault still, and should be carefully avoided. Take care of yourself. Strive at all times to be a clear thinker, a reader to some extent, well informed, awake to all that concerns your own interest and the public good. So shall you honor your calling, and it shall honor you.

His Family.

What we have said to the farmer, and would not have him loose sight of, about self-culture, applies equally to his wife and to his grown-up sons and daughters. Let them strive to be as intelligent as the families of any other class at least. Let no day go by without storing in the mind something; and they too will honor this calling, second to none, heaven-appointed and heaven-honored. Have the mothers and daughters been out among the beauties of nature any more since that philipic we let off at American women for breathing out-door air no more, last month? If not, let them begin now. We do not mean to let another month go by without firing into the inside of the farm-house, with the hopes of scattering the inmates into the garden, over the lawns, to the fields and beyond. Where is the boy to get the horse and put on the side saddle? Run my good fellow, that your mother and sisters may have a good time, and come back laughing as heartily as would be safe, even with the present liberal modes of female dress.

The School.

In the next place, farmers, see to your schools. The minister, doctor, lawyer and teacher, will look after them; and that is well; but see that they do it rightly. Make your influence felt in the district. You will thereby gain a consciousness of your standing and usefulness in society, and it will do *you* good as well as *others*. Farm work presses this month as it did last, and will next, but those young children of yours are of more consequence than farm work even. See that justice is being done them at the school, and encourage them to be just to themselves. Take along your wife and visit the school occasionally. Nothing so encourages teachers and pupils as to see parents take an interest in the matter. You may have plenty of schools, but they will not go well alone. We suppose you have a good farm and in high cultivation, but how would it look five years hence, if you should leave it to go alone, or commit it to a hireling, and never go near it yourself?

So great interests as those of your children's education require your personal supervision.

The Corn Crop.

But turn we to what you will regard as more practical, the work of June. From Maine to Georgia and from the Atlantic to the Pacific, the corn crop is the most important. By the census report it was put down at 592,336,612 bushels in 1850. At 60cts. a bushel, this would amount to $355,402,967. It has often been estimated at the round sum of $350,000,000, and though we have no very implicit faith in these census returns, we could as readily believe that this sum falls below as that it rises above the real value. In our last we threw out various hints for the preparation of the ground, manuring and planting, not as law in the matter, with no excathedra spirit, but for the consideration of our readers. Our present remarks shall be on

Its Cultivation.

If your land is feasible the work may be done mostly by horse power. If it is not feasible by nature, we suppose you have made it so; for it can not be wise to plant ground year after year so covered with stones that you can not pass the cultivator within two inches of a hill, without danger of overwhelming it with an avalanche of bowlders. And now if your rows run both ways, as is well, in case your field is wide as well as long, but not otherwise, you can cultivate and cross-cultivate, so as to leave but 4 inches each way, or 16 square inches for the hoe. Even this 16 inches need not to be touched, unless the ground is peculiarly hard. Haul an inch depth of soil over it, and the weeds will be sufficiently held in bay, till you hoe again, especially if you hoe again as soon as we advise. We believe in giving corn land three dressings, in all ordinary cases. Two may be enough in some cases; in others four may be advisable. But three times over the ground, renewing every inch of surface is the rule for corn, where no special reason exists for a different course.

But let the three dressings be near each other. We contend that all that is done in the cornfield, between planting and harvesting, should be done in this month, and we think we have good and practical reasons for this; 1st the labor is diminished, and 2nd the crop is increased. From the first to the tenth of June let the ground be stirred as deeply as you can well cultivate, and every weed pulled up or covered; covering is just as effectual if the second dressing is to follow soon.

From the tenth to the twentieth, go over the ground again. Hill but slightly. Perfectly level culture takes more time and high hilling requires more elbow grease and back-bone; and there is no corresponding advantage in either, unless you mean to seed down to grass at the last hoeing, in which case the leveler the cultivation the better. Common sense—we mean that unswerved by tradition—decides that you should hoe a hill of corn just in that way in which the labor is lightest and soonest done—to haul a little soil about the hill, not more at the outside, than an inch at each dressing, not as much unless there are weeds to cover.

From the 20th to the 30th, hill the corn, as we used to say, but don't hill it, for that is a worse than useless labor. The Indians about Plymouth dug deep holes with clam shells, filled them with manure and fresh soil, and then piled the earth around the growing corn all summer. Some of the huge corn-hills made there by Indian squaws are visible to this day. We have imitated those Indian women, at a greater expense of labor than would foot the bills of a hundred Mormon wars, allowing they should not cost more than ten millions each, and we hardly think Brigham will fool Uncle Sam out of more than that at one heat; and now let us follow an Indian trail no longer, but exercise our own

good sense, and raise more corn with less labor.

If we hurry the corn dressings through in June, will not the weeds choke the corn in August? No, not if you have done your duty from May to July. If the soil was turned up to the sun in April or early in May; if it was harrowed before planting in case of a long time intervening between plowing and planting, if you have killed the weeds, not twice but thrice in June, nothing more is to be feared. The seeds in the soil will have sprouted, you will have destroyed the progeny, and then you may go on and do your haying and harvesting and not have more than two things to do at the same time. A few weeds, the seeds for which were two deep in the soil to be sprouted in June may spring up, but the corn will by this time be so strong, and drawing so powerfully from the soil as to starve them. The fibrous roots of the corn will by this time permeate every inch of soil, and if the weeds are not entirely rampant, it is best to let both the weeds and the corn roots alone. So we think, but we say let every farmer observe, judge and act for himself.

Potatoes.

The potato crop, in our opinion, except in extraordinary cases, should be dressed but twice, once as soon as fairly up, with as nearly a level culture as can be attained, and again in ten or twelve days, with slight hilling. The once hilling of potatoes gives fewer tubers in number, but larger in size, and more uniform. If you want 10 or 12 good sized tubers in a hill, hill them once, and that early. If you would have one large tuber, fifty small ones, and one hundred apologies for tubers, keep hilling them from May to September. Here too it may be asked, will not the soil become intolerably weedy, if let alone after the first of June, or the 20th, or at latest, the first of July? Not if you have taken turf ground, nor unless you had been negligent in former cultivation.

Pastures.

How many of these have you? There is no benefit in having many and small pastures, which is half equal to the extra expense of fencing. Some say none at all, except in so far as it is convenient to have a small lot or two near the homestead, where a horse, or a yoke of cattle, can be lunched—bated we believe is the word—near by. This having too many inside fences, either makes great expense or unruly cattle, both of which subtract from the profits of farming. Cattle generally scour badly when removed to fresh feed. When well over this, they may do better for a short time; but our observation has been, that for the whole season they thrive better to give them a pretty extensive run, and always the same; and so say a majority of farmers with whom we have conversed, though we have found others strenuous for small pastures and frequent changes.

Let there always be salt in each pasture and in the barn-yard. Near the sea, and especially where the prevailing winds are from sea to land, cattle will hardly thank you for salt. In the interior they need it. They are the best judges in all cases, whether they need it, and will thrive better in proportion to the forage consumed, if you will give them the choice. Their instinct, in other words their craving or their indifference towards it, is a sure guide to the *quantum sufficit*. As we have often said there is no profit in wintering more stock than you can winter well, so there is none in overstocking pastures. Better get ten cattle ready for the butcher by the middle of July, than starve twenty till the snow falls. We scarcely ever knew a farmer whose place attracted the drover in mid-summer, who was not doing well; and we have seen those, who every year supplied the early beef market, thriving on farms which most of our readers would laugh to scorn as compared with their own.

Try plaster this summer, if you have not before. On most old pastures, it will pay and leave a profit; and you never can tell what it will do on yours till you try it; 80 lbs. to the acre will do for a trial. We would recommend wood ashes on old pastures, if you could get them. But you can not. We recollect seeing it recommended by Hon. A. B. Dickinson, of Chemung county, N. Y., to denude pastures of all shade trees, on the ground that cattle will do better without them, and we remember that his reasoning was ingenious and his arguments seemed cogent; and if the facts he stated were really facts, we knew not how to get around or answer them; but we can not yield the point, nor feel willing to give up the old round topped and wide spread trees, looking so beautiful and comfortable; and we would save them if we had them, and set them growing if we had none.

The Orchard—Caterpillars.

You should look after your Apple trees at this time. Do not let the caterpillars go to seed, and produce a double crop next year. Prevention is better and easier than cure. The same species of caterpillers that infest apple trees, are also found on the black cherry. If the harm they do cherry trees is not worth considering, and that done by them to the apple tree is not very severe, nevertheless they give an unsightly appearance, and when seen in large, brown clusters, on limbs, denuded of their leaves, the indication is not what a thrifty farmer would wish—is hardly more promising of industry and thrift, than when you see rags and old hats in the window sash instead of glass. Twenty minutes a day, once or twice a week, through May and June, will suffice to keep a large orchard clear of them. And then if there are a few choke cherry trees about, which you do not choose to root up, it is easier to clean them also, than to destroy the extra swarms that will infest your apple trees next year from their neglect. There are various ways recommended for destroying them, such as blowing off with a light charge of powder, (silly enough as it seems to us,) burning their nests with torches, (about as likely to injure the tree as the caterpillars would be if let alone), cutting off the limb and trampling it, nest and all, under your feet (a mode suitable for small branches only), and stripping the nest off and crushing the worms with a leather mitten, an (unpleasant way surely, but as expeditious and as effectual at least as any other.) But choose your own way, only carry the war into *apple treedom*, and expel the enemy, or if they are not made scarce, let it be your neighbor's fault rather than yours.

Summer Trimming.

While killing the caterpillars, be sure to have a sharp knife with you, to nip in the bud any useless suckers, that are exhausting the sap, only to create a necessity of being cut away, with increased labor and greater injury to the tree at the some future time. And here let us say, with regard to a thousand things to be done on a farm, there is much gained by doing them promptly, such as cutting a sucker from the root of a fruit tree before it has grown half as large as the tree itself; destroying a caterpillar's nest, while the occupants are so young and tender, that they will disappear if you create the least disturbance with their premises; laying up a fallen rail, before the cattle break into the corn, putting a harrow, or a wagon under cover before the sun has checked the wood, and created inlets for water, &c., &c., &c.

Very much is gained by looking over the premises, seeing what there is to be done here and what there, and doing it at once. None so often as the farmer has occasion to verify the old proverb about a stitch in time.

Prepare for Harvest.

Although June is a hurrying month, July is more so. While driving there-

fore the work necessary to this month, do not fail to be ready for the next. Is the barn in readiness to receive and preserve the harvest? If not, now is the time to put it in order. By the way, did you bring into your yard, after removing the manure, a quantity of peat, mold, loam, or something of the sort, to mingle with and preserve the manure to be dropped during the summer months? If so, turn it over now and then with a plow; and if you do this in a cloudy day, or just before a rain, so much the better. Instead of ten loads of manure, in a yard where a dozen cows are kept over night through the summer months, there should be from forty to a hundred loads of an excellent compost, the best possible for top-dressing meadow land, as also for corn or almost any other crop.

Implements.

And how is it with the implements for harvesting? Are they ready? Unless your land is intolerably rough do not fail of having a horse rake. Four men at haying with a horse rake, are as good as five without. A good horse rake can be had for $5; a very good one for $10. It will last half a life-time if well used and taken care of. The whole cost and interest is less than a dollar a year. But a man's wages are as much or more per day. On a farm cutting seventy-five tons of hay we believe such a machine as R. L. Allen's mower, or Manny's combined reaper and mower, will pay for itself in two years, and will last much longer. But whatever implements you employ, look out for those that are well made. A scythe snath or shovel handle that you would select for yourself, made of white ash grown in open land, with pretty coarse grain, is worth at least two made of spalt, fine grained ash. It is so with a rake, head and tail. We never look at a bunch of rakes without seeing at a glance that there is at least fifty per cent variation in their value, owing solely to the character of the wood. Mowers and reapers, unless made, as some are, wholly of iron, should be oiled and varnished, but not painted, that the buyer may see what he is buying. If there is a fine grained spalt piece in them, let the manufacturer keep them. It will cost him less to keep them in repair than it will you, especially if he keeps them in his loft, where every mower, or reaper with a foot of defective timber in it, ought to be kept.—Ed.

AMERICAN INSTITUTE FARMERS' CLUB.

At a meeting of this club, Monday, May 10, Robert L. Pell, President of the Institute, in the chair; Hon. Henry Meigs, Secretary, present.

Mr. John G. Bergen, an intelligent farmer of Long Island, suggested that the Club should extend their inquiries upon the cultivation of wheat. I recollect, said he, that an experiment in France showed that mixing several kinds of wheat together increased the production; and I am inclined to believe that mixing Indian corn seed will increase the yield. I recollect a crop incidentally tried in Orange County, of a mixed character, that went far to prove this theory. It is an experiment that is certainly worth trying. I have tried a similar experiment, and and think the yield was increased. In mixing wheat, I think the increase was ten bushels to the acre.

Wm. Lawton. — It is an important question what time to plant corn. I think that we generally plant too early in Westchester County and vicinity, where the land is rather stiff. About a dozen years ago it rained nearly all May, and I planted in the first week in June; the result was an excellent crop of unusually sound corn— 70 bushels per acre. No effort was made to grow a large crop, and the later than usual time of planting made me fear that I should not make a good crop. The land was subsoiled.

John G. Bergen.—I have said I favored early planting, but that needs qualification. The time must be adapted to circumstances. Writers often differ upon all subjects. I saw a field of early corn this morning on Long Island, up and growing, and good crops will be obtained, for the ground is early and warm, and well manured. For market crops of green corn we must plant early. On Long Island, we regard the season rather

than dates. I have seen early planted corn that looked yellow and bad at first, but afterward recovered and made good crops; and I think, as a general rule, our early planting is best; we then avoid the fall drouth, which is sometimes so severe as to prevent the ears filling.

The *President.*—I plant my corn, 80 miles up the Hudson, the first of June. My neighbors plant May 10. My crop is usually the best.

A. Bergen.—My observation about soaking corn is that early planted corn if soaked, is apt to rot. The strife of neighbors trying to beat each other in planting corn has been injurious to the production. As a general rule, the earliest planted is not the best, and I am not quite satisfied about soaking corn before planting.

Mr. Fuller, horticulturist, Brooklyn. —I find that all well prepared soil is much earlier than soil that lies compact and hard. Manuring warms it, and brings forth the crop.

A. Bergen, a Long Island farmer.—Prepare your land well, and you can depend upon a corn crop in all seasons. Farmers fail because they do not plow, dress and prepare the soil well.

John G. Bergen.—I can grow sixty bushels per acre, but I can grow other crops to greater profit, because I grow market garden vegetables.

T. W. Field.—I believe that upon an average the Indian corn crop is the most profitable of any—even more so than carrots. Every one can not grow carrots, but every one can grow corn. After all, it is adaption of crops to location. I believe that everywhere Indian corn-growing may be made profitable. Here the stalks are very valuable, while at the West nearly worthless.

A. Bergen.—I find corn-stalks valuable for feeding horses; they cured mine of heaves.

Mr. Ambler of Harlem.—I came here to learn how to plant corn, as I have a little farm in Connecticut, where we think the fodder of an acre of corn worth as much as an acre of grass. By deep plowing I reclaimed a very badly cultivated piece of land that had been for many years planted in buckwheat or rye, without manure, and with but little rest and but little product. I planted a portion to corn, after plowing seven inches deep, which was considered very deep plowing in that locality. I applied no manure, and at first the corn looked miserable, until about the 1st of July, when it began to grow, and it proved to be the best crop in the town of Bethel. Next year I sowed oats and got a good crop, and sowed clover and had an excellent crop of clover—the whole attributable to deep plowing—that is, deeper than it had ever been plowed before. I am satisfied that we can make corn growing in Connecticut more profitable than in Illinois, simply by increasing the depth of the soil with the plow.

Mr. White of Staten Island.—I plowed an acre of land never before cultivated to corn, and used very little manure, but plowed deeper than it had been before, and got the best crop in the neighborhood.

T. W. Field.—Some of the Long Island farmers say that they have grown 128 to 130 bushels of corn per acre, planted 4 feet 8 inches apart.

Mr. Fuller.—I have traveled Illinois pretty well and I have never seen 100 bushels per acre. I have been told that a corn crop near St. Louis was worth only fifteen cents a bushel, and fifty bushels per acre is a full yield.

T. W. Field.—The largest corn crops have generally been grown in districts of poor soil. In Central New-York 70 bushels is a full crop. In Connecticut, on the Thames River, I saw a crop of 14 acres that measured over 1,400 bushels. It had formerly been manured with bones very largely, some twenty years previous.

John G. Bergen.—In regard to large corn crops, I have heard much of them at the West, but I never saw better crops in Ohio than upon Long Island. I grew one acre that gave a little over 100 bushels per acre. I try to plow as deep as I can, but deep plowing is not best for all lands under all circumstances. In one place in Pennsylvania I noticed that the land for corn was plowed shallow, and that deep plowing did not produce the best crops.

The President.—Lands differ, and sometimes deep plowing may reach gravel and injure the soil. Although I have injured some soil by too deep plowing, say twenty-two inches deep, yet I have improved a hundred acres where I ever injured one acre. Roots penetrate just as deep as the soil is aerated. All cereals require phosphate of lime, potash and soda. If these be removed by long cropping, the soil will not produce good crops. By deep plowing a new supply is obtain-

ed, just as it was upon ground described by Mr. Ambler that only grew five-finger vines. Do not consider a soil worn out until you have proved it so, not only that the surface is exhausted, but all below that is within reach of the plow.

How to Kill Worms.—A gentleman showed about half a wine glass full of worms, of a reddish brown color, as large as the coarsest knitting-needle, and about three quarters of an inch long, and very hard, with many legs and a voracious disposition to eat vegetables. They are so prevalent in some gardens in Brooklyn that a dozen or twenty are often found under one hill of corn. He said, "What shall I do?"

Solon Robinson.—Salt them with a mixture of salt and lime.

Upon this hint the Secretary sprinkled a little upon those exhibited, and in two minutes every one was dead.

As we had not the pleasure of attending the above meeting, we have copied so much of its proceedings, as we suppose of special interest to our readers, from other papers.

Whether mixing different varieties of Indian corn will increase the crop we very much doubt. Our preference would be to plant one variety, and to space according to the size, four feet each way for large varieties, 3¾ for smaller, and as low as 3 for the smallest, with four or five kernels in the hill. If others have found advantage from mixing the seeds of this crop we would like to hear from them, for we are always open to investigation and facts.

The reported cases of good crops by plowing worn land deep are important. They show that the *surface soil* may be exhausted, and yet the *land* not be exhausted, but capable of producing a large crop. But they do not prove that all worn lands may be made to produce well merely by ploughing deep. These examples are not a safe rule to follow. More generally the deeper you plow beyond the old level, the more manure may be applied to advantage.

If, as Mr. Field states, the "largest corn crops have generally been grown in districts of poor soil," and if by poor soil he means a deep, strong soil, but very hard to cultivate, not that which a farmer would choose for his corn crop but which he is obliged to use, or none, as happens over large territories, then it is just as it should be. The largest crops ought to be grown, as we believe they are, on the granite soils of Massachusetts and New-Hampshire, on what would be called poor corn land, because so difficult to work.

The farmer of many a New-England town can not afford to grow much less than a hundred bushels on an acre. The farmer in Illinois might make money by growing fifty.

We invite attention to the fact that Mr. Pell, the President, has injured some acres by deep plowing, but has improved a hundred fold more by the same process.

We advocate deep plowing, but not indiscriminately. Never was a more sensible remark than Mr. Bergen's, "Deep plowing is not best for all lands in all circumstances."—Ed.

"OLD RED STOCK OF NEW-ENGLAND."

Mr. Editor:—We are glad to see by your last paper that there is one man among us who stands up for the "old red stock of New-England." This is no new theory with Mr. P.; we remember to have heard a like opinion from him several years ago, when he addressed the farmers of Hillsborough county, and you yourself were present. We have lately seen an elaborate article on this subject, in the *American Farmers' Magazine*, a valuable paper published by Mr. Nash, at New-York. The truth is, farmers are diffident in the expression of their real opinions of the value of natives because they are not quite so fashionable. But if it is found that they can be fed at two-thirds the cost, and at the same time will yield quite as good products, is it not clear beyond a doubt, that it is best economy to keep them.

March 14, 1858. Granite Hills,
in N. E. Farmer.

Now we are not quite certain who this Mr. P. is, but if it should turn out

to be John W. Proctor, Esq., of Danvers, Mass., we should not think it strange, for it sounds very much like him, to be giving the old red cattle of the country their due, and to take it for granted that America can produce cattle that are "some potatoes" as well as England.

We are glad to see that the Granite Hills' man appreciates the articles we published in March and April, on the origin and value of our native cattle, by which we mean, those whose ancestors have been long in this country. That the common sense rules of breeding have been sadly neglected, that much of our stock has greatly depreciated since the first settlers in the country brought with them the very best cows and bulls that England then produced, and that the cattle of England have been wonderfully improved since our early fathers left that country, we have no disposition to deny.

There is no question that while we have been turning our best calves to the butcher, and otherwise neglecting wholesome laws of procedure, for the purpose of securing a constantly improving stock, English farmers—some of them at least, enough to gain magnificent results for their country—have been wiser. It is an often repeated assertion, and we suppose a truth, that the average weight of cattle slaughtered at the Smithfield market, London, has more than doubled, since England sent so many fat cattle to Boston, with the hope of curing the scurvy among her soldiers, and contenting her officers, after the very costly victory they had achieved at Bunker Hill.

We certainly have no inclination to depreciate what England has done. Her improved Devons, Ayrshires, Herefords, Durhams, are a triumph of which any nation might be proud, and what is worthy of remark is that the improvements are not confined to the herds of the fanciers. Whoever visits Smithfield market will find that the improvements are widespread, pervading the stock of the whole country; and so if he visits the farms of the various counties, he will be more surprised at the general excellence of the cattle, than he will at the superior condition of the few brought together at the national shows.

Our friend, of the red cattle articles, says England brags of her cattle till we, more modest, learn to despise our own. Now that Englishmen know how to brag, is certain. Some think Americans do also, and we half believe it. But a western man once told us that it was not faulty in the prairie folks to brag, for they had something to brag of. If his rule was a good one, then England may brag of her cattle, for she has something to brag of. We think her farmers have made more in the improvement of their stock, than her armies did in fighting us eight years, or would in eight hundred.

Still there is a drawback in English cattle, as breeders for this country. They have yet to be acclimated; and some of them, by excessive feeding from generation to generation, have become diseased. A distinguished medical gentleman of that country has recently proved by careful dissections, that in those cattle which have been so much admired at the shows, the mucles have turned to fat, not that fat has insinuated itself among the muscles (marbled,) as it should, but that the muscles themselves have become fat, and that the very fibres of the heart have in some cases dissolved and disappeared, solid fat having taken their place, rendering that organ incapable of dilating and contracting, and sending the blood purified and healthful through the system.

That the mortality among the high-bred cattle in England is much greater than in this country is certain. A dairy farmer in Berkshire, whose dairy consists of 60 of the largest Durham cows, told us in 1853, that while he took from that number ten each year to fatten, it was necessary to put in twelve two year old

heifers a year to keep the number good. This implied an annual mortality of two in sixty, or 3⅓ per cent. He added the opinion that this was but an average mortality of high-bred cattle throughout the kingdom.

There can be no reason for this—a mortality, three times as great, we believe, as occurs on well conducted farms in this country—except such as throws a shade over the future of these high-bred cattle. It is certainly worth considering whether we are always to depend upon the importation of cattle, to breed from, whose vital and reproductive powers are on the wane, from long-continued and excessive pampering, or are to select for breeders the best of our own acclimated stock. We have long been of the opinion, that efforts in both directions should be made. We have said, and we say now, let those who have money enough and fancy enough, import to their heart's content. Let them give $5,000 for a bull and a $1,000 for a cow, if they please. All the money they will send from the country is but a drop in the bucket compared with the millions we barter for gew-gaws, which we ought either to do without or manufacture ourselves. Bought wit is sometimes the best, if not purchased too dear.

We believe that as good a bull for all practical purposes can be had of the English farmer to-day for $500 as of the English fancier for $5000; and as good a cow for $200 as was ever brought to this country at the most fabulous price. We would advise those who are importing English stock as a means of improving ours, to go among the yeomanry of England, and not to the paid agents, whether in that country or this, who are lying in wait for enormous commissions. It would be cheaper to give the English farmer $300 for his cow, than them to give him $500, and then pay $500 more for the special benefit of a wily operator between the parties. Points and pedigrees, it is true, sometimes go together; but a good judge of cattle, knows very well that there are good points without pedigrees, *and no mistake.* As long as our money is paid more for pedigrees than for what every sound farmer knows to be good qualities, every step in our progress to a highly improved stock will cost more than it need.

Nevertheless, let the importations go on as long as the importers shall list. This trade will regulate itself much sooner than some other branches, which are far more injurious to us, such as buying our iron, instead of using our own ore, smelting it with our own coal, paying American laborers for the work, and feeding the workmen with our own produce. But while the importation of English cattle is going on, and splendid herds of foreign blood are being established all over our country, we can not but wonder that so few American farmers are inaugurating the practice of breeding on correct principles from our own stock. We are by no means sure that better cattle than England has yet produced, or ever can, will not spring from the descendants of the very cattle brought over by the first settlers of this country.—Ed.

SORGHO SUGAR.

General Directions for Planting, Cultivating, Cutting and Grinding Chinese or African Sugar Cane, and Making Syrup or Sugar therefrom.

From a little work, on the Sorgho Sugar, recently published at Cincinnati, we extract the following directions, which seem to us to be reasonable, and to communicate much practical information. We shall examine the work more fully and notice it in another place.

From all the information we have been able to gather, we deduce and would recommend the following:

I. If any doubts exist in regard to the ripeness of your seed, place a little dampened raw cotton over a tumbler of tepid water, in which place the seed. If good it will soon sprout. We have

both Sorgho and Imphee growing in our office, and offer no seed for sale which has not been thus tested.

II. Select dry, warm soil, which has a southern exposure; and as soon as the ground is warm to a sufficient depth, plant, in drills running north and south, about four feet apart, one seed to every eight inches, with shallow covering. Roll the land after planting.

III. Cultivate the same as common corn, until the cane is about waist high; then do not stir the soil deep, but merely scrape out the weeds.

IV. Allow all suckers to grow on the main crop; but for experiment, sucker a part, and take an account of the labor bestowed on each, as well as of the *amount* and *quality* of the *forage*, *seed* and *juice*.

V. When the canes are considered ripe, strip them, and cut off two or three feet of the tops, so as to leave none but rich and juicy joints standing. This should be done several days before the canes are cut up for the mill. They may then be cut and shocked, or housed in a convenient place, and kept until you are ready to start your mill. Care should be taken in cutting and handling the canes, to keep their ends out of the dirt. This precaution, with cleanliness in all parts of the work, will do much toward securing good results.

VI. Before commencing to grind, have all your tubs, kettles, cisterns or vats, well painted inside, and all ready; also, a good supply of *dry wood* prepared for the whole run. Set your mill so that the juice from it will run through a fine sieve and a flannel strainer, into a tub or cistern near the clarifier.

VII. Let the feed side of the mill be open about 1-8 of an inch, and the next or last two rollers closer. If the latter do not remove all the juice, set them closer, until they do so; but never attempt to tighten while there is cane in the mill.

VIII. In feeding our Vertical Mills, put in as much cane, all the time, as will pass through the feed regulator. In feeding horizontal mills, keep the rollers as evenly supplied as possible—about two canes deep.

IX. If you adopt our plan for a boiling range, you may use one of the three kettles for a clarifier, in small operations; or add two clarifiers, as shown on page 67. In either case you can *control* the heat, which is absolutely indispensable, for the juice must not boil until thoroughly clarified. Fill one of the clarifiers with juice,—say 100 gallons; put about one quart of cream of lime (good whitewash,) into a bucket full of juice—stir it together, and pour the whole into the clarifier, and mix thoroughly; make a brisk fire; watch the charge closely, and as it approaches a scalding heat, check the fire with a little bagasse. A thick, heavy scum will rise—keep the fire up until the scum finally breaks, and shows white froth between the flakes; then remove the scum and the fire, and let the juice rest until you have gone through the same operation with the other clarifierful, then draw off the first, through flannel bags, into the largest kettle of the boiling range, (the other kettles being partly filled with water, and a good fire started, but not turned under the first kettle.) Then whip up six eggs, or a pint of beef's blood, in a large bucketful of clear, cold juice, and turn the fire under it. Regulate the heat so that it does not boil, until it has "thrown up," and has been skimmed as before. Then boil as rapidly as possible until the thermometer indicates 238° in the syrup. In the same manner bring forward the second clarifierful; treat it with blood, or egg-water, and pass it on; finishing each charge in the kettle directly over the fire, and discharge it thence to your cooling-vats or boxes. Rapid boiling, after thorough clarification, produces the best results. The coolers should be large enough to hold a whole day's boiling each. Mix all together, as each batch is turned into the cooler, unless, by accident, a batch or charge gets spoiled, in which case it should be put by itself.

Every bucket, tub, kettle, ladle or skimmer, as also the mill and troughs, should be rinsed clean as soon as out of use, and before they get dry. It may be advantageous to do this with strong lime-water.

Syrup should be boiled to 38° or 40° B., to keep well. Molasses barrels should be well made, with at least sixteen hoops, and a middle piece of pine in the heads. The price, at Cincinnati, is $1.40 each.

Cellars are fruitful sources of disease if garbage and filth are allowed to accumulate for years. We trust, they were thoroughly cleaned and whitewashed last month.

PLEA FOR THE ROBIN.

BY WILSON FLAGG.

Certain cultivators, annoyed by the depredations committed by the common robin upon their cherry trees, have lately discovered, as they suppose, that this bird is of no service to agriculture. They accuse him of living upon fruit and earth-worms alone, alleging that he destroys but very few of the insects which are injurious to vegetation. Herein they are led astray by a very egregious error, and one that might produce incalculable mischief were they to succeed in convincing the public that the robin is an enemy to the garden and the farm. Nothing can be further from the truth. It is in fact one of the most valuable of our birds, exceeded only by the small woodpecker and the chickadee in the service he performs by checking the multiplication of noxious insects. Let us make a few inquiries respecting his habits.

The robin is not a searcher for small insects that live upon the bark and leaves of trees. He seeks his food like the other thrushes, mostly upon the ground; and is often seen, after a rain, pulling out earth-worms from their holes. This circumstance has led many to suppose that he confines himself to these. It is true that he devours great quantities of earth-worms, but they are only a small part of his diet. He also consumes large numbers of those grubs which occasionally appear on the surface of the soil. These are taken only by certain species of birds. Neither the woodpecker, nor the chickadee, nor the wax-wing, nor any species of swallow, nor the king-bird, nor any of the fly-catchers, nor that excellent friend of the garden, the golden oriole, take their food from the ground. What provision then has nature made to rid the surface of the soil of its noxious insects? Among the small birds the thrushes seem to be designed for this special purpose; and of all the species of this tribe none is more beneficial than the common robin.

What constitutes the food of this bird during eight months of the year when there are no fruits in the garden or pasture? It can not be said that he lives upon seeds, for he refuses seeds of all kinds unless they are crushed and made into a dough; and if a young robin is fed chiefly on farinaceous food in a state of confinement, he will sicken and die. The plain inference is, that when he can not obtain fruit he lives upon worms and insects. If angle-worms are the principal part of his diet, how does he continue to obtain them when the superficial soil is dry, and they are lodged in the subsoil? He can not get them at any time except when they are either wholly or partially above ground. He can not dig or scratch for them, and must consume other insects or he would starve. And when we consider the vast multitudes of robins in our land, and their voracious appetites, when we consider likewise that they live exclusively upon insects and worms, when fruit is not to be obtained, we must admit that the quantity of crawling vermin consumed by these birds must be immense and altogether beyond calculation. There are no other birds that could supply their place, since the other thrushes are too shy to frequent our tilled grounds. The larks, the snipes and blackbirds are likewise all too shy to perform an equal amount of the same service.

If the robins were to be exterminated the mischievous consequences that would ensue could never be repaired except by restoring them, certainly not within a period of twenty years. Let us enumerate some of the insects that are kept in check by the labors of the robin. He destroys nearly all kinds of worms, grubs and caterpillars that live upon the green sward and the cultivated soil; and large quantities of crickets and grass-hoppers before they have become perfect insects. The grubs of locusts, of harvest-flies and of beetles, which are turned up by the plow or the hoe, and the pupæ of the same when emerging from the soil; apple worms when they leave the fruit and crawl about in quest of a new shelter, and those subterranean caterpillars or cutworms, that come out of the earth to take their food; all these and many others are eagerly devoured by the robin. The cutworms emerge from the soil during the night to seek their food, and the robin, which is one of the earliest birds to go abroad in the morning, is very dilligent at the dawn of day in hunting for these vermin before they have gone back into their retreat. The number of these destructive grubs is immense.

"Whole cornfields," says Dr. Harris, "are sometimes laid waste by them. Cabbage-plants, till they are grown to a

considerable size, are very apt to be cut off and destroyed by them. Potato vines, beans, beets and various other culinary plants suffer in the same way. The products of our flower-gardens are not spared; asters, balsams, pinks and many other kinds of flowers are often shorn of their leaves and of their central buds, by these concealed spiders."—*Report, page* 343. The services of the robin in destroying these alone would more than pay for all the fruit they devour. Indeed, during the breeding season, a robin is seldom seen without one of these caterpillars or some similar grub in his mouth, which he designs for his young; and as the robin often raises three broods of young during the season, his species must destroy more of this class of noxious insects than almost all other birds together.

It must be idle to dispute the fact that in certain places the robins are very mischievous in their depredations upon the cherry trees. There is one good remedy for this evil, which was suggested some weeks since by a correspondent of the *Farmer*. This remedy is to plant a greater quantity of cherry trees; for it will be found that wherever there is a great abundance of this fruit the robins do comparatively but little damage. One very important cause of their depredations is the destruction of the blueberry pastures, which would supply them with large quantities of berries about cherry time. It is precisely in those sections of the country, as in Cambridge and the suburbs of Boston, where the blueberry bushes have been extirpated from the wild lands, we hear the most complaint against the robin. Our farmers, when they clear a whortleberry pasture, should transplant all the blueberry bushes to the sides of the walls and fences, to supply the frugiverous birds with berries, and thereby divert them from the gardens. There are thousands of miles of stone wall, within two hours walk from Boston, which ought to be bordered with blueberry bushes and amelanchiers, (June berries,) where, without occupying any valuable space, they would feed the birds and produce tons of berries, to employ the diligent hands of women and children of poor families, who would gather them for the market. Let those horticulturists who have conceived a prejudice against the robin, instead of petitioning the Legislature to remove the legal protection that now exists in favor of this bird, petition the authorities of the city of Boston to appropriate a few thousand dollars for the planting of blueberry bushes and amelanchiers by the sides of fences in all pasture lands within five miles of the city; and after the work is accomplished we shall hear no more complaints of the robin and the cedar-bird.—*N. E. Farmer.*

AMERICAN CATTLE.

THE DEVONS.

What the turf horse, and its ancient progenitor, the Arabian, is among horses, the Devon is among cattle. They are claimed in England as an aboriginal race, and to have existed in the island previous to its conquest by the Romans. Yet, from all accounts, the Devon has, from the earliest times, been confined chiefly to the county which bears its name, and the immediate confines of those adjoining, in the southwest of England. Nor does extraordinary attention appear to have been given to the improvement of the breed until the latter part of the last century, when the high prices, and great consumption of native beef in Great Britain, to feed her armies, having fearfully drained her cattle districts, awakened the attention of the few breeders of Devonshire, who still held their cattle in their original purity of blood, to their extraordinary value. The northern part of that county appears to have been their favored home. The soil and climate eminently suited them, and with the care and attention bestowed upon them by their breeders, for the past sixty or seventy years, they have improved in quality, appearance, and blood-like style, until they can be mistaken for no others with which they have any relation. The wild deer of our forests have no stronger marks of original descent than the well-bred Devons of the present day; and in uniformity of appearance, and identity of blood, they are scarcely more homogeneous.

An idea has prevailed to a considerable extent, that the red cattle of New-England are essentially Devons, from the fact that the first settlers of Plymouth came from Devonshire. There is no sort of proof in that, for no cattle were imported into New-England until four years after the arrival of the Mayflower, and neat cattle were imported

from all parts of the coast of England to the new colonies when an active communication had become established between the two countries. At all events, the New-England red cattle are exceedingly unlike the well-bred Devons of the present time, and only resemble them so far as their approach to the same color, sprightliness of action, and an upturned horn are an indication. An occasional well-bred Devon may have been imported into New-England during the last century, and left an infusion of its blood in certain neighborhoods; but nothing like an established herd of the kind has been known there until within the last thirty years. The first animals—six heifers and a bull—of pure North Devon stock, in the United States, of which particular note has been taken, were imported by Mr. Robert Patterson, into Baltimore, Maryland, in the year 1817. A few more were imported into New-York, by the late distinguished statesman, Rufus King, of Jamaica, Long Island, about the year 1819—both from the fine herd of the late Earl of Leicester, then Mr. Coke, of Holkam, in the county of Norfolk, England. A few years afterwards, some of Mr. Patterson's stock were taken into Connecticut, and successfully bred. In 1835, the remainder of the Patterson stock went into the hands of Mr. George Patterson, of Sykesville, Maryland, who has skillfully bred them, with occasional importations of a fresh bull, up to the present time. Mr. King bred his stock, occasionally parting with an odd animal, until his death many years ago, when his herd was broken up and dispersed. These were all well-bred cattle, originally procured in Devonshire by Mr. Coke, who considered them admirably adapted to the light soil of his extensive estates in Norfolk. From the herd of Mr. Patterson, many animals were distributed into various parts of the country. About ten years ago, and since, at various times, several enterprising cattle breeders made selections from the best herds in Devonshire, and brought them into Massachusetts, New-York, Georgia, and the Canadas. They have been eminently successful here, and now several herds exist, of purity in blood, and high quality—not excelled even in England. The Devons have thus become an established breed of cattle in the United States and in Canada.

DESCRIPTION.

The pure North Devon is medium in size, and less than the short-horn, or Hereford. They are red in color—originally, a deep blood red, but laterly, they have in England bred them of a lighter shade, but still red—a fancy shade, merely, the other characteristics remaining the same. The head is short, broad, and remarkably fine, with a quick, lively, prominent eye—encircled with an orange-colored ring; and a slender, branching, upturned horn. The neck is fine, with little tendency to dewlap; the chest full, with a slanting shoulder, more open of late than formerly; a straight back, with full round ribs, well thrown towards the hips, and a projecting brisket. The loin and hips are broad and level; the rumps in good proportion, and the tail well set, round, and tapering like a drumstick into a tuft of mixed white hairs at the end. The flanks are deep and level; the thighs somewhat rounding above, and running into a graceful taper at the hock, with a leg below of surpassing fineness and strength. The fore-arm is large above the knee, but below, the leg is exceedingly fine and muscular. A patch of white is occasionally found at the udder, and in rare instances extending forward to the navel, but in a majority of cases, perhaps, the white does not occur. Taken altogether, no animal of the cattle race exists, which in conformity of color, style, symmetry, and blood-like appearance, exceeds the Devon.

AS A BEEF PRODUCING ANIMAL,

no creature of the race this side of the Atlantic equals it in fineness of grain, delicacy of flavor, and economy in consumption. Its fineness of bone and freedom from offal make it a favorite with the butchers, and a choice to the consumer. In England it is preferred to any other beef excepting only the Galloway and Highland Scot, and bears, excepting those, the highest price in her markets. He matures early—hardly so early, perhaps, as a short-horn—but at four years old is fully ripe for the shambles, and at three, good. He is a kind and quick feeder, with finely marbled, and juicy flesh, and no bullock makes better *proof* at the shambles.

AS A WORKING OX,

he excels, according to weight and size, any other known. Even in size, the ox

is full medium, his solidity of carcase and muscular strength amply compensating for his *apparent* deficiency in bulk. For activity, intelligence and docility, he has no equal, and long experience has proved that where working oxen are in demand, an infusion of Devon blood adds largely to their value, both in price and performance of labor. They match readily, both in color and shape, the deeply concentrated blood of the bull imparting his color uniformly to his progeny. Their movements are quick and agile. They walk almost with the rapidity of the horse, possessing both wind and bottom. In short, the Devon is the *beau ideal* of a working ox, and as such, will always hold a pre-eminence.

AS A DAIRY COW,

she is full medium, when milk is made an object with her. For breeding purposes solely, as with the short-horn, her milking capacity has been too often sacrificed for the benefit of her appearance. Naturally the Devon is a good milker. We have often seen Devon cows yielding twenty-four quarts of rich milk a day for weeks together on grass only, and making a corresponding weight of butter. They are kind and gentle in temper, and with the milking quality properly cultivated, they are, according to their weight and consumption of food, equal to any others. They have so proved in England—we know it to be so in America; and coupled with the manifold excellencies of her stock, no cow can be more profitably kept as an economical animal, either in the farm dairy or the village paddock.

WHERE SHALL THE DEVON BE KEPT?

There has been much controversy among cattle breeders on this point. Our Western breeders and graziers, although they admire their beauty and symmetry, contend that the Devon is too small for their rich lands and huge corn cribs—the short-horn is better. We will not dispute that conclusion, well knowing the partiality of good stock feeders for large size, and corresponding consumption of food. But for the medium, and lighter soils of the country—and the richest also—in all its variety of climate, no beast is better calculated to win its way to success and favor. From Maine to Georgia; from the Atlantic shore to far beyond the Mississippi, the Devon thrives, and is a favorite with its keepers. On hills, or in valley, with scanty herbage, or a luxuriant growth, with anything like Christian treatment it will thrive, and do its duty.—*American Agriculturist.*

WORMS AMONG CORN.

Sward land, plowed in the spring for corn, is often found filled with worms, which are sure to make great havoc with the seed unless they are exterminated. The following is an excellent remedy: After turning under the sod, sow broadcast a bushel and a half of fine salt to the acre, and harrow it in, following with the roller. Soak the seed in tepid water about eighteen hours. Dissolve two ounces of sal ammoniac and add to the water. This amount will answer for a bushel of seed. Plant corn soon after sowing the salt. The seed will germinate quickly and the plants will come forward at once. Between the salt and the ammoniac, the corn will suffer little from the worms.—*Ex.*

It seems hardly possible that so small an allowance of salt should much disturb the worms. That it would benefit the crop, on all lands away from the sea-shore, to an extent greater than its cost, we should have no doubt, and it might retard the operations of the worms, while the sal ammoniac would tend to hasten the early growth of the young plants, thereby getting sooner out of the way of the worms. This is one of those prescriptions, which it would be no loss to try.

Perhaps one reason that worms work among corn planted on turf land worse than on stubble, is, that the ground being cold, the corn remains small and subject to their bite longer. If so, this affords another motive, in addition to the many we have suggested, for planting corn only when the ground has become warm, and for applying some stimulating manure, to secure a vigorous outset.—Ed.

MANAGEMENT OF HEDGES.

We copy some valuable hints on this subject from a letter of William Laer,

of Garden Grove, Iowa, the results of his own successful experience: "I have raised, so far, beautiful two years (Osage) hedges, which have already overcome the doubts of many a skeptic neighbor. I sprout all my plants before setting—thin them out in the row, throwing away all that show no swelling buds, or which make only a feeble effort, and I never have a missing plant. My greatest enemy is the cut worm; I defeat him by fall plowing—by setting the plants three inches deeper than they stood in the nursery, so that the new sprouts will come up from the buds below the surface. This deep setting will also insure a new growth in case the tops should winter-kill. But the root alone will not sprout. The first fall I bank up three to five inches high, three to four furrows on each side of the hedge. I set seven inches apart, but believe that twelve would be better.—*Country Gentleman.*

AN AMERICAN HERD.

The following which we cut from an exchange gives rise to some curious reflections. That Mr. Thorne has a magnificent herd, the best probably in the country and perhaps in the world, we have no doubt.

But if the *sovereigns* of Europe, and the sovereigns of America had not bid against each other and England made fools of them both, bulls would not have sold for $6,000 nor cows for $3,500.

But despite the recklessness, as we must think it, of paying such prices to English sharpers, (English farmers get no such prices), we thank Mr. Thorne and others who are doing like him, for their zealous and successful efforts for the improvement of the stock of this country.

Many English breeders told us in 1853, that they anticipated a time not very far distant, when they would be reimporting from this country. If Mr. Thorne and others can hasten the fulfilment of that prediction, we should certainly be glad to see the change.—Ed.

Samuel Thorne, of Thornedale, Washington Hollow, Dutchess co., N. Y., has a herd of only some 70 cattle, but their cash valuation is over $80,000. For one bull $6,000 was paid in England; for another $5,000; and another is almost equally valued. One of his cows "Duchess 66th," cost $3,500 *at an auction sale* in England, and her calf brought at the same sale $2,000. Despite the stringency in commercial affairs, Mr. Thorne has found no difficulty in disposing, at high prices, of all his surplus stock. Judicious selection, and an ample fortune, have conspired to make the American herd at Thornedale superior in its individuals to any other in the world. If we may judge from our past success, we are warranted in the belief that America will shortly be able to supply the mother country with short-horn cattle and Southdown sheep, as it already has with reapers and pleasure yachts.

POTATOES.

A New-Hampshire farmer, who has been greatly successful with this crop, ascribes his success to the following causes;—

1. Change of seed. Seed all procured from a distance.
2. Planting on light instead of heavy, wet soil.
3. Light manuring and seeding.
4. Early planting and late digging.
5. Manner of keeping.

THE ROBINS VINDICATED.

The question of the relation of the robin to horticulture was discussed at the January meeting of the Massachusetts Horticultural Society. It was the opinion of many fruit growers that the robin is a perfect nuisance to the horticulturist, and that the law preventing their destruction should be repealed. There were some, however, who gallantly took the part of the sweet birds, and at their suggestion a committee was appointed to ascertain their habits, and especially the kinds of food eaten by them during each month of the year. The chairman of the committee, J. W. P. Jenks, of Middleboro', has made his report for the first three months of the year, and it is entirely favorable to the robins. It is proved that the robins subsist chiefly upon the worst enemies of the fruit trees, the curculios. Mr. Jenks found beetles, grasshoppers, spiders and curculios in the crops of the

robins he dissected, but nine-tenths of the contents of the crops were curculios. He has frequently taken a hundred from a single crop, and in one instance 162. He has not found the first particle of vegetable matter in the crop of a single bird. This settles the question in favor of the robins, and he who kills one of these birds gives permission to live and destroy our fruit to some thousands of curculios and other enemies of the horticulturist.

IMPROVING LAND BY GREEN MANURES.

It is believed by some, that the best kind of vegetable growth for turning in, in the form of green manures, is Indian corn sown broadcast. If it be intended to apply lime to the land, it would be well to do so the fall before. Then as early in the spring as circumstances will permit sow corn broadcast, say three or four bushels to the acre, and as soon as it has grown as high as it can be conveniently turned under with a deep working plow, turn it under, and immediately sow another crop in the same way, turning it under as before, but with a medium plow run crosswise of the preious furrow. In the Middle and Southern States, three crops can thus be turned under in one season. It is believed that no system of manuring or renovation, except the heaviest application of stable manure, can compare with this plan in its results. If the land be very poor the first crop will be very light, but light as it may be it will yet add a considerable portion of the elements of vegetable nutrition to the soil; and thus the second crop will be greatly improved, and the third will be all that can be desired. It is believed that in this way four times as much improvement will be effected in one season, as can be by means of clover in three or four years. For this purpose farmers in the north should use the tall kinds of southern corn, as being of more rapid growth and furnishing vastly more matter for the soil.

VALUE OF OPIUM.

Robert Pell, Esq., Pres. of the American Institute Farmers' Club, stated at a late meeting, that in the British East Indies, 100,000 acres of land are put to the production of opium; that the tax on this production amounts to $5,000,000; commercial value, $32,000,000; paid by China the last fifty years, $400,000,000.

These amounts are large, but when the extent of the evil is considered, the British Government, one would think, must reflect, in its sober moments, if it has such, that it does not pay. We should not think an enlightened people could afford to do such a business.

GROWING POTATOES UNDER STRAW.

"Having seen in the agricultural journals more than twenty years ago, reports of extraordinary success in raising potatoes by covering them with straw, I was induced to try a small experiment, which I will relate for the benefit of some of your readers.

"A plot in my garden, about fifty feet square, of well-manured, clayey loam, was nicely spaded up and made fine and smooth. It was then marked out in shallow drills, two feet and a half apart, and potatoes (of the pinkeye variety) planted whole, two feet apart in the drills, and barely covered with earth. The whole patch was then covered with light, dry wheat straw—which had been very much broken by its passage through a threshing machine—and the same spread lightly and evenly with a pitchfork to the depth of about two feet. Several showers occurred soon after the potatoes were planted, which settled the straw very considerably, and in due time the vines came up through the straw, and soon covered the entire surface with the rankest vegetation.

"Nothing now was done to the patch till the vines were killed by frost in autumn. Not a weed appeared among them. At the usual time of digging potatoes, the dead vines were all pulled and removed; then, with a potato fork, the layer of straw—which was pretty well rotted and not more than four or five inches then in thickness—was carefully removed. To my great surprise, there lay the potatoes on the surface, literally covering the ground, and almost as clean as if they had been washed. They were picked up and measured, but the quantity I do not remember.

"This much, however, I well recollect, that I never raised so good a crop by any other mode of culture. They

were of very uniform size, and of good quality."

Undoubtedly the above method of growing potatoes, which we cut from an old number of the *Ohio Farmer*, is worthy of further trial. We have raised patches of potatoes in just this way, laying one seed potato to the square foot, on turf land, covering them with straw four inches deep, and leaving them alone till harvest time. The straw completely kills the grass. Its roots decay and afford pabulum to the potato; and the straw acting as a mulch, is sure to keep the ground moist and of even temperature, so as to completely avert the danger of rot. We have had yields, we should think, of equal to five bushels to the rod, of uncommonly dry, mealy potatoes. But it would require an immense amount of straw to cover a large field; and we are not prepared to recommend the course otherwise than for experiment.

There are Nova Scotia farmers, who have tried it many years, who would tell you it is the best way in the world to raise potatoes.—Ed.

From the Patent Office Report, 1856.

THE USE OF BURNED LIME AS AN APPLICATION TO THE SOIL.

The application of burned lime to the soil is of high antiquity, and its utility is such as has been recognized in almost every country in which agriculture has obtained much eminence; and certainly it has been more largely and extensively used as a fertilizer from a very remote period than any other mineral substance that has ever been made available in practical husbandry. Cato describes with much minuteness the best means of preparing it; and Pliny attests the use of slaked lime by the Roman cultivators as a dressing for the soil in which fruit-trees were grown. It was also applied by the Arabs with equal success in Spain. Hence it may be inferred that what has been good in ages past is good at the present time.

When lime is applied to the soil, it is believed by some that it acts in two ways—one, as a *stimulant* that promotes vegetation by causing the soil with which it is mixed to exert itself, and the other, in promoting the growth of trees and plants by enriching the land as *a manure*, and adding to the quantity of vegetable food. By others, it is looked upon in a *chemical* and *medicinal* point of view, acting as an alterative, a corrector, a dissolver, or a decomposer—a disengager of certain parts of the animal, vegetable and mineral substances contained in the soil, and as a retainer and combiner with others, but not as a substance, like dung or decayed organic matter, fit for the immediate use and nourishment of plants, except in small proportions. It also produces a mechanical alteration in the soil, which is simply and easily understood, and is the cause of a series of chemical changes that are really obscure, and are as yet susceptible of only partial explanation. In the finely-divided state of quicklime, or slaked lime, or of soft and crumbling chalk, it stiffens very loose soils and opens the stiffer clays; while in the form of limestone gravel or of shell-sand, it may be employed either for opening a clayey soil or giving body and firmness to boggy land. Thus, it proves very useful in tenacious, heavy, clayey soils, while it may be dispensed with in light ones, as scarcely, if at all, affecting them.

The purposes served by lime as a chemical constituent of the soil are at least of four distinct kinds, namely: First, it supplies a kind of inorganic food which appears to be necessary to the healthy growth of all cultivated plants. Secondly, it neutralizes acid substances, which are naturally formed in the soil, and decomposes or renders harmless other noxious compounds, that are not unfrequently within reach of the roots of plants. Thirdly, it changes the inert vegetable matter in the soil so as gradually to render it useful to vegetation. Fourthly, it causes, facilitates, or enables other useful compounds, both organic and inorganic, to be produced in the soil, or so promotes the decomposition of existing compounds as to prepare them more speedily for entering into the circulation of plants.

Burned or quicklime is of an *alkaline* or *basic* nature, like potash and soda. Bodies of this kind form the chemical opposites to those of an acid nature; that is, they deprive them of their sour

taste, and their acid properties and actions in general, when they combine with them, while on their own side they give up their basic properties. For instance, from the most corrosive hydrochloric acid, and the most caustic soap-boiler's lye arises a compound which no longer tastes sharp or caustic, but only mildly saline, namely, common table salt. Their mutual resignation and delivering up of their characteristic properties, which occurs in all cases where an alkaline base meets with an acid, is called *neutralization*, and a new product arising from the two is termed a *salt*.

A good soil, in a state of readiness for culture, must not possess any acid properties. All the cultivated plants grow less freely and less vigorously in soils containing acids, than in such as are weakly basic, or even neutral, and their growth becomes inferior in proportion as the quantity of acid in the soil increases. The production of acids takes place in every soil; for the humus, which originates both from the remains of plants and refuse remaining in the ground, and from stable manure, is of an acid nature; the soil, however, usually contains in its mineral constituents so many bases, (lime, magnesia, potash, and soda,) while the nitrogen of the stable-dung produces another, (ammonia,) that these suffice to neutralize the acids formed, and to convert the acid into tempered or neutralized humus. Combined with bases, the humus undergoes a far more rapid and extensive decomposition into food for vegetation; that is, into soluble substances applicable to the growth of plants, while the acid humus, whether produced by want of moisture, or by a superabundance of peaty substances, undergoes further decay, but slowly and with difficulty.

Lime is not merely a *base*, but a *very strong base*, and can therefore even extract from the weaker bases occurring in the soil the acids with which they are already combined. Hence it acts with advantage in those cases where weaker bases are such as become soluble by combination with acids, and are in this condition capable of interfering with the growth of plants. Of this kind especially are the bases which originate from the ferruginous particles present in all soils covered with water, such as are situated in low-lands excluded from the access of atmospheric air by a tenacious covering. Humic and carbonic acids produced in such places render the particles of prot-oxyd of iron soluble, and these again cause the soil to become sterile or less fertile, just like the water which we see in ferruginous springs flowing from deposits of lignite or peat. On this account, fresh, black mud from ponds or lakes always acts injuriously upon fields and meadows the first year; hence the dead subsoil, when mixed at once with the surface soil, so often causes a diminution of fertility for one or more years. In like manner, in a soil which contains much pyrites, the oxygenation or weathering of the ground may readily produce so much soluble salt of iron (green vitriol, or sulphate of iron,) as to disturb the growth of plants. In all these cases, lime is an excellent means of rendering the iron insoluble, and, at the same time, of giving it a tendency to absorb oxygen from the air more rapidly and abundantly, whereby the black prot-oxyd of iron is changed into brown per-oxyd, (iron-rust,) which no longer acts injuriously upon vegetation.

Caustic or quicklime, as its name indicates, attacks the skin of the hand and dissolves it in washing, in the same way as potash or soda lye, and has a similar action upon other animal and vegetable substances, as many farmers, perhaps, have noticed on the sacks in which they have kept lime, which soon became rotten and soft. When lime is mixed with the soil, it acts in this *decomposing* and *dissolving* manner upon the roots, leaves, straw, and other parts of vegetables, as also upon organic constituents of the soil, which are already partially converted into humus. It hastens the decomposition of those substances which are often very slow and disinclined to fermentation in heavy soils, not freely admitting atmospheric air to a greater activity; that is, to a more rapid fermentation, putrefaction, and decay, whereby they are decomposed into carbonic acid and ammonia, which are then absorbed by the roots of the living plants as the most important of all their food. The action which lime exerts in this way clearly agrees in appearance with that produced by direct fertilizers, such as stable manure, guano, etc. But there is this great difference between the two. The lime does not work with its own material, but at the expense of other matter, namely, at that of the land or of

its strength, while the direct manures act with their own power. It is, therefore, self-evident that the latter enrich the soil, while lime renders it poorer. The universal effects of this *independent, unmixed* liming or marling of land, which has been established by practice in Europe, as well as in many parts of this country, is obvious not only by the well-known German saying, "Rich father, poor children," but also by the still more precisely expressed maxim,

"Much lime and no manure,
Make both farm and farmer poor."

Besides, on heavy, inactive soils, lime may be expected to produce good effects by its decomposing and dissolving power in all cases where the soil is rich in organic remains, especially when the air has not had free access to it; consequently, on new ground, reclaimed from forest, broken-up meadows, and pasture-land, reclaimed peat-bogs, salt-marshes, and low-lying lands after they have been well drained. But even burned lime frequently does not develop its effects until the second or third year.

Quicklime can also act as a *decomposer* and *solvent* of mineral substances. It causes, for instance, an unlocking of the mineral constituents of the soil, the products of which (silica, potash, etc.,) can then be consumed as food by the plants growing upon it. The experience that liming pre-eminently favors the formation of haulm, and gives the straw of the cereals great stiffness, is explained by this in the most simple manner: It is not the lime which produces this, but the mineral substances rendered soluble and therefore assimilable by the lime above all the silica. The results of these experiments at the same time confirm the correctness of the opinion that the farmer need not pay any attention to silica, in manuring, since it exists almost everywhere in sufficient quantity in the soil, but that he need only take care that there shall not be a deficiency of its *solvents*, and of the conditions which favor its solution. Thus, lime is a powerful means of assisting the oxygenation, or weathering, of stony and earthy constituents of the soil; it, therefore, forms an aid to those bodies, and forces such as air, water, carbonic acid, (humus,) heat, etc., which carry on this process of decomposition everywhere in acting independently of human interference. In a heavy soil, this natural weathering can, of course, only proceed slowly, because the tenacity obstructs the access of air and the production of carbonic acid from humus. When, therefore, experience says that lime proves far more favorable in heavy than in light soils, it might certainly be deduced from the preceding statement, that its chemical action, now under consideration, may claim an essential share in the beneficial effects in the first case.

Lime forms a necessary constituent of all plants; if not present in sufficient quantity in the soil, the growth of vegetation is poor; therefore, lime may act favorably in certain cases by supplying this deficiency. By far the majority of soils contain lime abundantly sufficient for the requirements of the nutrition and development of plants; and, if manuring is performed regularly and properly, there can still be a want of such kind, since stable manure, alone, conveys into the soil more lime than is removed from it, even in very abundant crops; cultivated soils rather grow continually richer in lime, and plants, which consume very much lime in their development, especially if grown in frequent succession in the same field, will naturally lead much sooner to an exhaustion of the lime of the soil, than those plants which take up lime moderately.

Carbonate of lime is far less *coherent* in texture, and is of looser nature than clay or loam, so that it has the power of improving tenacious soils mechanically by rendering them less tough and solid; and hence, more porous and open. Quicklime changes into carbonate of lime by degrees in the soil, and will then consequently act in the same way. When mixed with sand, on the contrary, it renders this more coherent and close.

Lime also imparts to mixtures of earths, as is shown by saltpetre beds, the power of converting nitrogen, of putrefying and decaying vegetable and animal substances into nitric acid which enters into combination with the lime to form nitrate of lime. According to some experiments made in England, lime is supposed to increase the power of earths to absorb ammonia from the atmosphere, and to contribute indirectly, by the decomposition of ammoniacal salts in the soil, to a fixation of ammonia by the clay and silica. Quicklime absorbs carbonic acid gas from the atmosphere and from the soil, passing in the operation

into the mild condition of carbonate of lime. Possibly, this also may afford assistance to the growth of plants.

Lastly, it has been observed that the development of plants proceeds somewhat more rapidly in soils manured with lime, so that they run more quickly through the period from germination to maturity on unlimed land. Such an action upon the duration of vegetation would be a recommendation of lime for agriculture in northern, elevated and exposed districts.

ENCOURAGEMENT TO AGRICULTURAL EDUCATION.

The bill reported by Mr. Merril, which some time since passed the House of Representatives, grants six millions, three hundred and forty thousand acres of land, to be apportioned to all the States —equal to 20,000 acres, for each Senator and Representative in Congress to which the States are now respectively entitled. The proceeds of the sale of the lands to be invested in stocks of the United States, or of the States, or some other safe stocks, the money so invested to constitute a perpetual fund, the interest of which shall be inviolably appropropriated by each State to the endowment, support and maintenance of at least one college, where the leading object shall be, without excluding other scientific or classical studies, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the Legislatures of the States may prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life.

We sincerely hope that this bill will receive the attention of the Senate, and be enacted into a law this very session. It is certain that no better or more appropriate use can be made of the public lands than to endow institutions to teach such sciences as throw light on the business of soil-culture.

HUNGARIAN GRASS—MILLET.

Much has been said of late in the agricultural journals of a grass termed the "*Hungarian*," and application has been made to us to procure some of the seed. The matter has not escaped our attention but we had some misgivings whether it was not one of our old established grasses under a new name. The editor of the *Farmer and Planter*, at Pendleton, S. C., says it is nothing more nor less than the *Millet*—to the great value of which we have for years past been urgently directing the attention of the readers of the *American Farmer* who have not meadows whereon to grow hay. In this month (May) up to the beginning of June, though earlier the better, the seed should be sown in our own latitude; if the ground is well plowed, say 8 inches deep, and well harrowed, and 2 pecks per acre of seed sown, with say 300 lbs. Peruvian, or perhaps 150 lbs. of that guano, and an equal quantity of Nevassa guano, 3 tons of excellent hay can be made, which will be relished by all kinds of stock, horses particularly. Upwards of 4 tons have been raised from an acre. It stands the drouth probable equal to any of the grass family—and is easily cured. After cutting, which should be when the heads begin to turn yellow, let it lay in the swaths a day,—turn it over the next day after the dew is off, and when the lower side is dry throw it into cocks, increasing their size, and when sufficiently cured have it stowed away in your barracks or barn.—*American Farmer.*

TO ASCERTAIN THE WEIGHT OF LIVE CATTLE.

It is easy to see that the following can not be very exact, and yet it may be of some use;—

"Experienced drovers and butchers are in the habit of buying cattle, estimating their weight on foot. From long observation and practice they are enabled to come very nearly to the actual weight of an animal; but many of them would be most apt to err, if at all, on the *right* side; while the less experienced farmer always stands the greatest chance to get the worst of the bargain. To such we would recommend the following rule to ascertain the weight of cattle, which is said to approach very nearly the truth, in most cases. The proof of this to the satisfaction of any farmer, is easily determined at most of the annual fairs, where scales are erected, and at numerous other points in the country.

"Rule.—Take a string, put it around the breast, stand square just behind the

shoulder blade, measure on a rule the feet and inches the animal is in circumference; this is called the girth; then, with the string, measure from the bone of the tail which plumbs the line with the hinder part of the buttock; direct the line along the back to the fore part of the shoulder blade; take the dimension on the foot rule as before, which is the length; and work the figures in the following manner: Girth of the animal, say 6 feet 4 inches, length 5 feet 3 inches, which multiplied together makes 31 square superficial feet, and that multiplied by 23 (the number of pounds allowed to each superficial foot of cattle measuring less than seven and more than five feet in girth,) makes 713 pounds. When the animal measures less than nine and more than seven feet in girth, 31 is the number of pounds to each superficial foot. Again, suppose a pig or any small beast should measure 2 feet in girth, and 2 along the back, which feet in girth and 2 along the back multiplied together, makes 4 square feet, that multiplied by eleven, the number of pounds allowed to each square foot, of cattle measuring less than three feet in girth, makes 44 pounds. Again, suppose a calf, a sheep, &c., should measure 4 feet 6 inches in girth, and 3 feet 9 inches in length, which multiplied together make 15 1-4 square feet; that multiplied by 16, the number of pounds allowed to cattle measuring less than 5 feet and more than three in girth, makes 265 lbs. The dimensions of girth and length of horned cattle, sheep, calves and hogs, may be exactly taken in this way, as it is all that is necessary for any computation, or any valuation of stock, and will answer exactly to the four quarters, sinking offal. The rule is so simple that any man with a bit of chalk can work it out. Much is often lost to farmers by mere guess-work in the weight of their stock, and this plain rule is well worth their attention.—*Valley Farmer.*

STICK TO THE FARM—BETTER CULTIVATION.

Eds. Northwestern Farmer:—While the great political question of freedom and freesoil is agitating our Nation to its center, and other powers of the earth are watching with intense interest the developments in favor of the rights of man, there is another question, although not of like moral import, yet all are more or less interested therein, which is being discussed and felt by multitudes —especially here is the West, were it has become a theme of much magnitude to the minds and purposes of those engaged in Agriculture. It is the question or fact of hard times and the low price of produce. How often is it remarked, "that it won't pay to raise wheat at the present prices." Well, what *will* the farmers do? It surely will not pay to leave the farm for any other business, for all are hard up, and the farmer is better off than they, unless by foolish extravagance he has brought the sheriff to his door. Therefore he ponders, waiting for some new development to aid him out of his difficulty. But let us see if it won't pay to stick to the farm and raise wheat, even for fifty cents a bushel. It is a fact which can be easily demonstrated that land, unless some that is new, can be made to yield double with one quarter more labor, than it does now, and constantly be growing better, instead, as at present decreasing at the rate of ten cents per acre on an average, as they now are. The average of wheat per acre in England, is nearer forty, than thirty bushels; while in the United States, it does not average over ten bushels per acre. Why is this difference? It is not in the native richness of the soil, nor in the climate; for in both, ours exceeds theirs. It is in the different modes of culture. First, the nature and capability of their soils are known and crops are sown accordingly. Second, they cultivate more thoroughly—plowing deep, pulverizing the soil finely, draining, and by a judicious rotation of crops, and the application of manures, both mineral and animal, supply the land with the elements of fertility which are being constantly removed; while here, in too many instances, the direct reverse is the rule, and that the exception. How often do we see one man and a team trying to cultivate eighty or one hundred acres, plowing in the mud three or four inches deep where the land requires draining, wanting manure, half seeding and badly put in, thinking that the number of acres sown and not the amount per acre raised will be the ratio of profits. Harvest comes and with it the expense of going over four acres to get the legitimate produce of one, and when the bills are all paid it is found that it does not pay to raise wheat at such prices. If they had understood, or followed the laws of

growth and supply, the results would have been far different.

The first reason for these things is found in the avaricious desire for all the land which joins, or in other words, farmers try to cultivate too much land, and consequently neglect the whole. Second, they do not keep stock enough to make manure to supply the farm, and too often wasting what little they do have. Third, ignorant of the principles which govern the growth of vegetation or of the adaptation of different soils, or of the necessity of manure. If farmers would inform themselves upon these things and act upon that information, farming could be made to pay even at fifty cents per bushel for wheat. A knowledge of these things is absolutely necessary to save our land from actual starvation in the years which are to come. Farmers should hail with delight, every avenue which opens a way that it may be obtained, both for themselves and their children, and should labor to bring to completion and to encourage every enterprise which has this object in view. They should aid and push on the effort to establish Agricultural Colleges, that by their influence light may be thrown upon their path which will help them to occupy their true position among the callings of life.

H. C. Coon,
in N. W. Farmer.

The writer of the above does not quite go to the bottom of things. We lack a due proportion of mechanics, as compared with the agriculturists. Let us supply our own iron, instead of buying it; let us clothe ourselves, instead of getting Europe to clothe us; in short let us produce, as fast as the condition of a new country with too much land, will permit, whatever we want to eat, drink and wear; to stay at home with and to go abroad with; to sleep on and to sleep under; to live and die and be buried with; and then there will be no need to exhort the farmer to stick to his business. He will stick to it with its good prices, because he can find no other so remunerating business. That abominable doctrine that it is cheaper to buy than to produce, is what puts prices below a living, thriving business for the farmer. If we will manufacture half our irons and woolens, wheat will never be down to fifty cents a bushel again. Throw you politics overboard, and look at this subject as reasonable men.

For the American Farmers' Magazine.

THE SUGAR CANE.

THE CHINESE SUGAR CANE.

I SHALL endeavor to treat of the sugar cane in various aspects as far as the means within my reach will permit.

I will first examine its history, and incidentally its nativity or the countries in which it was indigenous.

2d. I will examine its botanical structure and classification.

3d. I will treat of its habits, its constitution and acclimatization.

4th. I will examine its uses, products, and the processes of their manufacture.

The history of the sugar cane dates back to an early period. Some writers suppose it was known to the Jews at an early period of their history, and that the Hebrew word sometimes rendered calamus, and sometimes sweet cane, did in fact mean the sugar cane. It was first made known to the Greeks, according to Strabo, by the military expeditions of Alexander the Great, 325 years before Christ. His fleet of 2000 ships sailed down the eastern branch of the Indus, and thence along the coast to the Persian Gulf, and up the Euphrates to Babylon. It was during this voyage that Nearchus, the commander of the fleet, found the sugar cane, cultivated by the inhabitants of the country, probably about the mouths of the Indus. Alexander himself did not make the voyage, but returned with a part of his army from the forks of the Indus to Babylon by land, so that we are indebted to the report of his voyage, made by Nearchus to the king, for the record of the discovery. It would seem that Alexander himself, who sailed down the

Indus to its western mouth in N. L. 24°, did not meet with it there, or anywhere personally during his expeditions. This would seem to indicate that it was not indigenous in any of the countries traversed by him in person, although it is not conclusive. It may be that the cultivation only had not extended. It is spoken of by Varro, Dioscorides and Lucan as a large reed produced in Arabia and India, which yielded a kind of honey called saccharon. They describe it as a kind of salt, or having the appearance of salt, and as brittle when chewed, and dissolving in water. The art of crystalizing it must then have been known. These writers refer to the century immediately preceding the Christian era. Lucan says also that certain Asiatic nations in alliance with Pompey used the juice of the cane as a common drink.

Arrian, who wrote in the second century of our era, speaks of sugar by the name of sachar, as an article of commerce from India to the Red Sea in his time. Tertullian, in the same century, speaks of a species of honey procured from canes. It would appear from these that its use in both the forms of sugar and molasses, and perhaps some others, was then known to the Romans.

Some writers have supposed that the crusades brought the western nations of Europe acquainted with the sugar cane and its products, but I can find no allusion to it in the meagre chronicles of any of their writers. It is a remarkable proof of the decline and loss of knowledge, and of the cessation of intercourse between the inhabitants of different countries once connected by commercial relations, that the next notice we have of the sugar cane and its products is in the travels of Marco Polo between the years 1270 and 1295. He speaks of sugar as an abundant product of the southern parts of China, or Mansi, as he terms it, and of Bangala, or Bengal in modern nomenclature, from which the Tartar government of Kublai Khan derived a large revenue. Next, Varco de Garna, in 1497, found a considerable commerce in sugar carried on in the Kingdom of Calicret, then a small kingdom lying on the east coast of the Arabian Sea, between the modern Bombay and Cape Comorin, in about 12° N. L. It was found in Nubia by John Lioni in 1500, and a considerable commerce in sugar was then carried on in that country. It was abundant at Thebes, on the Nile, and in the northern parts of Africa at the same period.

Bruce found it in upper Egypt in 1768. In the countries discovered by Columbus, the sugar cane is shown to have been known in Hispaniolia during Columbus' second voyage. It was undoubtedly indigenous in the West India Islands and on the north coast of South America, and in Southern Africa, where several varieties are now said to exist in a wild state. It was not probably indigenous in any country beyond 25° on each side of the equator, and only in low and warm situations within most of those limits.

2d. In its botanical classification it is a genus of the Digynia order, belonging to the Triandria class of plants; and in the natural method ranking under the fourth order Gramina. It has no calyx, but a long down, and the corolla is bivalved. The root is fibrous, and divided into many radicles. The stem or stalk is a jointed reed rising from six to fifteen feet. The joints vary in number, according to the variety, from ten to sixty. In some varieties the joints are naked, without leaves or blades, only showing a small germ or bud at each joint, in others a sheath arising from each encases the stalk half way to the next joint, when a leaf or blade, lanceolate and deeply serrated on the edges, resembling the blade of the common corn, springs out. The varieties whose joints are naked have a tuft of lanceolate, serrated leaves rising from the top

of the main stalk, from the center of which a small arrow rises from three to five feet, bearing the reeds in the form of a panicle at its summit. The form of the seed vessel is, so far as I can learn, the same in all the varieties. When ripe, the stalk or stem is a fine straw color, approaching to yellow. Several stalks often, but not unformly, rise from one root.

3d. Its habits vary with soil and climate, and exhibit unequivocal proof of its tropical nativity. In regions where frost is unknown, the root is perennial in its native state, with an annual stalk. Where cultivated in the same districts, annual cutting in three years so far exhausts the root that replanting becomes necessary. This is sometimes, but rarely, done with the seed. The usual method is to lay down the stalk. For this purpose a trench is dug with the plow or the hoe, five or six inches deep, and fifteen inches wide at bottom by two and a half feet at top. Five or six joints from the tops of the stalks are then cut off and laid lengthwise in the bottom, and covered two inches deep with the earth taken out of the trench. When the plants have risen a few inches, the weeds are removed, and they are hilled up a little with a part of the earth taken from the trench, which is called a bank. This process is repeated until the bank is exhausted. They must be kept clean of weeds, and all lateral shoots should be removed which spring up after the cane begins to joint. The rows are 3½ or 4 feet apart. In some rich spots on the island of St. Christopher, an acre has produced 8000 lbs. of Muscovado sugar in a year. Two hogsheads of 1,600 lbs. each, per acre, is about an average yield on that and other West India islands. As we recede from the tropics, the plant becomes less luxuriant, and its habits and constiution seem to undergo a change. In Louisiana, between 29° and 33° N. L., it becomes an annual plant, and the variety usually cultivated is liable to be so injured by frost, that the stalks can not be used for propagation. It is evident that it acclimates slowly. Some varieties are either naturally more hardy than others, or they have been earlier pushed beyond their native limits.

A variety distinguished as the Chinese sugar cane, to which the botanical name of sorghum saccharum has been given, has been introduced into the United States through the Patent Office within the last three years. A botanical writer in England, in 1816, gave to the sugar cane the botanical name of sacharum officinarium, and stated that there was but one species. He described the cane of the West India Islands. Earlier botanists named it arundo saccharifera. Instead of a variety, it seems to me to be entitled to be classed as a distinct species. It is possible, however, that all the distinctive features may have been caused by the process of acclimatization.

Mr. Wray, an intelligent traveler, in 1851 found no less than sixteen varieties of sugar-bearing cane in Caffraria, and easily made sugar from them. Mr. Wray names the plant the Imphee. Such confusions of names are very common amongst botanists, as might reasonably be expected, where more than 200,000 varieties of the vegetable kingdom, all having more or less in common, are to be classified and arranged. Some of the varieties, no doubt different ones, are now cultivated more or less in England, France, Spain, Portugal, Italy, Germany, Belgium, Turkey, Mauritius, Australia, Ceylon, Africa, Eastern Asia, the West Indies, Mexico, Brazil, Canada and the United States.

The variety recently introduced into the United States under the various names of sorghum saccharum, sorgho sucre, and Chinese sugar cane, was introduced by the seed directly from France through the Patent Office, and indirectly from the north part of China,

whence its name. It is supposed to be a different variety from any of the sixteen varieties found by Mr. Wray in the south of Africa.

If it has been, as stated, brought to France from the north of China, its culvation has been extended since the time of Marco Polo, the close of the thirteenth century, from the southern to the northern parts of China, or through probably about twelve degrees of latitude. This will account for some of the reports respecting its properties and habitudes which have accompanied its introduction into this country. The temperature of N. E. China, in latitude 40°, is about equivalent to N. S. 45°, in the interior of the North American continent. As it is well known, therefore, that a proper ripeness of the cane is indispensable to the crystalization of the juices, it is no matter of surprise that the cultivators in that district of country should be unable to make sugar from it, although in the south of China and Bengal immense quantities of sugar were manufactured from it six hundred years since. We know also, in countries situated in the same great division of the earth, sugar was known and in use more than two thousand years since, and we have no account of any more than one variety of the cane in Asia. It has been planted in various parts of the United States in 1855, '56 and '57, in only a few localities in 1855 and '56. It 1857 it has been planted to a greater or less extent in every State in the Union, and a very general interest has been excited respecting it. The season has been an unpropitious one; corn, grapes, and some other articles of common cultivation not having matured by any means as usual.

Nevertheless, much has been gained. The habits and capabilities of the plant have been ascertained, and its success as an article of cultivation and manufacture rendered certain. The average temperature of the great Mississippi valley, from the foot of the Laurel Hill west at least to the border of Kansas and Nebraska, is as high, if not higher, in 40° N. L., as that of China in 35°. May we not then reasonably presume, from the experience of the past, that in ordinary seasons, with proper cultivation, it may be thoroughly ripened in the wide extent of country between the Alleghany Mountains and the elevated country approaching the Rocky Mountains, as far North as 41° N. L.? Many experiments have been made the present year to determine the amount and quality of its products, the uses to which the different parts of the plant may be applied, as well as the best mode of treating it during its growth, and the best mode of extracting and manufacturing the juice. It can not be expected that the experience of one year, that an unfavorable one, will have matured any definite system upon any of these important and interesting questions.

For example, some have pruned out all offshoots, and restricted the canes to five or six in a hill, planting the hills four feet each way. Others permit all offshoots to grow, increasing the canes to ten or twelve in a hill, in a strong soil. Some pull out the panicles as soon as they rise above the upper leaf; some cut them off when in bloom, and some suffer them to ripen; and no opportunity has yet been afforded of comparing results and ascertaining which has been most successful. Various and widely different estimates, ranging from 100 to 400 gallons per acre, have been made as to the quantity of syrup it would produce. A few small samples of sugar have been produced. The machinery for expressing the juice has been hastily constructed and imperfect. Most of it has not extracted more than three-fifths, and some not more than one half the juice, and this, with the differences in the growth of the crop and the various stages of ripeness and modes of treatment, will readily account for the differ-

ent estimates of quantity as well as any discrepancies in quality. Some experiments seem to indicate that most of the extraneous elements to be separated from the juice are obtained from the hard shell of the canes and the sheaths of the leaves, the juice of the ripe pith being found to be nearly colorless, and to be pure water and sugar. The juice of the ripe cane has a specific gravity of 1.085. Extracted in the progress of the plant towards maturity, it increases in density from 1.025 to 1.050, 1.075 to 1.085 when fully ripe. The proportion of sugar increases in the same ratio, and readily accounts for the fact that where one has made one gallon of syrup from ten gallons of juice, another has made a gallon of equal density from five gallons of juice. I need only remind your intelligent readers that the difference between the specific gravity of water and the juice of the sugar cane is caused by the presence in solution in the latter of sugar. The specific gravity of pure white sugar is 1.6065 according to some, and only 1.4045 according to other chemists.

The percentage of sugar, therefore, increases in the rates in which the cane approaches maturity. The proportion of sugar contained in the juice ranges from ten to sixteen per cent. In the process of manufacturing, various modes have been tried. Some add a very small quantity of quicklime to the juice when put over the fire. Some prefer and use chloride of lime. Some use nothing at that stage. All agree in heating the juice slowly to about 180°, and keeping it so for some time, from one to two hours, taking care that it does not boil. The object is to bring as much as possible of the extraneous and ferulent matter to the surface, whence it is removed by skimming. Lime is used to neutralize the excess of oxygen in the juice, which prevents the formation of sugar. Those who reject the use of lime, in place of it, when the juice is about two-thirds evaporated, add a small portion of sweet milk or well beaten whites of eggs, which produce effects similar to the lime. Many experiments yet remain to be made before the proper mode of treatment shall be discovered and become generally established. Wherever the saccharine principles exist in sufficient quantities, there is no doubt that by proper processes they can be concentrated and crystalized. The processes adapted to the particular combinations are to be sought out and applied. That the skill, science and energy of this country will prove unable to accomplish it, is an imputation not for a moment to be tolerated. Sugar, syrup, or molasses and alcohol, will soon be produced from it in Ohio in abundance. No part of the plant is useless. The young stalks and blades are a rich and palatable food for stock of all kinds, and by cutting it above the lower joint in July two crops a year can be cut for fodder. The seed, of which it produces from twenty to fifty bushels per acre, is heavier and a more nutritious food for horses, cattle, sheep, poultry, and hogs than oats. The fable of their being poisonous to horses is simply absurd. Some imprudent man has no doubt foundered a horse to his death on it, as many a one before has done on wheat, rye, corn, and oats, without ever sagely inferring that those grains were poisonous.

From the stalks, after the juice was expressed, a fine, close, strong quality of paper has already been manufactured in this city in sufficient quantity to afford a certain test, and there is no longer a doubt that it will become one of the most valuable raw materials for the manufacture of some of the most abundant and useful qualities of paper.

ROSWELL MARSH.

LUCK.

THERE are believers, even among gardeners, in luck. "Oh!" says one, "he had a good chance;" another declares his successful friend was "a lucky fellow." The "luck" which has made the

fortune of the best gardeners is no luck at all. It is knowledge acquired by hard study and hard labor; by reading, and avoiding the dram bottle; by keeping a steady eye on the results of experiments aided by the knowledge of written materials. What "luck" can a gardener have who prefers idleness to botany; what hope can he ever entertain of rising to independence, if he can not distinguish one species of plants from another? He must always be at fault, unless he knows something more than routine cultivation, and can adapt his tactics to new circumstances, or give himself a reason for his acts. "Luck is a term to be expunged from every vocabulary except that of the gaming-table or the turf. In the language of Dr. Lindley: "Our personal experience in this matter now extends over the best part of a half a century, during which time circumstances have brought within our knowledge the private history of most of the successes and failures which in that period have deserved notice among gardeners, and we feel entirely justified in saying that those who have risen have had to thank their own superior knowledge, the fruit of superior industry; while those who have fallen can only blame themselves for that want of knowledge and determination to succeed, which, in this world, are indispensable in all classes where mental power is necessary, and from which political influence is withheld."

Were any proof of the justice of this opinion needed, it would be found in the skill of those eminent men in the horticultural world who, by diligent study, have privately, and in spite of difficulties, acquired what, in the absence of such energy, would have been denied to them.—*Horticulturist.*

This is equally true of the farmer. Industry and energy are essential, and yet these are not enough. They are liable to be misapplied. It is necessary that they be directed by intelligence—an intelligence higher than ordinarily comes unsought—that which is the result of inquiry, reading, investigation, thought, application of the laws of nature to soil culture, stock growing, trade, domestic economy, and whatever adorns and elevates and renders independent. Such intelligence, not without mother wit, but with it, is and ever will be the measure of success. The boy and the young man now looking forward to the farm for a living, indifferent to knowledge, thinking they know quite enough to be farmers, will certainly fail in the race, as compared with their fellows, who at the same age, and then onward in life, as opportunity offers, are delving after a knowledge of nature and her laws, with a view to apply these laws to their business.—Ed.

FEEDING FARM HORSES.

C. W. Knight who received a premium from the Virginia State Agricultural Society, for an essay on this subject, says that he has found his horses kept in good condition under hard work, with eight quarts of meal, composed of one-third Indian corn and two-thirds good oats, by measure, mixed with cut straw or corn husks, and fed in three meals per day. The straw and husks were wet with water, in which salt had been dissolved. He continued this course for a year—the horses being kept exclusively on the straw and husks and meal—and estimates the saving over the usual mode of feeding with hay and whole grain, at 11⅛ cents per day, or $42.36 cents per year. He says it is best to have the meal rather coarsely ground, as fine meal sticks to the roof of the horse's mouth and annoys him.—*Ex.*

CURIOSITIES IN THE WAY OF CATTLE.

A large crowd surrounded a lot of cattle, in the Fifth street market, all Friday afternoon. They consisted of a cow of Chinese species, five years old, which measured only 36 inches in hight, a calf by her side, four months old, 25 inches in hight, and a bull of the same species, measuring 48 inches. There were also three calves of the same breed, all of the same lilliputian dimensions. The cow generally gives from ten to fifteen quarts of milk per day. Full grown cattle of this species weigh about 400 pounds. The group in market were curiosities in a small way.—*Cin. Gazette.*

The best way to strengthen a good resolution is to act as you resolve. If you resolve to repair an old fence, it strengthens the resolution and fence too to commence at once.

WHAT FARMERS SHOULD LIVE FOR.

A GEM this, from the *Southern Ægis*. How we wish all farmers would heed it, their education is the best in the world, their life is the highest life. Why can't they find it out?

"There is something worth living for besides money. This is very good but it is not all. With the rest let us raise a crop of good ideas. While you are farmers, remember also that you are men, with duties and responsibilities. Live down the old brutal notion that a farmer must be uncouth, uneducated and unthinking—a mere ploddrapps.

"Move towards a better life. Do not keep your boys cornshelling all the long winter evenings. Make your farm a place your sons and daughters can not help loving. Cultivate the trees—they are God's messengers.

"Care much for books and pictures. Don't keep a solemn parlor into which you go but once a month with the parson, or the gossips of the sewing society. Hang around your walls pictures which shall tell stories of mercy, hope, courage, faith and charity. Make your living room the largest and most cheerful in the house. Let the place be such that when your boy has gone to distant lands, or even when, perhaps, he clings to a single plank in lonely waters of the wide ocean, the thought of the old homestead shall come across the waters of dissolution, bringing always light, hope and love.

"Have no dungeons about your house —no rooms you never open—no blinds that are always shut. Don't teach your daughters French before they can weed a flower bed, or cling to a side saddle: and daughters, do not be ashamed of the trowel or the pruning knife; bring to to your doors the richest flowers from the woods; cultivate the friendship of birds — study botany, learn to love nature, and a higher cultivation than the fashionable world can give you."

STETSON'S NEW PATENT MOWER.

MR. CHAS. STETSON, of Amherst, has just completed his new patent mower. After three years patient labor and great expense, he believes he has now produced a machine equal if not superior to any in use.—*Amherst (Mass.) Express.*

THE VALUE OF MILLET.

A GENTLEMAN in Sundersand, Mass., furnishes the following testimony as to the value of Egyptian millet:

"Two years since I fed what grew on ten rods to five cows for a period of six weeks. It increased their milk sensibly. We estimated the increase of butter in consequence at $10, or one dollar a rod. I can recommend it to all such as keep up any stock during summer, or have any short pastures, as it comes just in the time the dry weather usually begins, and feed is short. The past season I fed the millet to a yearling bull, which was kept up all summer, and in about four months gained 320 pounds, or two and one-third pounds daily. It grows from eight to ten feet high, and when from two and a half to three feet high, should be cut and fed. It immediately springs up from the old roots. Three crops can be obtained in a season. Can commence to cut the last of July or the first of August. Horses, pigs, and all kinds of stock eat it with the greatest relish. I obtained the seed while traveling at the South, and was informed by those who were acquainted with it, that ten rods sown with millet would keep a cow."

For the Am. Farmers' Magazine.

REASONS FOR NOT LIKING AGRICULTURAL JOURNALS.

BY L. S. SPENCER.

PERMIT me through the columns of the *American Farmers' Magazine* to give some of the excuses that are offered for not subscribing for agricultural periodicals. Neighbor A. says: "I am no *believer* in book farming. Those fellows in the cities of Boston, New-York, and Philadelphia want to obtain a living without work. What do they know about farming? Perhaps they never did a day's work upon the farm in their lives. The good old way is good enough for me. My father was a farmer, and got well off in the world, and so can I; for this reason I do not feel disposed to pay money for such works."

Neighbor B. says: "The work is a very good one for that portion of country where it is published; but it is good

for nothing in this portion of the West, for it knows nothing how the prairie land should be worked, for I do not believe the writer ever saw a prairie. What does he know about Western farming? He is in New-York city. His theory may be good among the hills of Massachusetts, or Connecticut, or the sands and clays of New-Jersey; but I think that I know as much about Western farming as any of the Eastern folks."

Friend C. says: "Spencer, I should be very glad to subscribe, for I consider it as good a work for the farmer as I have seen for some time. The writer is a *keen, shrewd* fellow, and knows what he is after. But you know that I am not able these hard times; it is as much as I can do to support my family without taking the journal. I should rather take a weekly than a monthly paper. I intend to take a paper before long."

D.'s excuse is, "that it has too much to say about machinery and mechanics, and of flower-garders, etc."

These are only four excuses out of the hundreds that are made. Some think a work offered is too high in price. They can not afford to pay so much for so unnecessary a thing as an agricultural paper, for it is of no account except for the women to read.

These excuses are often made by persons who think that "they are somebody in the world."

Neighbor A. thinks that he knows all, and scorns the idea of learning anything new—in this age of progression. He prefers to follow the footprints of his great-grandfather, and use the old "bull plow" that was in use long before you and I were born, or to use the old fashion hoe that was heavy enough for four of the hoes that are in use at the present day. He is "Old Fogy" enough to still hang to that breed of the hog that bears about the same relation to the hog, as the orang-outang does to civilized man—whose nose is so long that "it can root up the third row of potatoes through the fence." His father got along well enough; so can he in his own opinion. But if he would take some agricultural work he might get along much better, be much happier, and much better informed.

B.'s excuse—of what account is it? Really, I do not believe that you or any other editor east of the Merrimac River will refuse to publish an article written upon prairie farming, or any other farming, if the Western farmers will only pen an article for you to publish; nor do I believe that you will refuse to correct mistakes—as this is the general excuse for their not writing. Then who is to blame for their not getting such information as they desire on prairie farming? They themselves; because they do not write, and the reason they do not write is, because they do not and will not inform themselves; because their fathers got along and so can they. A New-York agricultural paper is just as good for prairie farming as any other, if the prairie farmer will contribute to it and help make it so. It would be good for nothing to "New-England" farmers but for their contributions to it. "Book farming" is nothing more nor less than the experience of men that have tried and accomplished what they have written about.

C.'s excuse is "hard times" and a "big family" growing up around him, without a sign of a paper in the house. He "likes" the paper, and thinks the editor "a keen, shrewd fellow;" but he likes the dollar or the two dollars better. He takes no paper, but "is going to take one before long." That "before long" may be too late for his improvement. He knows nothing of the markets—nothing of the news of the day until weeks after they transpire. His family knows nothing of what is going on in the world, and they can not prosper in the world like those that "take the papers."

How many men that might be styled "Old Fogies" are there who feel that the

dollar is of more value to them and their families than a good "newspaper." Talk with them on any subject, and they have nothing to say, because they know of nothing about it.

CREAM OF THE AGRICULTURAL PRESS.

Caterpillars. — Pluck down these nests everywhere while the worms are small and the nests tender and easily broken. On high trees a pole with Pickering's brush attached to it—a conical brush, costing 25 cents is a good implement—the young worms in their new-made nests are easily routed, and though they may not all be destroyed on going the first round, they may be on a second visit, which will not be neglected by any good farmer.

By clearing all your trees this year, including the wild cherries and oaks on the roadside, you will not need to spend a fourth part as much time next season to clear your orchards from these pests. (All who have a patch of land, remember that.—Ed.)

We hope that many of our farmers will hold to the practice of making hills for potatoes, since among other advantages the labor of tilling is not so great when a little earth is drawn up to the stems to kill the weeds as when an attempt is made to pull the weeds out of the hill. (We agree with this writer exactly, if that is all he means by hilling—*just* make the work as expeditious as consists with thoroughly killing the weeds.—Ed.)—*Mass. Ploughman.*

To Destroy the Potato Bug.—Last summer, as I walked through my potato patch, I discovered that something had been eating off the tops of the vines; but I saw nothing that could have done it, until, after tracing up the rows that were injured, (about three or four in number,) I overtook the depredators—a swarm of potato bugs. I found them confined to only four or five hills; yet they had cleaned the rows, over which they evidently had passed, for about the distance of three rods. The ground was quite dry at the time. I at once discovered that the depreators were alarmed at my approach, and in a hurried manner hid themselves beneath the leaves and among the clods about the roots or bottom of the stems.

I immediately cast in my mind how to get possession of the whole swarm. I called to my three little boys, who were at work at a short distance. We took our hoes, and, without molesting the insects, commenced forming a trench and embankment at a distance of about a foot. The dry earth being pulverized in the ditch and sides of the little embankment, made the whole so loose and dusty that the little creatures could not ascend or escape; and thus we were enabled to trample them under foot and destroy them in toto. I found that, if they were deeply buried, they could not extricate themselves; so we destroyed all; and not another potato bug was seen on the farm during the season. (We set this down as cream, because it comes from a practical farmer, and is an ingenious mode of warfare. But whether it is a kind of cream that would make butter, or, in other words, could be imitated with advantage, is more than we know.—Ed.)

Heavy or Light Seeding of Potatoes.—I have planted six to eighteen bushels per acre; can discover no advantage in heavy seeding, and think six to ten bushels enough, depending on whether the potatoes are large or small. —*Ohio Far.*

Best Course for Preventing the Potato Disease.—Select hardy varieties which are calculated to withstand the effects of the blight—which is the forerunner of the rot—plant them *early*, taking care *not* to allow them to sprout before they are planted, except in cases of *forcing*, such as will be described in another place. In order that the plants may not be retarded in their growth by any means, the soil should be well and deeply tilled, and when manure is necessary to increase its fertility, well-rotted dung will be found much superior to long, badly prepared manure, as the former will at once yield nutriment to the young plants, and give them a vigorous start. The ground should be kept perfectly free from weeds, and the plants moulded in proper time, in order to strengthen them and promote their growth, *for the best mode of preventing rot, is to have the crop ripe or nearly so, before the blight makes its appearance.*—*Dundee Courier.*

Moss on Trees.—Moss is a vegetable which springs from seeds which float in

the air and attach themselves to the bark of trees. The bark is the soil for moss to grow in. Two things are necessary for the growth of this species, viz.: a shady situation and a soft condition of the bark. Frequent washing of the trees with carbonate of soda, (sal soda of the shops,) which ought to be bought for two or three cents per pound, will check the growth of moss by its alkaline properties, and the cleansing of the bark. One pound of the soda to two gallons of water will be enough.—*Exchange.*

No Man can Borrow Himself out of Debt.—If you wish for relief you must work for it—economize for it; you must make more and spend less than you did when you were running in debt; you must wear homespun instead of broadcloth; drink water instead of champagne, and rise at four instead of seven. Industry, frugality, economy—these are the handmaids of wealth, and the sure sources of relief. A dollar earned is worth ten borrowed, and a dollar saved is better than forty times its amount in useless gew-gaws. Try our scheme, and see if it is not worth a thousand banks and valuation laws.—*Rural New-Yorker.*

Spirit of Improvement.—One word in conclusion. Let us resolve to enter upon the labors of our farms this spring, with a better understanding of our objects, and a determination to be more thorough in our methods than ever before. Should each one thus, with a deeper sense of the nobleness of his calling, engage in the great work of improvement, what an aggregate of power would be exerted? How memorable the epoch which should inaugurate such a spirit among us.—*Country Gent.*

Horticultural.

CALENDAR FOR JUNE.

FLOWERS.

Many plants from the greenhouse and frames may now be planted out in the borders, unless done last month, and a further saving of annuals for succession may be made.

The principal stock of *Verbenas* may now be planted out. *Dahlias* also towards the middle of the month.

Box-edgings should be trimmed and cut very evenly on the top.

Weeds must be kept down by the hoe, and neatness kept in view at all times in the flower-gardens.

German Asters should be sown, to transplant some weeks hence into the beds, to succeed some of the early annuals.

Pansey seed may be sown in an eastern border to give plants for autumn bloom.

Lawns must be mown, swept and rolled every ten or fourteen days, if it is wished to have them look well.

Chrysanthemums should be stopped by pinching out their points to make them bushey, and should be watered abundantly in dry weather.

Gladiolus and all autumn bulbs should be immediately planted.

The Greenhouse.—Water must be liberally supplied, and attention given to keeping down insects by fumigating with tobacco smoke, and if red spider shows itself on camellias or other evergreens by dusting their leaves with sulphur.

Whenever warm weather is fully established, the Greenhouse plants may be put out of doors in a northern or eastern aspect.

KITCHEN GARDEN.

Full crops of *Beans* of all kinds should be got in this month.

All crops for succession that are wanted should be also sown, depending as to kinds and quantity upon individual taste, and having regard to those already in the ground.

Special attention must be given this month to keeping weeds down, which is an easy thing if the hoe is applied early

enough, but not if the weeds are allowed to get ahead in growth.

Tomatoes, egg plants, cucumbers, okra, squash, melons, and all tender crops, that were put in last month, should be looked to, and in case any have failed, they should be replaced without delay.

Fruit Trees making young growth, especially pears, should be gone over this month, and all shoots not wanted to form branches, should be pinched in when from three to four inches long.

Mulching of straw, grass or litter may, with great advantage, be placed over the roots of trees and shrubs that were planted this spring, to protect them from the effects of drouth.

Budding fruit trees may be commenced towards the end of the month.

The ground around all fruit trees should be kept loose with the hoe, in hot weather especially. It tends most naturally to keep the roots moist, and lessens the chances of injury from drouth very considerably.

WHAT WE WANT, AND HOW TO GET IT FIRST.

BY ANDREW S. FULLER, HORTICULTURIST, BROOKLYN, L. I.

We want strawberries that ripen earlier and later than those we now have. The only way I know of getting them is to sow the seeds of our earliest and latest varieties. If we should not succeed the first time, try again, and we shall surely triumph. As some may think it very difficult to grow strawberries from seed, we will give our *modus operandi.*

We never fail of getting good plants and plenty of them. Select the largest and best flavored berries; those that are fully ripe; put them in fine dry sand, then with the hands crush and rub them thoroughly until the seeds are evenly distributed through the mass. Prepare a bed in some half shady place, (under a tree will do if you have no better place); the soil should be a light sandy loam thoroughly pulverized to prevent its becoming hard and cracking after heavy rains. Sow on your sand containing the seeds evenly as possible, and then with a fine sieve, sift on soil; enough to cover the seeds an eighth of an inch deep.

In about two weeks the plants will begin to come up, and will continue to do so until winter, then the bed should be covered with some straw or leaves, to the depth of two or three inches; rake off in the spring, and transplant into beds eighteen inches apart.

We want a large gooseberry perfectly free from mildew, in any locality, of good flavor, which will produce abundant and regular crops. To get it we must sow seeds. Select your largest berries and wash out the seeds clean; then put them in a cool place, for gooseberry and currant seeds germinate at a very low temperature, and if allowed to start in the fall they will not grow to sufficient size to stand the winter. Keep the seeds as directed until very late in the fall; sow in beds prepared the same as for strawberries, cover the seeds three eights of an inch deep, and transplant when one year old.

We want a currant of twice the size of the noted cherry currant, and one that is sweet enough to eat without sugar, and we must have it. To get a larger one sow seeds of the cherry currant, and to get a sweet one, sow seeds of Knight's sweet or some other mild variety. Save and sow the same as gooseberries.

We want a better raspberry. One that is perfectly hardy, in this climate; one of good size and flavor, that will bear through the entire autumn months. We have nearly accomplished this, for we have several varieties that ripen their fruit in October, but they are not perfectly hardy, and are too small and not of as good flavor as they should be.

We want better earlier and later va-

rieties of blackberries, and better fruit of all kinds, and the way to get them is to persevere in sowing seeds and raising new varieties, and discarding the old as soon as they are superseded. We have accomplished much in the last twenty years, but we can accomplish more in the next twenty, for we have more experience, more science, more varieties; in fact we are many steps up the ladder, the top of which we are trying to gain. Let every one try to make an advance step, not wait for his neighbor or send his money to Europe and pay for their experiments.

We have paid millions to foreign countries for fruit trees which we might have produced ourselves. It is not for fruit trees only that we are sending away our money, but for ornamental trees and plants. Many, very many, are natives of our own country. I have seen in the last few weeks hundreds of plants, imported from France at a great cost, that can be found growing wild within one mile of the importer's residence. They either think they are better if imported, or in their ignorance they do not know that they are indigenous.

ON THE DEODAR CEDAR.

BY A FRIEND.

Much interest has recently attached to the introduction of the *Deodar* into this country, as well as in Europe.

In England it has proved a hardy tree, and it was hoped that it would prove hardy likewise in the Middle States here, if not in the Northern. The experience of the last three winters has materially modified this expectation, for although it has succeeded in some localities, and been either entirely killed or nearly cut to the ground in others, the relative vicinity of which would have precluded the likelihood of such results, the balance of the experiments that have been made around, and north of the city of New-York, lead to the inference that it will prove unequal to the average of the winters here; except in situations that are well sheltered and protected from the extremes of winter temperature.

In connection with this subject the question arises whether by any means a more hardy character can be given to the plant in question. The Deodar was at first regarded as a distinct species of the family to which it belongs, but the opinion is now prevalent amongst botanists that it is only a variety of the species that embraces the Cedar of Lebanon. If this opinion be correct it may be quite possible from seed, to obtain a variety which may differ but little from the Deodar in habit and appearance, and yet may possess the more hardy constitution of the Lebanon Cedar.

We have extracted below some observations from Dr. I. D. Hooker's Himalayan Journals, (to which we have before referred in recent numbers) upon the distribution of the *Coniferæ* in Sikkim, that contain remarks upon this subject which deserve attention, and will be found interesting to those who take pleasure in the improvements of their ornamental grounds. We should be glad to know that the experiment we above allude to was made on an extensive scale; and there is little doubt that, if successful, it would prove renumerative in no small degree.

"The distribution of the Himalayan pines is very remarkable. The *Deodar* has not been seen east of Nepal, nor the *Pinus gerardiana*, *cupressus toralosa*, or *Juniperus communis*. On the other hand, *Podocarpus* is confined to the east of Katmandos. *Abies Brunoneana* does not occur west of the Gogra, nor the *Larch* west of the Cosi, nor *cupressus funebris* (an introduced plant, however,) west of the Teesva in Sikkim. Of the twelve following, (namely, three *Junipers*, *Yew*, *Abies Webbiana*, *Brunoniana*, and *Smitheana*, *Larch*, *Pinus excelsa*, and *Longifolia*, and *Podocarpus*

neriifolia,) Sikkim and Bhotan conifera, including Yew, Junipers, and Podocarpus, eight are common to the North-west Himalaya west of Nepal, and four, namely, *Larch*, *Cupressus funerelis*, *Podocarpus neriifolia*, and *Abies Brunoniana* are not. Of the thirteen natives of the north-west provinces, again, only five, a *Juniper*, (the European *communis*) *Deodar*, (possibly only a variety of the cedar of Lebanon and of Mount Atlas,) *Pinus Gerardiana*, *P. excelsa*, and *cupressus torulosa*, are not found in Sikkim; and I have given their names below, because they show how European the absent ones are, either specifically or in affinity. I have stated that the Deodar is possibly a variety of the Cedar of Lebanon. This is now a prevalent opinion, which is strengthened by the fact that so many more Himalayan plants are now ascertained to be European, that had been supposed before they were compared with European specimens; such are the *Yew*, *Juniperus communis*, *Berberis vulgaris*, *Quercus ballota*, *Populus alba*, and *Euphratica*, &c. The cones of the Deodar are identical with those of the Cedar of Lebanon; the Deodar has, generally longer and more pale bluish leaves and weeping branches. Since writing the above, I have seen in the magnificent pinetum at Dropmore, noble cedars, with the length and hue of leaf, and the pensile branches of the Deodar, and far more beautiful than that is, and as unlike the common Cedar of Lebanon as possible. When it is considered from how very few wild trees, (and these said to be exactly alike,) the many dissimilar varieties, of the C. Libani, have been derived, the probability of this, the cedar of Algiers, and of the Himalayas (Deodar) being all forms of one species, is greatly increased. We can not presume to judge from the few cedars which still remain, what the habit and appearance of the tree might have been, when it covered the slopes of Libanus, and seeing how very variable coniferæ are in habit, we may assume that its surviving specimens give us no information on this head. Should all three prove one, it will materially enlarge our ideas of the distribution and variation of species. The botanist will insist that the typical form of cedar is that which retains its characters best over the greatest area, namely, the Deodar; in which case the prejudice of the ignorant, and the preconceived ideas of the naturalist, must yield to the fact that the old familiar Cedar of Lebanon is an unusual variety of the Himalayan Deodar. But these characters seem to be unusually developed in our gardens; for several gentlemen, well acquainted with the Deodar at Simla, when asked to point it out at Kew Gardens, have indicated the Cedar of Lebanon, and when shown the Deodar, declare that they never saw that plant in the Himalaya."

A WORD UPON SEEDLINGS.

BY MARSHALL P. WILDER.

A FALSE doctrine prevails among some, although founded on the theory of Van Mons, "that scions taken from seedlings, and grafted into stocks, however strong and healthy, will not yield fruit earlier than it may be obtained from the mother plant." Adopting this theory as true, many cultivators have been discouraged on account of the length of the process. Whatever may have been the experience which called forth this theory from its learned author, in the localities where it originated, or where it has been advocated, my reading and personal observation constrain me to question its truthfulness; certainly its application to our own country. For instance, the fact is familiar to you all, that scions of the pear come into bearing, when grafted on the quince, earlier than on the pear stock. This is believed to result from the early maturity of the quince, which, while it does not change the variety of the pear, imparts its own precocity thereto. We realize a

corresponding hastening to maturity when the scion is grafted into a pear tree which has also arrived at maturity; especially is this to be expected when the stock is in itself one of a precocious character. If any facts seem to oppose this doctrine, they may be regarded either as exceptions to the general law, or as the result of locality and cultivation.

The physiological principle of the vegetable kingdom under which this doctrine obtains is, that the bud contains the embryo tree, and that the strong or precocious stock constrains it to elaborate more material into wood and foliage, and thus promotes both growth and fruitfulness.

Common sense as well as common observation, confirms this statement. Witness the pear, which we have known to fruit the fourth year from seed, when grafted on the quince. We know a seedling from the Seckel pear grafted on the Bartlett, which bore the present season, and is only four years from the seed. The Catherine Gardette, raised by Dr. Brinkle, was brought into bearing by grafting on the quince in five years, while the original seedlings, in all those instances, are only three to five feet in height, and will require several additional years to bring them into bearing. Is it reasonable to suppose that a seedling pear, which, in two years, in a given location, attains the height of one or two feet, with but few branches, will fruit as early as a scion from the same seedling when grafted on a strong tree, which elaborates and assimilates through its abundant branches and luxuriant foliage, ten times the amount of all the elements constituting growth and maturity?

In reliance upon natural fertilization, I would still encourage the continual planting of the seeds of choice varieties of all kinds of fruit, in the belief that new and valuable varieties may thus be be obtained. By these various processes, we shall have continual accessions to our collections of such fruits as the Beurre Clairgeau, Beurre d'Anjou, and Doyenne Boussock pears. Let nothing discourage you in this most hopeful department of pomology. Go on. Persevere.

These are triumphs worthy of the highest ambition. Conquests which leave no wound on the heart of memory, no stain on the wing of time. He who only adds one really valuable variety to our list of fruits is a valuable benefactor. I had rather be the man who planted that umbrageous tree, from whose bending branches future generations shall pluck the luscious fruit, when I am sleeping beneath the clods of the valley, than he who has conquered armies. I would prefer the honor of introducing the Baldwin Apple, the Seckel Pear, Hovey's Seedling Strawberry, aye, or the Black Tartarian Cherry, from the Crimea, to the proudest victory which has been won upon that blood-stained soil.—*Exchange.*

PEAR CULTURE.

The question so earnestly discussed of late, whether pears can be grown with paying results to the cultivator, is thus treated by the *Horticulturist;*—

"The question of profit in the cultivation of any article whether it be grain or fruit, is the one to which interest mostly attaches. In the present number, our friend, Lewis F. Allen, in his peculiarly forcible way, and with an array of strong arguments, attempts the solution of the pear problem in a mode which will be received by some as truth, by others with grains of allowance. If pear culture on a large scale, as a dependable crop for the support of a family, is not to be recommended, this fruit is too popular and too excellent to be allowed to be neglected; it is a very good and sometimes a very profitable addition to market farming. A few trees, in situations where they are in the way of nothing else, will often give clever returns in money. They ought to be of *good looking* kinds, and the fruit should be exhibited in its best state to the purchaser at the mo-

ment almost it is fit for consumption. In gardens even of small extent room can be found for a few pear trees, which may be so planted as to cast little shade on vegetable beds, or in corners where they can receive proper attention. No garden is complete without them; no family in the country or a village should be contented unless they can have a share of this fine fruit, just as everybody has a grape vine. In situations where the raiser can *retail* his product, we can believe in any amount of profit which has been received by successful cultivators around Boston, in which latitude Mr. Allen admits with perfect candor that large profits, the result of great success, have been realized.

"We think that one or two elements in this controverted matter have been too little taken into the account, and may be referred to as points that are yet to be more fully understood. In the *Report* of the Massachusetts Horticultural Society, which we abridged in February, page 89, it is stated that a grower has ready sale for those pears having a russety skin, while those of green skin could not be disposed of; to this end he has to prepare them for the customer's eye by a sweating process there described; "while Mr. Gordon's Bartletts were yielding him *ten dollars* a bushel, other wagons, by the side of his, had pears of the same variety, equally as large, but, in consequence of retaining a green skin, were offered at *three dollars* a bushel." Here is testimony that is sufficient to account for all the differences of opinion as to profit. If one man can get ten dollars a bushel, and his neighbor only three, while the difference of the cost is so small as in this sweating process, the whole question of profit turns upon one circumstance. Testimony delivered before a jury, as it would be given by one vender, would create a verdict of *profitable*, while the whole would be overset by the sworn to words of the next neighbor which the very same fruit, and the jury might say *unprofitable*. Our readers must take these things into consideration; pear culture is advancing; better kinds, better understood trimming, keeping, *and now by sweating*, will give to many new cause for perseverance, notwithstanding the discouragments of others, whose opinions, recorded in our columns, it is equally the duty of an impartial journal to promulgate with the results obtained by others more favorably situated. Colonel Wilder assures us that in his neighborhood nine hundred dollars have been received from the produce of an acre and a quarter of pears. This extraordinary result it should be the duty, the pleasure, and the amusement of others to emulate. The secret, if there were any, is as well known, thanks to our pomologists, as the best mode of cultivating any other fruit; trees in millions have been set out in every direction, but we hear of no similar profits except near Boston. Have the Bostonians been educated to love pears better than any other citizens, so that they will give higher prices than are to be had in other places? Is it the sweating? It would appear that this is the matter, for the difference *in Boston* between a bushel of sweated pears and a bushel of green skinned fellows, is so great as to be quite amazing. We can see, in imagination, the torture of the owner of the green-skinned Bartletts as he counted his three dollars against his neighbor's ten, the name of the latter Mr. John Gordon, of Brighton; that of the owner of the unsweated article not given.

"Time enough has elapsed, trees enough have been planted, exhibitions enough have been made, and *our parish* is yet as a whole unpeared. The amateur and small gardener can generally enjoy this fruit in moderation, but for profitable culture, in our own neighborhood at least, we have yet to see it. In Dr. Warder's book he asserts that the Osage Orange does not sucker; here it does; in Ohio it does not exhaust the neighboring land; here it does; perhaps in Ohio the soil is so deep that the roots go downwards, while here they seek pasture near the surface. Such differences may and do exist; let us therefore cultivate in each climate what that climate is adapted to, and above all, let Boston send this way some of her fine pears. Philadelphians, as a people, have yet to know how a good pear tastes. They will be contented with the three dollar Bartletts, as ten dollars is high, and the freight is to be added."

A GERMAN PRACTICE.

THERE is a practice among the Swiss and Germans of boring into the ground among the roots of fruit trees, (with an instrument made for the purpose,) and pouring in liquid manure to force the

tree forward, and also enable it to resist the drouth in dry weather. I have practiced this for four years with some fine Seckel pears, in dry land, with good success. Avoid this after September first, as it will induce a second growth late in the fall, which will be quite irregular and very liable to be winter-killed. The instrument I use is the common iron bar, which can be driven in among the roots without injury. Take for a wash, (as I buy no "special" manures,) to three-fourths of a barrel of water, four quarts of ashes, two quarts of lime, two shovelfuls of night soil—stir up well, and pour into holes made as above, what the tree requires. Soap suds are capital for this purpose.—*Rural New-Yorker.*

The above is unquestionably a good practice, where unfortunately a proper preparation of the soil has been neglected, and it might do well for old trees in grass land, as by top dressing the manure goes rather to feed the grass than the tree.—Ed.

A PERFECT PLAN TO WATER TREES.

Every artificial plan to irrigate lands, trees, or plants, should, as far as possible, be in imitation of nature. It is a well-known fact that the very best means of watering, in dry countries, are those that feed the root from below, rather than from the surface of the ground; the system of subsoiling, trench-spading, deep plowing, and like operations, giving life, health and vigor, and by the capillary attraction the water is drawn up from the earth below by reason of the heat above.

The recent plan of boring tubes of two inches in diameter, and inserting lead pipes, and then attaching them to the rotary pump—thus giving a pump at small cost, as practiced in Stockton with great success, has called attention to facts which can be made of great service in all parts of our State, wherever there is this hard adobé land. In every county that has this black soil, or even red soil, such as is used for making brick, and on our broad, dry prairies, it is well known that water can be found at depths varying from twelve to thirty feet; and in all such places we now ask particular attention to the following valuable facts, which can easily be verified by any person at a trifling cost.

One plan is simply this: procure a two-inch auger, and have it prepared (as used for boring wells) with joints of square iron rod, and with a handle that can be slid up and down (made fast with but screws) as the work progresses. Then bore into this mold of earth until you reach water; then fill up this tube with coarse sand. At all times afterwards, by capillary action, the water will be drawn to the surface of the earth in sufficient quantities for all that grows above it.

Let any one try the following experiment: dig a hole two feet deep, and three in diameter; in the center of this hole bore as described, for water; fill up the tube with sand; then plant a tree in that hole, and forever after you have, by capillary power, a fountain ever flowing to the roots of that tree. This will be *natural* to the tree, and it will only flow as the tree needs it, and it will also be perceived that the roots of the tree (the tree will form special tap roots) will go down this tube, and feed upon the living water below. This same plan may be adopted through an entire orchard. It can be used in trenches, and beneath hedges, but remember, in holes or trenches, they must be filled up again after the tube is bored, and filled with sand, else they will not operate well.

We commend this to all who wish to learn a natural way of irrigation. The cost of boring, in usual places, 12, 15, and 20 feet, will be only twenty-five to fifty cents per tube.—*Cal. Far.*

THE APPLE TREE BORER.

At this season, or as soon as the weather becomes a little warmer, the borer hatches out into a small striped beetle, which, during the month of June especially, though often earlier, and always more or less for some months subsequently, may be seen busy upon the trunks of trees. It deposits its eggs upon the bark, and may be kept off entirely if the trees are kept washed with a strong alkaline soap.

Add a pound of potash to the gallon of soft soap, and with this, thoroughly mixed, wash the trees, leaving it, adhering considerably, in the axils of the lower limbs, or wherever the rain will not wash it all away at once.

The jack-knife should be kept at work about the stems of infested trees, and

the borers found in their hiding places and destroyed.—*Homestead.*

The above advice for watching the trees is good. Success in gardening and fruit-growing is the reward of vigilance. But the wash recommended, according to our experience, is too strong for the safety of the trees. It would be almost certain to injure them, unless there should be copious rains immediately after its application. We would reduce it by the addition of at least two gallons of soft water.—Ed.

Literary.

THE AUTOBIOGRAPHY OF A GOLD RING.

AN ORIGINAL TALE FOUNDED ON FACT.

[ADVERTISEMENT.]

[In a certain family in New-England, a gold ring, said to have been the foundation of its meritorious prosperity, has been handed down from age to age as an heir-loom. It is preserved with special care in an old box, which being also now an object of interest, is kept wrapped up in paper the better to preserve it from the ravages of time. As it is every now and then brought forth from its repository, the paper wrappers are occasionally changed and replaced by others. It chanced some time ago that a quantity of old dingy paper fell into the hands of the author, (who, be it known, is, or fancies himself to be, learned in antiquarian lore,) and in turning it over he thought he perceived scratches and lines emerging to light from the surface of the paper as he held it in his hand. Supposing this to result from some chemical action, he watched the process, and, to his great astonishment, the following manuscript gradually developed itself, something in the same way as our practical natural philosophers present to us the successive pictures in that beautiful optical experiment known under the title of Dissolving Views. Fortunately for the reader, this manuscript was not so transitory as those elegant pictures, yet it appeared to partake somewhat of the same character; for after commencing the perusal of the magic page, we found it growing fainter and fainter, and we at once therefore set about to transcribe it. It was lucky we did so; for scarcely was our task finished, when, in the well known words of our favorite poet, it "vanished like the baseless fabric of a vision," and left not a line behind. Finding on perusal that the manuscript appears to have been composed with the praiseworthy object of benefitting the world, we have not doubted that the worthy family alluded to, if still in being, would commend our diligence in preserving it and giving it to the public.]

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It may appear strange to this degenerate age that a piece of gold should have the power to take cognizance of things external to itself; and more so still, that it should have the means of communicating its history to the world.

My experience since I have had my present form enables me to throw some light on this, and other subjects; and in fulfilment of a power incident to my present condition, I shall record my history. This may or may not become known to the world by my means, inasmuch as I have no power to make my manuscript, when written, visible to man, except it should chance to fall into the hands of some antiquarian philosopher, who has prosecuted his studies far enough to enable his mind to emit those properties of gaseous matter upon my writings, which will disclose to his eyes. That depends solely on his industry and diligence; I have only the power to lay wisdom in his way; it is for him to seek out and find it. Should he do so, the following history of my existence to the present hour will gratify, and if he uses it right, will instruct him. Beyond the present hour my future, like his own in this world, is hid from me.

At my first consciousness of existence, I found myself lying on the working-bench of a goldsmith in the good city of London, in Europe, some two hundred years ago. I learned that I had been purchased from a merchant by my master in the form of gold-dust, and that in

that condition my constituent particles had been collected together on the west coast of Africa. My power of consciousness I found had been imparted to me by virtue of certain alloys that had been added to the purer part of my body, although accidentally, for this was done in the vain attempt of my master to convert those baser metals into my pure substance, an attempt at which alchymists have been working from unknown time, with an enthusiastic perseverance equal to that with which certain other wiseacres have wrought at the problem of perpetual motion. As both are equal simple impossibilities, the study of them has been, and will continue to be persevered in by half-witted people for some ages yet to come, with precisely the same degree of success.

I soon ascertained that so long as I remained in a perfectly pure state and without alloy, the power of consciousness was denied me, as it is also to all my race when converted by coinage into money. For in those states my qualities are too dangerous on the one hand, and too valuable on the other, to permit of my agency for good or for evil partaking of anything beyond a passive character. Did gold in such conditions possess the power I now have, man's free agency must cease, for it would never then submit to be made the instrument of wrong, of crime, and of oppression. It would cry out against the greediness of usury, the villainy of the bribe, the sordid avarice of the miser. It would urge the conscience of the covetous to become liberal, the conscience of the prosperous to stretch forth the hand of plenty to the unfortunate, the thoughtlessness of luxurious indolence to seek out and relieve the misery of meek but suffering virtue!

Therefore is it that I blush with shame when I see my unconscious relatives made to take part in scenes from which the purity of their nature, if conscious, would recoil, and the character of which but for the criminality of man, it might alter from scenes of vice and wretchedness to those of virtue and happiness.

It is not that all alloys can give my purity the property of consciousness. When the next amalgamation is chanced to be hit upon, no knowledge of the fact is given to man; and my master, when he had thus communicated to myself this wondrous quality, supposed me still a mere bauble without thought. But though now thus endowed, the fact remains unknown, yet my reflections engender kindred passions; and was I coin, and those who owned me sought to serve their baser natures by my means, my kindled passion would impart red heat to my substance and I should burn his flesh and thus protest against free agency in man. Superior Wisdom, then, has drawn that line, which time must cease before it can be known.

The passive state, then, of my kin, whilst pure, or coined for barter, leaves man to wreak upon his fellow-man the baneful wickedness which greedy avarice prompts, unchecked by aught save his own wayward will.

It is true, that sometimes in my conscious state my natural charms might be made use of to bribe astray the wavering rectitude of female innocence; for jewels ever bear sad temptation to the youthful maid. It has not fallen to my happy lot thus unwillingly to give cause for grief. Had it been otherwise, I would have restrained my inward rage, and rested lightly on my victim's hand, for her poor spirit would have needed every aid, to solace anguish such as she alone could feel; and if my brilliant luster gave pleasure to her eye, gladly would I have lent my useless charms, to cheer the achings of a broken heart, and cast a ray of pleasure through a soul that memory soon again must sink in shame!

My time, however, has been better spent, and though my lot has not been one of choice to me, yet it is the one

my consciousness, if able, would have chosen.

I tarried but a short time on my master's bench, He was a worthy man and true, and loved his wife with fervor and esteem. Her natal day was near when I was formed, and soon I graced her gentle hand.

Through many a day of weal and woe I rested there. I with her joyed, and with her mourned, for they had many little ones, and cares and troubles of all married life, gave her the average share. Sickness would come unasked to make a brief abode, and bring anxiety attendant in her train. The midnight lamp would glimmer in my face, as my kind mistress watched her darling babe. But whether joy or sorrow sped her steps, serenity and peace adorned her walk. Thankful for blessings she deemed undeserved, she bent submissive to affliction's rod. And whilst she strove to check the trickling tear, her swelling heart sent up a prayer above. So went she on along her patient way, which led her safely to eternal peace.

I mourned my lost place on my dear mistress' hand, but knowing she was gone to endless bliss, I quickly stayed the current of my grief. From her I passed to her young son, who wore me for his mother's sake through several years. There did I see the trials, the deeds of youth. Oft have I joined the merry dance, and smiled my happiness with all around. At times I saw the fall of him I loved (for I did love him as his mother's son,) into the trammels of designing knaves. Then would my passion warm my substance up, until his finger tingled with the pain. Repeating this, I found the means to check his errors; for *this* made him think, and superstition stepping to my aid, made me his talisman and constant guide.

At length misfortune seized my kindly friend, and he resolved to seek in other lands the chance of fortune that his own withheld.

Soon were we plowing before the rising gale, the billows' swelling but quickly yielding crest. Across the Atlantic speedily were we borne, and reached unharmed our wished-for haven's rest. But as my master stepped to gain the shore, caught by a rope passed swiftly through his hand, I left his finger and fell down on deck.

A Scotchman who chanced to spy me, finding no owner for me in the ship, took me himself. Though poor himself, he was an honest man, who came to seek his fortune like my lost friend. He placed me carefully in his small trunk that held, in modest space, his wordly goods, and thus I found myself installed in a new home.

We landed at Boston, and my new master looked around him to see how he best should commence his new career. His stock of cash was small, and was consumed before he could make up his mind upon the course he would adopt. In the bottom of his empty purse he found the solution of his difficulty; for *there* he saw as plainly as though written in words of fire, the word Want. Necessity was then, as now, the mother of invention; and he resolved that I should be the founder of his fortune. Always ready to advance the good of my human friends, I willingly yielded to his suggestions; and by the aid of one of those philanthropists who are ever ready to assist others, assuming that whilst so doing they can likewise assist themselves, I was transferred for a time to the safe keeping of a gruff-looking iron safe, whose features albeit were no bad photograph of its master's; and whose constituent parts in *dure*-ability were an exact counterpart of the sympathies of his breast for the necessities of suffering poverty.

I by no means admired my new domicile, for being always anxious to be active and doing, and esteeming it ungenerous and disgraceful to pass one's existence in indolence, like a drone in

the busy hive of industry, my spirit rebelled against being thus shut up like a hermit in his cell, useless to himself and all around. The chafings of my wounded feelings warmed my metal so much, that had I not checked them, on reflecting that, though my present custodian was a hard man, I had no charge to make against his honesty in his transactions with my master, had I not thus checked my feelings, I say, they would most assuredly have heated my temperament to such a pitch that, by simple contact, I should have set fire to and burnt up a quantity of bonds, bills, and documents of value, that I perceived were my fellow-prisoners in this iron dungeon. I stifled my rage, therefore, consoling myself with the two-fold reflection that, on the one hand, my imprisonment might be working good to my active master, and on the other, that in case I found he should be ill-used by the money-lender, I was, for the reasons alluded to in the preceding sentence, just in the right place to work a fearful vengeance upon him for so doing.

With these feelings, I resigned myself with as much patience as I could to my fate, and waited with great anticipations of pleasure the hour for my release.

I can not say how long I was thus confined, for I fancy after the first ebullitions of my feelings had past away, I drowsed off into a state of semi-consciousness, and was not well aware how time passed.

One day the old money-lender, however, took me out, and carrying me down to his sanctum, where all his monetary affairs were transacted, I found my master there, and I soon perceived that he was come to redeem me from my bondage. I was glad to see that he looked in excellent health, and was dressed in a good and neat suit of clothes, that contrasted favorably with those he wore when first I made his acquaintance. His countenance smiled when he saw me, and I heard him remark to the miser that I had been a good friend to him, for that he had invested the money he had borrowed in divers small "notions" that he had peddled round, and that he had now saved up a hundred dollars with which to begin the world on a larger scale.

Taking me and placing me on his finger, he eyed me a moment with evident pleasure, and exclaimed in his Scotch tone, "Cam along my little mon; ye're a gude chiel, an' I trow it'll be a hard day that parts ye agin frae me."

Mortals can not tell the thrill of delight that these words, and my master's beaming eye, whilst he uttered them, darted through my fabric, for judging from my poor observation of human affairs, it seems to me that if men could once appreciate and know that ineffable pleasure that a sensitive being derives from the feeling that he has made others happy, there would cease to be misery on earth. It is not like that sterile animal satisfaction that attends the sensations of self-indulgence or gratification; but an ever-growing and expanding principle, which, emanating from loftier feelings, sheds a radiance of peaceful joy throughout the circle that it binds together, and softening discordant life-threads into harmony, unites in one common band the heavenward aspirations of the uplifted soul! This glorious stream of heaven-born love, once started from its celestial source, sweeps smoothly over the crooks in life's rough course, and finds its issue in a sea of bliss, whose peaceful waters spread their wide expanse through boundless space, and—all eternity!

Within a short time after my emancipation from durance vile, I ascertained that my master had made up his mind to get some land, and settle down to a more quiet mode of life, than the roving one that he had engaged in during my absence. His arrangements were speedily made, and we started together for our woodland retreat. We traveled on-

ward through forest wilds, that knew not before the tread of white man's foot. The red men gazed upon our savage garb, for such to them our aspect appeared. At length we pitched upon a woodland range in Connecticut, where nature seemed to spread around uncounted beauties.

In the immediate vicinity of this charming spot my master had resolved to take up his abode, and he set to work forthwith to make the commencement of his plantation.

Here he remained and prospered. His example was followed by others, and the goodly town of Killingly arose to mark man's kindredship in the forest wilds. As fortune smiled upon my master's labors, domestic ties sprung up around his board. Happy and content he led his peaceful life, and closed at last his fully numbered days, revered by some—sincerely mourned by all.

Before his gentle spirit passed away, he took from his hand my much valued form, and placed me on the finger of his eldest boy, just rising then to manhood.

"My boy," said he, "I give you now my ring. When landing here, downhearted and forlorn, I found it lying, unsought, at my feet. Despair and grief at my unfriended state, had then nigh bowed my heart below reaction's strength. This ring seemed to my fancy a token of relief. I pledged it for the means to make my first poor worldly traffic, and from that hour prosperity has smiled upon my toils. Preserve this ring my son, and hand it down to yours, that as the varying tide of time rolls on, its sight may stimulate when lowering clouds prevail. A talisman for good the sign will always be; and serve to rouse the energy that lags and so gives courage to unchristian fears. Thus will you learn to combat worldly trials, and gain reliance on your stern resolve. When man puts forth his hand in duty's cause, his God forgets not that he needs his aid."

The old man's life-thread was run out; but I was cherished, and as each succeeding generation of his stem, has taken for its time the peddlers place on earth, I have been guarded with religious care a faithful talisman of future good to all who act like him.

For the Am. Farmers' Magazine.

LIFE OF ROGER WILLIAMS AND OTHER PILGRIMS.

BY A SON OF A PILGRIM.

This Pilgrim father was a clergyman, born in Wales, about the year A.D. 1599. He first took orders in the Church of England, but being a nonconformist, or Puritan, he was induced to seek religious liberty in the new world, and came to Salem, Massachusetts, at an early period of its settlement. He was one of the regularly ordained clergymen of that town. His motto was, "*In God we hope*," which is now inscribed upon the Arms of Rhode Island, together with the anchor fastened upon the rocks.

He insisted upon liberty of conscience, and manifested a free toleration of religious opinions amongst all denominations of Christians. Free and religious toleration has ever existed in the State of Rhode Island. Mr. Williams was expelled from the Massachusetts Colony for avowing himself a friend of religious freedom, and he left Massachusetts in the middle of January, A. D. 1636, solitary and alone; and for fourteen weeks was exposed in the forests and among the Indians, not knowing what "*bread* or *bed* did mean." For his means of subsistence he depended upon the Indians. The earth was covered with snow. He first stopped at a spot in Seekonk; he afterwards in a short time removed to Providence, to which he gave a name in remembrance of "*God's merciful Providence*" to him in distress. He first landed at Providence in company with five men who had joined him at Seekonk, whose names were William

Harris, John Smith, Thomas Angel, Francis Wykes and Joshua Verrin. His wife and children he left in Salem, but in the following summer Mrs. Williams and her two children came from Salem through the woods to Providence, in company with several persons who wished to join their exiled pastor. The family of Mr. Williams were now dependant on his daily labor for their support; no supplies could be derived from Massachusetts, and the native Indians could not afford much aid. He says that he planted with his own hands at his first coming two Indian fields, which he purchased of the natives, and by day and by night, at home and abroad, and on land and water, and at the hoe, and at the oar, he labored with his own hands for bread. He erected a small house at Providence for his family. Here the wanderer found a home for more than forty years; here he died in 1683, and here his ashes are deposited near the site of his dwelling.

Mr. Williams made his Colony a refuge for all persons who might choose to reside there, without regard to their religious opinions. His Constitution of Government was a simple instrument, and combined the principles of a pure democracy with unrestricted religious liberty, and it was the germ of those free institutions which have governed and flourished in Rhode Island to the present day. His Constitution of Government was one covenant, and in the following words:

"We, whose names are here underwritten, being desirous to inhabit in the town of Providence, do promise to submit ourselves in active or passive obedience, to all such orders or agreements as shall be made for public good of the body, in an orderly way, by the major consent of the present inhabitants, masters of families incorporated together into a township, and such others whom they shall admit into the same, only in civil things."

Mr. Williams in all things was careful to maintain public order and peace. In 1643, the colony of Rhode Island being destitute of a charter or any legal authority, Mr. Williams went to England as the agent of his people, and obtained from the government of the mother country a free and absolute charter of civil incorporation by the name of "*Providence Plantations in Narragansett Bay.*" This charter lasted until A. D. 1663, when Mr. Williams and the people of Rhode Island received a charter from the King of England, by which the colony was styled "*The English Colony of Rhode Island and Providence Plantations in New-England.*"

This charter remained the foundation of their government until within the last twenty years. The people of Rhode Island were, many of them, from Wales. We find the names of Robert Williams, William Reynolds, John Warner, Thomas Harris, Joshua Wynsor, Thomas Hopkins, William Wyckenden, William Field, Benedict Arnold, Mr. Wescott, Mr. Olney, Mr. Throckmorton, Mr. Codington, and many other descendants of Welshmen, located in Rhode Island. Most of the Pilgrim Fathers were practical agriculturists. Mr. Wyllis, Governor of Connecticut in 1642, left a fine estate in the county of Warwick, England, and encountered the hardships of the wilderness in America.

Mr. Bradford, the second Governor of Plymouth Colony, was born in Ansterfield, in the north of England, in the year 1588; he was educated as an agriculturist. Governor Bradford wrote a history of Plymouth Colony and its people, beginning with the first formation of its church in 1602, and ending in 1646.

Governor Carver, the first Governor of Plymouth Colony, came over in 1620. He had a good estate in England, which he spent in emigration to Holland and America; he was one of the emigrants to Lyden while the Pilgrim fathers re-

sided there. He died April 5th, 1621, at Plymouth; and while engaged in laboring with his own hands in the field, clearing up his plantation, he was taken sick and died in a few days afterwards.

John Winthrop was Governor of Saybrook, in Connecticut, in 1657, and continued Governor until 5th of April, 1676, when he died. He was possessed of a fine genius, improved by a liberal education in the Universities of Dublin, and also of Cambridge in England, and by travel on the continent of Europe. He possessed a great variety of knowledge, was skilled as a philosopher, also in chemistry and physic. In 1661 he went to England, procured a charter incorporating the Connecticut and New-Haven into one government, which thence became the Colony of Connecticut; while Mr. Higginson, who was a clergyman at Salem, Massachusetts, in 1629 brought over from England 115 head of neat cattle, being the longhorns of Leicester, together with horses, sheep, goats, and six cannon, with stores suitable for a fortification. Mr. Higginson stated that in his colony there were 300 planters; 200 of them settled at Salem, and 100 at Charlestown, and that those at Salem were making haste to build houses, so that in a short time we shall have a fair town. He stated also that we have great ordnance, (meaning cannon,) whereby they should be able to fortify themselves and to keep out any potent adversary, "but that which is our greatest comfort and means of defence above all others is that we have here in Salem the true religion and the holy laws and ordinances of God taught amongst us." Such were the men that first settled New-England.

Miscellaneous.

"OLD SANDS OF LIFE."

Dr. Hall, of the *Journal of Health*, who has investigated the matter and analyzed the drugs finds that the mixture for which "Old Sands of Life" charges two dollars, when made from the very purest and most expensive materials used, costs exactly sixteen cents, bottle and all! And he furthermore charges, as do many others, that it is a deleterious article at best. The following from the *Gleaner*, is a very severe rap:

"Messrs. Editors.—Permit me, thro' your columns, to bear testimony to a valuable medicine. My great aunt has been striving to reach heaven for the last twenty years. Having a cough, she finally fell into the hands of the 'retired clergyman' whose 'sands of life have nearly run out.' She purchased a bottle of his *Cannabas Indica*, from which she gained strength, judging from the violence of her cough. On taking the second bottle her strength so increased that she was able to cough all day and night without interruption. The third bottle landed her in heaven. Thus, in a brief space of time, the fond hopes and anticipations of a quarter of century are realized for the sum of seven dollars twelve and a half cents. To those persons who are desirous of changing worlds, or changing husbands and wives, and all who are anxious to visit t'other side of Jordan, this medicine is confidently recommended."—*Ex.*

There is something in the above running too near the profane, and we do not like it. But what language can too strongly depict the indignation, the utter contempt, the heart-loathing which all should feel for Old Sands of Life and his imitators. They are generally young men, sometimes middle-aged, and rarely old, are capable of achieving an honest livelihood, of living and letting live; but they deliberately choose to lurk about our cities and their suburbs; not in idleness, for they are the most industrious men living; not in the neglect of those intellectual powers which would ally man with the Deity, but in their abuse of them to the vilest of all purposes; not to

do any one the least good, but to prey upon the unfortunate, to take the last dollar from the sick and dying. They will not steal from the well-to-do, who could better afford to loose. They pass by the robust and the strong, who might possibly support themselves and one city scoundrel besides. The dollars seem to be sweet to them about in proportion to the distress, misery and hopelessness from which they are wrung. Appealing to that principle of our nature, "All that a man hath will he give for his life," they batten on the last pulse and the last cent of their dying victims. Why will invalids send to the city for cures? There is more medical skill in the country, twice-told, than in the city; better air, wholesomer food; and the advice of the first elderly woman that you meet—she will prescribe for you gratis—is ten times safer, more effectual, more likely to cure, than the nostrums of city quacks. These fellows advertise to the amount of millions every year. The invalids, generally among the poor, pay the bills, pay the cost of the medicine, pay an enormous profit on the whole. Why, in heaven's name, if they want to be killed don't they seek a cheaper way. The rascals, who impose upon them, with few exceptions, have no name, no place of business—would not dare have. If you come here, you can not find them. The "returned missionary," for instance is nobody—a mere fiction—nothing but an impersonation of benevolence, amazingly anxious to do everybody that has a dollar good, but non-existent. Go to his place of sale, and what do you find? An irresponsible person, perhaps a smart boy of ten years, selling his medicine. Ask him where is Mr. Returned Missionary? He will tell you, gone to Boston. Have you seen him? No. Who brings you the medicine? His agent. Where is he? Don't know. Does he bring the medicine himself? Yes, and takes the money. How often? About once a week. Where does the agent live? Don't know. Does he pay you for selling his medicine? Yes, he pays me well. That is it. It is all for pay. It pays well—pays for puffing, pays for advertising, pays for selling, pays for robbing, pays for killing; but it does not pay the undertaker, and it does not raise the victim to life, nor feed or clothe his bereaved family. How long shall such heartless fraud be tolerated? Tell your neighbors and friends not to encourage it; and if there is an editor in your vicinity, ask him, whether it is, or is not a gross immorality, to advertise the wares of such soulless villains as Old Sands of Life. These editors know a great deal. They can answer you that question, *if they will.*—Ed.

WHAT IS SCIENCE, AND WHAT CAN IT DO?

At the late anniversary of the *New-York Ladies' Home Missionary Society*, a society which has penetrated the abodes of wretchedness more beneficently, and done more real, substantial, unsectarian good, than perhaps any other with an equal amount of means, in the Hall of the Cooper Institute, Peter Cooper, Esq., was called to preside. It should be recollected that this gentleman has alone erected that building, large, elegant, substantial—built, as would seem, for all future time—at an expense, we believe, of more than half a million, and is about to dedicate it to the cause of science and human improvement. On taking the chair, Mr. Cooper made the following remarks. Whether they ascribe more than is just to merely intellectual attainment, is not ours to inquire, but we are quite sure that the noble, soulful yearnings they express in behalf of science and of humanity, render them worthy of a record more durable than brass—in the hearts of this and coming generations.

"For this honor, gentlemen and ladies, please accept my thanks. This first meeting in this hall—a hall that is to be known hereafter as the Hall of 'Union'—is an event that I, with many

others in this community, have anticipated with more than ordinary interest. It is an event by which the second apartment in this building is now brought into practical operation. It is intended that this building, with all its rents and revenues of every name and nature, will, in the course of the coming fall, be dedicated to the advancement of science in its application to the various useful purposes of life. It is, my friends, to the application of science to the laws of life that we must look for all future improvement in the condition of mankind. Science, my friends, is a development of the laws and methods of Deity—laws so wise and good as never to require to be altered, amended or revoked. They, like their Author, will remain the same, without variableness or shadow of turning. It is the power to know and understand these laws that elevates man above the level of the brute.

"It is, my friends, upon a right and wise application of these laws that we must rely for a present salvation from all the possible evils to which infinite wisdom has seen it best to subject us, in order to perfect a nature capable of an endless expansion in knowledge and power over the material universe. To accomplish this, infinite goodness has seen it best to let us feel a sensation of hunger and thirst in order that we may enjoy the pleasures of eating and drinking, thus making every enjoyment of life grow out of want, where ample means are provided for the gratification of those wants. Science, my friends, is the key to unlock the mysteries and treasures of nature, to unvail its beauties and its blessings, and thus to vindicate the ways of God and to reconcile man to his Maker by showing a great and glorious purpose shining through all the wonders of almighty power. It is the proper business of science to deal with and demonstrate facts, and especially the great fact that the righteous or right-doers are recompensed in the earth, and much more the wicked and the sinner. This, my friends, is the greatest and most important application of science that ever has been or ever can be made for the elevation of man. It is the most important because it takes hold of our moral and physical nature, offering to both encouragement and warning.—Science, my friends, science will teach our children that the path of the just grows brighter and brighter to the perfect day; that wisdom's ways are ways of pleasantness, and that all her paths are peace.

"This science, when properly cultivated and taught to our children, can not fail to let them know that they are placed by their Maker in the great garden of the world to keep it, to subdue it, and to work out a great and glorious destiny. This science will teach our children that our Heavenly Father has given to each a talent, or portion of an inheritance, that each may bury in the earth, or squander his portion with rioting and drunkenness, and like the prodigal of old bring himself to want for the very husks that the swine feed upon.

"This very wretchedness, growing out of violated laws and wasted blessings, was designed to awaken the slumbering and degraded faculties of man to a realizing sense of his true nature and condition; to show him that he is not afflicted willingly, but of necessity for his profit, to fill him with his own ways, to make him sick of his sins, and willing to return to his Father, where there is bread enough, and to spare, where giving will not impoverish nor withholding enrich. Every child within the sound of my voice will agree with me, that there is in reality more true pleasure to be found by being kind, loving and affectionate to his parents and playmates, than can be found in quarreling, fighting and tormenting each other. The poet spoke to the best feelings of our nature when he said:

"Know, then, this truth—enough for man to know—
Virtue alone is happiness below;
The only point where human bliss stands still,
And taste the good without a fall to ill;
Where only virtue sure reward receives,
Alike in what it takes and what it gives."

Science, my friends, will show our children that the way to obtain pleasure and prosperity through life, is the way of industry, the way of honesty, the way of economy, and especially of temperance in all things. When science shall have rent the vail of our ignorance, so as to let us know the truth and be made free by it—free to look into the perfect law, where all the elements and essences of a universe are working in harmony and accordance with an Almighty will, to organize, individualize and immortalize minds formed to receive a knowledge of a universe into each, without diminishing the store for every other individual.

"Thus, when the science of correct morals, which is the rule or science of

Christianity, shall have brought life and immortality to light in the intellectual heart of mankind, then we shall begin to know and understand something of the true dignity and responsibility of being a man. Then we shall know of a truth that 'man is but little lower than an angel.' If, my friends, this building shall in any way contribute to spread the knowledge of the truth, and lighten the load of human sorrows, then will I be amply compensated for all the toil and labor that I have expended to bring it to its present condition."

For the American Farmers' Magazine.

OUR PEDESTRIAN CORRESPONDENT.

NO. I.

After traveling some thousands of miles through our country by the fastest mode of steam conveyance we concluded to halt awhile on the gate city of Iowa, more frequently called the great city of Keokuk. Now you may think those two words "great city" rather superfluous when applied to a place west of the Mississippi and north of St Louis, but were you to spend a few days in viewing the handsome residences of her retired merchants and bankers, or the large and well arranged wholesale houses where the country merchants for hundreds of miles around buy their semi-annual supplies of goods, and last but not least her magnificent hotels, and then remember that five years ago the ground on which they stand was covered with primitive oak, untouched by the rude hand of civilization, we think you will be willing to award to her enterprising citizens the honor of living in a great city. Keokuk was not all a forest five years ago, but the oak, that original squatter sovereign, did at that time occupy the place where now many of her handsome edifices stand. But the cause of dating back five years as the commencement of her prosperity is that about that time her disputed titles of land upon which she located were settled, which had previously been the great cause of her lingering in the ranks of small cities. Her position, at the foot of the rapids and the great Desmoines valley, etc., etc., eminnently qualify her for future eminence, but as we have no corner lots for sale here we will leave her praise to those who have, and are consequently better qualified to do justice to her many merits. So let us go back to an old arm-chair in one corner of the gentleman's parlor of our hotel, where we sat ruminating on what we had seen in passing over the thousands of miles of railroad track between this place and Yankeedom, from which we started. Our ideas of matters and things were jumbled up and running together, like an extension table after dinner, excepting where we had stopped and taken views afoot, in all of which cases we were prepared with the statistics as well as poetry of their advantages and disadvantages. Consequently we arrived at the conclusion that to see and understand the real and practical merits of our country we must adopt the original mode of traveling, by which we gain the double advantage of escaping explosions, boiler burstings, races, and I had like to have said getting off the track, for that is a source of great annoyance in some sections of this country; as the old farmers (who act as switch tenders) seem very much to enjoy the joke of having put you on the wrong track, but they don't make much off of this Yankee, for they can't send him back on the road he has traveled, and so long as he is going through, what to him is a new country, he is all right. We started up the valley of the Desmoines river, which, by the way, is just now very high, and navigable for pretty large steamboats, they are making good use of the opportunity, for it does not last long. The farmers and country merchants, are sending down their produce and exchanging it for goods, which they hope to sell during the coming year; but money is just a little bit scarcer in this country than ever I saw it anywhere else, consequently the majority of sales must

be effected through some other medium than gold or even greasy bank notes. Large quantities of pork go down this river, as well as thousands of bushels of Hungarian grass seed, which, by-the-by, is making as much stir here this spring as the Shanghae fever did in the east a few years since.

This is a kind of grass recently introduced into this country, and one which we have no recollection of seeing in the east. It is said to be very productive of both hay and seed. The latter is only used for sowing, and brings at this time from seventy-five cents to five dollars per bushel, according to the demand and convenience of market. The seed is said to make good flour. One farmer said he took eighty bushels of seed and eleven tons of hay from two acres of ground; and they all say that horses will eat the hay in preference to timothy or clover, even after the seed has been taken out. We think it would be well for some of our eastern farmers to give it a trial at least, if they have not already done so.

The Desmoines river runs through a beautiful valley of fine fertile land and its banks are lined with a sufficient amount of timber for building, fencing, and all the necessary purposes of living, which is a desideratum on the beautiful level prairies of Illinois. We concluded to leave the river and strike across into Missouri, among the border ruffians and old farmers, for the purpose of talking with them about matters and things, as also with the wives and daughters, to see what they thought of the country; and let me tell you we had some rare times; and found some splendid farms. But my sheet is full and I must stop, with the prospect of giving you some more, which you may rely upon as facts, if signed, BOOTS AT THE BOTTOM.

STRANGE TENACITY OF LIFE.

MR. TRUMAN RHODES, of Etna, informs us that about the middle of July last, in putting his hay in the barn, by some means he covered a hen up with the hay, where she remained until the 17th of March, WHEN HE TOOK HER OUT ALIVE!!! The hen had lived, it would seem, upon the hay seed, but without a possibility of getting a drop of water. She had beaten a path along by the side of the barn, so that she had about twelve feet travel, receiving no light except what was admitted through the openings between the boards. The hen was very feeble when taken out. Did we not know our friend to be a man of truth, we should most assuredly consider this a tremendous stretch of imagination. But as it comes from an authentic source, we must believe and wonder that a thing of flesh could possibly have lived thus pent up for about eight months without the common nourishments necessary to sustain life, and yet come out alive.—*Dryden News.*

Is it not possible that said hen walked under the girt at a later date than that of the putting in of the hay, and then was preventing egress by the falling of the hay over the entrance?—ED.

SPRING FRUITS.

THE recent hard frost seems to have been severe only in low localities. In such places, almost every description of fruit is killed, while on lands of higher range, the injury is comparatively little or nothing. There is yet an abundance of fruit, etc., in the country, while we are pleased to learn that the wheat crop is uninjured.

Strawberries have made their appearance in our market. Some of the prominent horticulturists in this vicinity have had them ripe for more than a week. Among them is our friend Truett, a notice of whose nursery and fruit gardens we shall soon publish.

The finest bunch of asparagus we recollect to have seen in this city, was shown us recently. It was grown by Wm. Petway, of this county.—*Southern Homestead for May 13th.*

Strawberries and asparagus are now offered in the New-York markets, May 22d, but are not yet plenty.—ED.

☞ To err sometimes is nature; to rectify error is always glory.

FOR THE AMERICAN FARMERS' MAGAZINE.

THE WEATHER.

APPEARANCE OF BIRDS, FLOWERS, ETC., IN NICHOLS, TIOGA CO., N. Y., IN APRIL, 1858.

By R. Howell.

Place of Observation, 42 degrees North, on a Diluvial Formation, about 40 feet above the Susquehanna River, and 800 feet above tide, according to the survey of the New-York and Erie Railroad.

Mar.	7 A.M.	2 P.M.	9 P.M.			REMARKS.
1	33	60	46	S. E.	Fair.	
2	40	62	41	"	"	Red-winged blackbird, also brown, first seen.
3	37	68	42	S.& N.	Clear.	
4	40	71	53	S. E.	Cloudy.	
5	45	62	50	South.	"	Light rain between 1 and 2 in A.M and P.M.
6	34	40	32	N. W.	"	First hyholder and mouse hawk seen.
7	27	43	25	"	Clear.	
8	30	42	41	S. E.	Cloudy.	
9	46	67	52	"	"	
10	48	53	40	N. W.	Fair.	A large, beautiful aurora at 9 P.M.
11	37	42	36	"	Cloudy.	Light hail and rain before daylight, and A. M. and evening.
12	39	39	39	S. E.	"	Light rain in A.M., hard rain in P.M. [day.
13	40	48	44	"	"	Very hard rain before light, and at intervals all
14	44	60	45	N. W.	"	Light shower between 5 and 6 A.M.; lesser frogs first heard.
15	43	51	35	"	"	Light sprinkle.
16	42	60	37	"	Fair.	First wren heard.
17	36	58	38	"	"	
18	33	62	41	"	Cloudy.	
19	39	47	41	S. E.	"	First whippowil heard.
20	42	44	41	"	"	First kingfisher seen.
21	49	52	36	N. W.	"	Drizzling rain, beautiful aurora at 9 P.M.
22	42	68	57	S. E.	Fair.	Halo around the sun at 12 noon.
23	62	52	40	N. W.	Cloudy.	Light rain in A.M.
24	36	40	30	"	"	Light snow squalls.
25	31	42	27	"	"	Light snow before daylight.
26	26	40	26	"	"	A few flakes of snow.
27	26	46	28	"	"	Myrtle began to bloom.
28	38	52	34	"	Fair.	
29	34	67	52	N.&S.	Fair.	Light rain in the evening.
30	60	64	61	N. W.	Cloudy.	Light showers during the day.

BRIBERY DISCOVERED.

"WM. CHAPPELL, a member of the Wisconsin State Senate, was expelled on the 5th inst. for having sold his vote and influence to the Lacrosse and Milwaukie Railroad, while a member of the Assembly of 1856, and for having attempted to bribe a witness before the recent Land Grant Investigating Committee."

Why! the man is behind the times. Didn't our exchange know that the Governor of that same State took a sweetener of $50,000, and a majority of both Houses a comforter each of from $5,000 to $25,000 when that famous bill was log-rolled through? He must have been asleep about those times. Even the understrappers, down towards the boys that wait on the members, made a good job of it. But if nobody had been bled except the New-York bankers, we should'nt cry about it.—ED.

EDUCATION.—Seek for your children, in order—first, moral excellence; second, intellectual improvement; third, physical well being; last of all, worldly thrift and prosperity; and you may attain the blessing promised to Christian nurture.—*Everts.*

SEWING MACHINES.

The want of accurate information upon the subject of sewing machines, now exciting so much interest, is supplied by a new edition of "Appleton's Dictionary of Mechanics," in which this subject is discussed and illustrated. Several machines are mentioned therein, and prominence is given them according to their respective merits. The single thread "hand stitch," "running stitch," and the single and double threaded "tambour" or "chain" stitches, are severally treated. Machines making the "running" and the "hand" stitches are not before the public. The single and the double threaded "tambour" stitches do not make seams of desirable firmness and beauty. The latter involves a great expenditure of thread; and the former, made by the lower priced machines, is especially defective for the general purposes of sewing on account of the facility with which it may be raveled.

The "lock stitch" is the one best suited for sewing. It is formed with two threads, one above and the other below the fabric sewed, interlocked with each other in the center of it, as in the following illustration.

Each surface of the seam presents the same appearance: a single line of thread extending from stitch to stitch. It can not be ripped nor raveled, and forms a seam sufficiently substantial for all ordinary purposes. About two and one-half yards of thread are required for one yard of seam made with this stitch. The single thread "tambour" stitch requires about four and one-half yards, and the "double threaded tambour stitch" six and one-half yards for a yard of seam.

The inventor of the "lock stitch" used a reciprocating shuttle in making it. This required heavy machinery, involved a waste of power, and was inadaptable to fine work. No attempt was made to introduce it into families. "In 1851 Mr. A. B. Wilson patented his celebrated "lock stitch" machine, which, with the cooperation of Mr. N. Wheeler, was soon successfully introduced. The merit of Mr. Wilson's invention consists in his 'rough-surface feed,' by which the cloth is moved forward and the length of stitch regulated, and the 'rotating hook' by which the two threads are interlocked, and the point of interlocking drawn into the fabric." The superiority of this machine over the shuttle machine, arises from substituting the rotary movement of the hook for the reciprocating motion of the shuttle. Power is economized, noisy and cumbersome gearing avoided, and the machine is adapted to the finest work.

"Its mechanism is the fruit of the highest inventive genius, combined with practical talent of the first order. Its principles have been elaborated with great care, and it involves all the essentials required in a family sewing machine. It is simple and thorough in construction, elegant in model and finish, facile in management, easy, rapid and quiet in operation, and reflects additional credit upon American mechanical skill. Thousands are used by housekeepers, seamstresses, dressmakers, tailors, manufacturers of shirts, cloaks, mantillas, clothing, hats, caps, corsets, ladies' gaiters, umbrellas, parasols, silk and linen goods with complete success."

"Various appliances are furnished for regulating the width of hems, etc. The 'hemmer' is another appendage, by which the edge of the cloth is turned down in passing through, as in ordinary hemming, and beautifully stitched. The bearings and friction surfaces are so slight that the propelling power is merely nominal. The various parts of the machine at all subject to wear are made of finely tempered steel, and the other parts are tastefully ornamented or heavily silver plated."

"There is no limit to the number of stitches that may be made in any given time. One thousand per minute are readily made. The amount of sewing that an operator may perform, depends much upon the kind of sewing and her experience. Fifty dozens of shirt collars, or six dozens of shirt bosoms, are a day's work. Upon straight seams, an operator with one machine will perform the work of twenty by hand; on an average one probably performs the work of ten seamstresses."

RAISING INDIAN CORN.

You have probably read the article in the N. Y. *Tribune*, of May 8th, on the raising of Indian corn, in which the writer gives a recipe, deduced from observations on premium crops, for greatly increasing the average yield of the most important product of the United States. It runs as follows: "Take a rich, strong loam, with a heavy turf, the older the better. Plow not less than eight inches deep, and deeper if it does not bring up more than one inch of the subsoil. Put on at least forty loads of manure to the acre, and more if you have it, reserving a part for the hill, unless you use some concentrated fertilizer."

If you were not reminded of the following story by this wise advice, I am sure that it was only for the reason that, unlike editors generally, you are not omniscient, and never chanced to peruse it.

A caravan was once bewildered in the desolate waste of an immense desert, and after long wandering, was reduced to a famishing condition. While in their worst extremity, a vulture came flying one day in their neighborhood, and poising in the air over their heads, astonished them greatly by his miraculous power of human speech.

"Why do you famish?" asked the vulture. "If you will take fine flour, and mix it with goat's milk, and flavor it with the delicate spices of the East, you may produce cakes worthy to set before the Caliph. If you take the round haunch of a fat gazelle, and roast it before the fire, and eat therefrom, it will make your eyes stand out with fatness. If you take water from a cool spring, and squeeze into it the ripe juice of an orange, you may cool your parched tongue with refreshing sherbet. Why will you famish, and thirst, and sorrow, oh, poor wretches! Why will you not eat and drink, and be merry?" And the "poor wretches" looked up to the vulture and asked him vainly where they might get the flour and the spices, the fat gazelle and the cool spring water, and the ruddy oranges.

So, the *Tribune* croaks to the farmers in the land and says, "Poor farmers, if you wish to grow great crops of corn, and pay your debts, and live comfortable, you have nothing to do but plow under an old turf and put forty loads of manure on the acre and till it well, and your granaries will run over, and your pockets will stand out with money." But if you please, Friend *Tribune*, do tell the farmers how, consistent with good and systematic rotations, they can always obtain the old turf to plow under, and then, perhaps, they will trust your wisdom to inform them how and where they can profitably obtain the forty loads of manure per acre.

It is quite easy to tell farmers *how* to raise large crops. They hardly require the teachings of the *Tribune*, or any other journal, to inform them that an old turf plowed under, and forty loads of manure applied to each acre, and the land afterwards subjected to thorough tillage, will (if the wire-worm and the grub let it alone) produce a large crop. But if the forty loads of manure and the old turf cost more than the crop is worth, they will be losers. They would honor him as a wise man and national benefactor, who informs them how to raise these "great crops" *profitably*.

Single premium crops give us but few practical hints that are valuable. They are always raised on land in an unusually favorable condition, which can not be attained on the majority of farms, for the whole of every crop, without incurring unreasonable expense. But if sufficiently inducing premiums were offered for the most successful and profitable method of raising Indian corn, in connection with other crops, during a period of ten years, the results might place us in possession of valuable information.

CORNPLANTER,
in Rural New-Yorker.

THE DOOM OF THE WORLD.

WHAT this change is to be we dare not even conjecture, but we see in the heavens themselves some traces of destructive elements, and some indications of their power. The fragments of broken planets, the descent of meteoric stones upon our globe, the wheeling comets, welding their loose materials at the solar furnace, the volcanic eruptions in our own satellite, the appearance of new stars, and the disappearance of others, are all foreshadows of that impending convulsion to which the system of the world is doomed. Thus placed on a planet which is to be burned up, and under heavens that are to pass away—thus treading, as it were, on the cemetries, and dwelling upon the mausoleums of for-

mer worlds, let us learn the lesson of humility and wisdom if we have not already been taught in the school of revelation. —*North British Review.*

ALMOST TO GOOD TO HOPE FOR.

Oh! if men would only quit their jargoning about the undeniable abstractions of theological speculation; and their contentions about the impositions of sectarian authorities; and their jostlings in the pursuit of personal and partisan interests; and could be persuaded to attend only to the supreme and indisputable facts of nature and Revelation—seeking the enjoyment and promotion of a free, full, present, and everlasting salvation, the attainment for the proper character and destiny of every man, and of all men —what a glorious change would be witnessed in every department of society!

TRACTION ENGINES.

Messrs. Tuxford & Sons of England, are exporting quite a number of their traction engines to Cuba. They are intended to draw the sugar from the mill to the railway, to plow, and to be made generally useful. Senor Placide Gener is the enterprising importer.

ARTIFICIAL PROPAGATION OF FISH.

The London *Atheneum* says the experiment made by the Emperor of the French to stock the waters of St. Cloud with trout hatched artificially, has met with complete success. Trout twelve months old are eight inches long, and weigh from two and a-half to three and a-half ounces. Their value in the Paris market would be from twenty to twenty-five cents. The trout thirty-three months old are from nineteen to twenty inches long, and weigh from twenty-four to forty-one ounces, and would sell at from sixty cents to a dollar and twenty cents. It is further stated that the waters at St. Cloud were never before inhabited by any species of *salmynniæ*. The trout are extremely numerous, and promise to yield highly productive returns, in a commercial point of view. The principal object of the Emperor is to ascertain whether the production of fish by artificial means is more profitable than the cultivation of the land, taking the same superficial area in both cases.

MACHINE FOR BENDING WOOD.

Thomas Blanchard of Boston, Mass., has invented certain improvements relating to a device by which wood is bent in the desired form without having its fibre distended longitudinally, so that the strength of the wood will not be impaired in consequence of being bent.

INSECTS.

The number of distinct species of insects already known and described cannot be estimated at less than two hundred thousand—there being nearly twenty thousand different beetles alone, known at the present time—and every day is adding to the catalogue.

BRILLIANT STUCCO WHITEWASH.

Many have heard of the brilliant stucco whitewash on the east end of the President's house at Washington. The following is a recipe for it as gleaned from the *National Intelligencer*, with some additional improvements learned by experiments:

"Take half a bushel of nice unslacked lime, slack it with boiling water, cover it during the process to keep in the steam. Strain the liquid through a fine sieve or strainer, and add to it a peck of salt, previously well dissolved in water; three pounds of ground rice, boiled to a thin paste, and stirred in boiling hot; half a pound of powdered Spanish whiting, and a pound of clean glue, which has been previously dissolved by soaking it well; and then hanging it over a slow fire, in a small kettle with a large one filled with water. Add five gallons of hot water to the mixture, stir it well, and let it stand a few days covered from the dirt.

It should be put on right hot; for this purpose it can be kept in a kettle on a portable furnace. It is said that about a pint of this mixture will cover a square yard upon the outside of a house if properly applied. Brushes more or less small may be used according to the neatness of the job required. It answers as well as oil paint for wood, brick or stone, and is cheaper. It retains its brilliancy for many years. There is nothing of the kind that will compare with it, either for inside or outside walls.

Coloring matter may be put in and made of any shade you like. Spanish brown stirred in will make red pink, more or less deep according to the quantity. A delicate tinge of this is very

pretty for inside walls. Finely pulverized common clay, well mixed Spanish brown makes reddish stone color. Yellow-ochre stirred in makes yellow wash, but chrome goes further and makes a color generally esteemed prettier. In all these cases the darkness of the shades of course is determined by the quantity of coloring used. It is difficult to make rules because tastes are different; it would be best to try experiments on a shingle and let it dry. We have been told that green must not be mixed with lime. The lime destroys the color, and the color has an effect on the whitewash, which makes it crack and peel.

When walls have been badly smoked and you wish to have them a clean white, it is well to squeeze indigo plentifully through a bag into the water you use, before it is stirred in the whole mixture. If a larger quantity than five gallons be wanted, the same proportions should be observed.—*Berkshire Culturist.*

CO-OPERATION OF THE WIFE.

There is much good sense and truth in the remark of a modern author, that no man ever prospered in the world without the co-operation of his wife. If she unites in mutual endeavors, or rewards his labors with an endearing smile, with what confidence will he resort to his merchandise or his farm, fly over lands, sail over seas, meet difficulty and encounter danger—if he only knows that he is not spending his strength in vain, but that his labor will be rewarded by the sweets of home? Solitude and disappointment enter the history of every man's life, and he has not half provided for his voyage, who finds but an associate for happy hours, while for months of darkness and distress no sympathizing partner is prepared.—*Berkshire Culturist.*

ACCOUNTS ABOUT CROPS.

SELECTED FROM VARIOUS SOURCES.

Wheat.—We have traveled through most of the counties of this large Judicial Circuit, and of those in contiguous circuits, and may safely say that never before have we witnessed such an abundant harvest. It is true the rust or some other disaster may blast this bright prospect yet; but if nothing of this sort shall occur, there will be wheat enough "for all the world and the rest of mankind."—*Athens Watchman.*

Pleasant Ridge, Hamilton Co., O., May 10.—Our wheat, barley and grass never looked better. Our fruit badly hurt with frost. H. B.

Cherry Valley, Ashtabula Co., O., May 8.—Wheat looks very fine. Grass promises an extraordinary crop. Apples are making a good show of blossoms.

Lagore, Indiana, May 10.—The old settlers say they never saw so much water on the ground as there is this spring. No corn yet planted, and but little oats sown. A. D. C.

Sullivan, Ashland Co., O., May 11.—Fall and spring wheat looks first-rate. Early sown oats looks well. No corn planted yet. Grass looks middling. Apple and cherry trees in blossom; also peach trees that are alive. The forest trees begins to show their leaves considerably. Cold enough this morning for snow. Very wet of late.

Reports from various parts of the country, brought by our exchanges, are favorable, particularly concerning the wheat crop.—Ed.

KEEPING THE TEETH CLEAN.

Microscopical examinations have been made of the matter deposited on the teeth and gums of more than forty individuals, selected from all classes of society, in every variety of bodily condition, and in nearly every case animal and vegetable parasites in great numbers have been discovered. Of the animal parasites there were three or four species, and of the vegetable one or two. In fact the only persons whose mouths were found to be completely free from them, cleansed their teeth four times daily, using soap once. One or two of these individuals also passed a thread between the teeth to cleanse them more effectually. In all cases the number of the parasites was smaller in proportion to the cleanliness. The effect of the application of various agents was also noticed. Tobacco juice and smoke did not injure their vitality in the least. The same was true of the chlorine tooth wash, of pulverized bark, of soda, ammonia, and various other popular detergents. The application of soap, however, appeared to destroy them instantly. We may hence infer that this is the best and most proper specific for cleansing

the teeth. In all cases where it has been tried it receives unqualified commendation. It may also be proper to add that none but the purest white soap, free from discoloration, should be used.

IMAGINATION.

Thomas Fuller relates a curious incident, which is truly characteristic, and shows how fancy will put life into young limbs. "A gentleman," he says, "having led a company of children beyond their usual journey, they began to be weary, and jointly cried to be carried; which, because of their multitude, he could not do, but he told them he would provide them horses to ride on. Then cutting little wands out of the hedges as nags for them, and a large one for himself, they mounted, and those who could scarce stand before, now full of mirth, bounded cheerfully home."

☞ The N. Y. *Times* says that the dwellers in the rural districts ought to feel themselves under great obligations to Mayor Tiemann for his vigorous onslaught upon all the organized schemes which have been so prolific in New-York for the express purpose of swindling simple-minded country people out of their money. He has exposed and broken up several of these organizations, but there are a good many still in existence which his power can not touch. There is but one safe rule for all, and that is, to refuse to have any business transactions with people whom they don't know, or who have not an established reputation. But, above all others, they should turn a deaf ear to everybody who offers to give them something for nothing, or who proposes to make them a present of fifty dollars worth of jewelry as an inducement for them to purchase fifty cents worth of books. It might be supposed this kind of bait there were no gudgeons greedy enough to bite at, but recent developments have proved that in the rural districts there are plenty of such.

OUTRAGEOUS.

The people of Cambridge are becoming indignant, and justly so, on account of the frequent dispensation of intoxicating drinks by the liquor sellers, to the children of the primary schools. Little boys of some five or six years old, have repeatedly gone into school in a state of intoxication. They are furnished at *two cents a drink.* The people of that city intend to make short work with those wretches under the nuisance law.

HOOSIER CONVERSATION.

"Hullo, stranger, you appear to be traveling."

"Yes, I always travel when on a journey."

"I think I've seen you somewhere."

"Very likely; I have often been there."

"And pray, what might be your name, sir?"

"It might be Sam Patch; but it isn't, by a long slide."

"Have you been long in these parts?"

"Never any longer than at present—five feet nine."

"Do you get anything new?"

"Yes, I bought a new whetstone this morning."

"I thought so; you're the sharpest blade I've seen on this road."

THE RABBIT TRADE IN BELGIUM.

It is almost incredible to what a degree of importance this branch of trade has attained in Flanders within the last six or seven years. There are fifty thousand skinned carcases of these animals exported weekly to England—more than two and a half millions annually—where they find a ready market as articles of food, while it is difficult to sell them in Flanders at twenty-five cents apiece. The preparation and coloring of the skins gives employment, in Ghent alone, to more than two thousand workmen.—*Boston Cult.*

SKETCH OF WASHINGTON.

Gen. Washington is now in the forty-seventh year of his age; he is a tall, well-made man, rather large-boned, and has a tolerable genteel address; his features are manly and bold; his eyes of a blueish cast, and very lively; has hair a deep brown; his face rather long, and marked with the small-pox; his complexion sunburnt and without much color, and countenance sensible, composed and thoughtful. There is a remarkable air of dignity about him, with a striking degree of gracefulness; he has an excellent understanding, without much quickness; is strikingly just, vigilant and generous; an affectionate husband, a faith-

ful friend, a father to the deserving soldier; gentle in his manners, in temper rather reserved; a total stranger to religious prejudices, which have so often excited Christians of one denomination to cut the throats of those of another; in his morals he is irreproachable, and was never known to exceed the bounds of the most rigid temperance; in a word all his friends and acquaintances universally allow that no man ever united in his own person a perfect alliance of the virtues of a philosopher, with the talents of a general; candor, sincerity, affability and simplicity, seem to be the striking features of his character, till an occasion offers of displaying the most determined bravery and independence of spirit. — [London Chronicle, July 22, 1780.

BLACKBERRY JAM.

Gather the fruit in dry weather; allow half a pound of good brown sugar to every pound of fruit; boil the whole together gently for an hour or till the blackberries are soft, stirring and smashing them well. Preserve it like any other jam, and it will be found very useful in families, particularly for children; regulating their bowels, and enabling you to dispense with cathartics. It may be spread on bread, or on puddings, instead of butter; and even when the blackberries are bought it is cheaper than butter.

☞ Wm. B. Astor has in the process of erection an addition to the Astor Library, equal in size to that of the original one. It is built on the north side of the old building, and is a fac-simile of that in all respects. In his own lifetime he intends to see the work completed. The new edifice will cost $100,000, exclusive of the land, and, when it is done, Mr. Astor will furnish it complete and dedicate the whole—land, edifice and books—to the city of New-York.

☞ Salt Lake is about three hundred miles in circumference, and has two large mountains in its center. It is saltier than even "the salt, salt sea," for two quarts of its water will yield a pint of salt. One may go into the excavations in the immense hills there and cut out, as if it were ice, large lumps of fine white salt!

☞ The white of an egg has been proved the most efficacious remedy for burns. Seven or eight successive applications of this substance soothes the pain, and effectually excludes the burnt parts from the air. This simple remedy seems to us far preferable to collodion or cotton.

☞ Wide-mouthed bottles, partly filled with molasses and water, and hung up in a garden, make excellent traps for the moths, which are the parents of many destructive vermin.

☞ If you wish to be truly polite, exhibit real kindness in the kindest manner—do this and you will pass at par in any society without studying the rules of etiquette.

☞ Birds are among the best friends of the gardener, and should by no means be destroyed, although some of them may eat a few raspberries or cherries.

☞ A bright fire of resinous pine, tar, shavings, or any other combustible, kindled in the garden at night, on a platform erected for the purpose, will attract and destroy millions of insects.

An old soldier recently died at Kingston, Canada, who had carried a bullet embedded in his lungs for more that forty years! When taken out after death the bullet had lost nearly one-third of its weight by corrosion.

☞ Much rain has fallen during last and this week, greatly to the hinderance of corn planting by farmers. There is some planted, but much remains yet to plant. Vegetation is putting forth rapidly—the Wheat crop is reviving beyond expectation a fortnight ago. A prospect for a favorable crop can now be reasonably anticipated. The husbandman for this season, has just cause to rejoice in his prospect.—*Shirleysburgh (Pa) Herald, May 20th.*

☞ The Maryland State Agricultural College has been located in Prince George county, three miles northwest of Bladensburg, and about nine miles from Washington City, on the "Rossburg Farm," embracing 428 acres.

☞ Shut up your neighbor's pigs if they trespass, and feed them well, but do not storm and threaten. Deal kindly, be manly and neighborly with him, and the coals will burn his head, sure.

ANOTHER GREAT TELEGRAPH ENTERPRISE.

The London *Observer* states that a new company has been formed in that city for the purpose of laying a submarine cable through the Atlantic, between Europe and America, with an intermediate mid-way station at the Azore islands. This is a very plausible project, but we trust this new company, before contracting for its submarine cable, will wait until the old company makes its second grand effort next month.—*Scientific American.*

☞ The aggregate wealth of the United States amounts to $12,000,000,000, and the population is 24,000,000.

If these figures were accurate there would be just $500 to each person, $2,500 to a family of five, and $5,000 to one of ten persons. But the population is more than 24,000,000. Consequently, if the valuation is correct, the property per head is somewhat less than $500.

"Life is real, life is earnest,
And the *grave* is not its goal;
Dust thou art, to dust returnest,
Was not spoken, of the SOUL."
[*Longfellow.*

Editor's Table.

BOOK NOTICES, ETC., ETC.

Recollections of the Last Days of Shelly and Byron, by E. J. Trelawney. Ticknor and Fields. 1858.

This is an exceedingly interesting book, got up in Ticknor & Field's best style, and containing 304 pages of the most readable matter. It gives us an off-hand, unstudied view of these great poets as seen in their ordinary intercourse with men. All who like to commune with genius undisguised, undissembling, acting out its nature freely, will be delighted with Trelawney's recollections. For sale by Sheldon, Blakeman & Co., 115 Nassau street, N. Y.

Specimens of Douglas Jerrold's Wit; together with Selections, chiefly from his Contributions to Journals, intended to illustrate his opinions. Arranged by his son, Blanchard Jerrold. Ticknor & Fields, Boston, 1858.

Doubtless Douglas Jerrold's wit was better appreciated by Englishmen, than it possibly could be by Americans, so interwoven was it with the peculiar institutions, manners, customs, habits of thought, and political institutions of that country. Punch grew out of English soil, was indigenous to it, at home in Old England, but would have made a shabby appearance in New. Whatever attempts have been made at imitation, in this country, have proved miserable failures, and probably will for years perhaps to come. We can not have a Punch in this country. If Douglas Jerrold were to live his life over again, he could not make one that would go down the necks of Americans with as broad a laugh as his did down those of Englishmen.

Nevertheless, his wit was refined, without being squeamish, keen without excessive vulgarity, capable of transportation without entirely spoiling. His son has selected some of the best specimens, and we advise all who have some wit and would cultivate more, and all who believe it would do them good to laugh right heartily, to buy and read this book. It contains 243 pages, and is for sale by Sheldon, Blakeman & Co., 115 Nassau street, N. Y.

Sorgho Sugar; or Experiments with Chinese Cane; Including full Directions for making sugar. By Hedges, Free & Co., Manufacturers of Sugar Mills, Sugar Kettles, Corn-Crushers, etc., No. 78 West Third street, Cincinnati.

This is a little book of directions for growing sorgho, manufacturing sugar, etc.; and is valuable for such as wish to engage in this business.

We have received the *Transactions for 1857 of the Franklin (Mass.) Ag. Soc.*, a valuable document of 117 pages, marking a manifest progress in the agriculture of that region, and of great value to the farmers of that and adjoining counties.

D. D.—P. M. has sent us the Transactions of the Munroe County Agricultural Society for 1857. This we have long known to be a spirited and energetic society. Their transactions indicate no falling off.

The Southern Homestead, published at Nashville, Tenn., is one of the brightest, most readable, and, for its region, one of the most useful papers which we find among our exchanges. Let the farmers of Tennessee take care to support it.

The Horticulturist.—This good old monthly we see has come into the hands of our old friend, C. M. Saxton, hereafter to be its publisher. May he make a good thing of it, both for himself and his readers.

We invite attention to W. W. Dingee & Co.'s advertisement of Threshing Machines, Sugar Mills and Grain Fans. Whoever will apply to them for a circular, will find that the guaranty they give for the strength and good working qualities of their machines, is such as none but honest men, who mean to deal fairly by their customers, would be likely to bind themselves by.

For some months past we have given the Meteorological Precalculations of Dr. L. L. Chapman, based upon the discovery of hitherto overlooked natural laws, of practical as well as scientific importance, but finding the subject too new to receive the attention it deserves, and as Dr. Chapman is publishing his precalculations in an independent serial document, "The Monthly Rainbow," we shall discontinue them for the present. Any of our patrons who wish, can obtain the "Monthly Rainbow" direct from the author, by addressing him Box 651, P. O., Philadelphia, Pa. His terms are fifty cents per annum in advance.—Ed.

CITY COMMERCIAL REPORT.

Monday, May 24—6 P.M.

Ashes.—The sale embraced about 50 bbls., pots and pearls, at 6c.

Breadstuffs. — Flour — The market was steady at Saturday's quotations, and sales were chiefly confined to the local and Eastern trade, with some purchases for export. The sales embraced about 7,000 to 8,000 bbls., chiefly within the range of the following quotations :—

Superfine State	$4 85@$3 95
Extra State	4 00@ 4 15
Western and Ohio superfine	3 85@ 3 95
Extra Ohio and Western	3 40@ 4 85
Canadian superfine and extra	4 50@ 5 25
Baltimore, Alexandria & Georgetown	4 40@ 4 75
Southern fancy and extra	4 80@ 6 00
Choice ex. family & bakers' brands	6 00@ 7 00
Rye flour	3 00@ 3 40
Corn meal	3 50@ 3 87½

Canadian brands were heavy, with sales of 300 to 400 bbls. at quotations. Southern flour was without change of moment in prices, while sales embraced 700 to 800 bbls. Rye flour was without change, and the demand light. Corn meal was in better demand, with sales reported of 700 bbls., including Jersey and 350 Baltimore, at $3 68, and Brandywine at $3 87½, afloat. Wheat was heavy, while the sales of the day footed up about 45,000 to 50,000 bushels. Included in the sales were 30,000 bushels Illinois spring, at 78c. to 82c., and 6,800 do. Milwaukie club at 85c. ; and a cargo of white Indiana and Michigan, at $1 06 to $1 05 to $1 07. Corn was firmer and in good demand, with sales of about 40,000 bushels, including white Southern, at 72½c. to 73½c., and good to prime yellow at 77c. to 77½c. to 78c., and old Western mixed from store at 75c. Rye was steady, with sales of about 1,700 bushels at 68c. to 70c. Barley was quiet at 26½c. to 61c. Oats were in good demand, with sales of State and Western at 40c. to 41c.

Coffee.—The market was steady and

sales confined to 300 bags Rio at 10c. to 10½c. About 3,000 Rio, ex brig Watson, were sold for export on private terms, and 70 bags Java at 16c.

Cotton.—The sales footed up about 3,100 bales, chiefly in transitu, closing rather heavy without quotable change in prices.

Freights.—Rates were firm, while engagements were light. To Liverpool about 30,000 bushels of grain were engaged at 9d. to 9½d., while flour was at 2s. 3d. to 2s. 6d. asked, and cotton at 3-16d. to 7-32d., and 500 boxes cheese at 30s. To Glasgow 8,000 bushels grain were taken at about 9½d., in bags, and about 600 bbls. flour at 2s. 6d. There was nothing new to London or to the Continent.

Hay.—Sales of 800 to 900 bales were made of good to prime shipping qualities at 45 to 50c.

Iron.—The market was quiet for Scotch Pig, while small sales were making at 25 to 26c., 6 mos.

Lime was in moderate request at about 75c. for common, and at 90c. for lump Rockland.

Molasses.—The sales embraced about 23 hhds., 32 tcs. and 14 bbls. sour clayed Cuba at 20c.

Naval Stores.—The sales embraced about 300 bbls. spirits turpentine at 45c., and 1,000 bbls. common rosin at $1 43 afloat, and crude was quiet at $3 62½ asked, with a light stock. Tar was quiet at $2 to $2 12 for Wilmington, while North county was at $1 75.

Oils.—Small sales of linseed were reported at 64c. to 65c. Crude whale was more firmly held, with sales at the eastward at 55c. Sperm was at $1 35, and other kinds were unchanged.

Provisions.—Pork—The market was steady, with sales of about 800 to 1,000 bbls., including 547 Mess at p. t., and 400 to 500 do. at $17 75 to $17 85, and in small lots sales were afterwards reported at $18. Prime sold at $14 25 to $14 40. Beef was steady, with sales of about 200 bbls., including country prime at $8 to $8 50, and country mess at $10 50 to $11 50; repacked Western Mess at $11 75 to $13 50, and extra do. at $14 to $14 25. Prime Mess was at $18 to $21, and beef hams steady at $17 50 to $18. Bacon was firm at 9c. to 10c.; cut meats were also firm and in good demand, with sales of about 200 hhds., including shoulders at 6¾c. to 6¾c., and hams at 8½c. to 9½c. Lard was firmer, with sales of about 300 to 350 bbls. and tierces at 11¼c. to 11½c. Butter and cheese were in good supply, and the market dull at Saturday's quotations.

Rice was dull and sales limited.

Sugars.—The market was less active, while prices were unchanged. The sales embraced about 400 to 500 hhds., including Cuba and Porto Rico, within the range of 5½c. to 7¼c., and 300 hhds. New-Orleans cistern were sold for refining at 3c.

Markets by Telegraph.

Buffalo, May 25—6 P. M.

Flour steady; interior demand unchanged. Sales 1,400 bbls. at $3 70 to $3 87 for good Superfine and extra Upper Lake; $3 75 to $4 do. Indiana and Michigan. Wheat closes with an active demand. Sales 50,000 bush. at 68½c., 69c. to 70c., for Chicago Spring as in quality; at 80c. for red Ohio and Indiana; at 85½c. to 94c. for White Canada. Corn quiet; prime scarce and very firm; no sales of sound. Oats unchanged. Sales 14,000 bushels at 32c. to 32½c. Whisky is held at 20c. *Freights*—Boats scarce. Wheat 13c. to New-York. *Lake Imports for the 24 hours ending noon to-day*—9,000 bbls. Flour; 31,000 bushels Wheat; 6,000 bushels Oats; 10,000 bushels Barley. *Canal Exports*—3,000 bbls. Flour; 65,000 bushels Wheat; 22,000 bushels Corn; 5,000 bushels Oats. Wind northeast, raining.

Albany, May 25—6 P. M.

Flour quiet and declining; inquiry limited; buyers waiting for lower prices. Sales of the day about 2,000 bbls. Wheat very quiet. Sales of 6,000 bushels White Indiana on private terms; no other sales were transferred. Corn steady and market less active. Sales 3,000 bushels mostly Western mixed at 68c. Sales of Barley at 60c. for four-rowed State. Oats active and in good supply; the sales foot up 100,000 bushels mostly at 39c., weight, for good State, Canada and Western. The shipments of wheat for three days past to New-York are 375,000 bushels.

Oswego, May 25—6 P. M.

Flour dull. Wheat inactive. Corn quiet. Sales 33,000 bushels Illinois River, at 62c. *Lake imports*—Unimportant, *Canal Exports*—1,300 bbls. Flour; 45,000 bushels Wheat; 7,300

bushels Corn; 4,000 bushels Barley; 2,000 bushels Rye; 1,200 bushel Oats.

BALTIMORE, May 25.

Flour dull and unchanged. Wheat dull and nominal; Red, $1 to $1 06; White, $1 15 to $1 30. Corn a shade lower; Yellow, 66c. to 68c.; White, unchanged, Provisions dull and unchanged.

CHARLESTON, May 24.

The sales of Cotton to-day were 1,300 bales, at prices ranging from 10¾c. to 12¾c. The City of Washington's news had no effect.

SAVANNAH, May 24.

There is a better feeling in our Cotton market.

PHILADELPHIA, May 25.

Flour very depressed. Wheat dull, with a declining tendency. Corn buoyant. Sales 10,000 bush. Yellow at 72c. Whisky firm at 21c. to 22c.

From the New-York *Times* of Wednesday, May 28, 1858.

The general markets, yesterday, were heavy for Cotton, which declined a shade. Flour and Wheat were in better request at firm prices for desirable lots. Corn was in fair demand at about previous figures. Groceries were moderately inquired for and ruled steady. Pork was depressed and lower. Other kinds of Provisions were dull and languid. Naval Stores were in demand, and Spirits Turpentine closed somewhat higher, with less offering. Tobacco was less active, yet firm. The Freight engagements were to moderate extent at unaltered rates.

NEW-YORK LIVE STOCK MARKET.

WEDNESDAY EVENING, May 26, 1858.

THE total receipts of the week (2,892) fall 267 below last week, and 251 below the average of last year. The impression prevailed yesterday that the falling off would be still greater, and considerable sales were then made at an advance of about ½c. above last week's rates. The operations opened this morning at this advance, but did not long continue thus. Not only the weather affected the market, but butchers complained of an unusually dull demand for the week past, and they were not eager buyers to-day, and their purchases were below the usual amount. Prices gradually fell off, so that before 3 P. M. last week's current rates were with difficulty obtained, and the closing figures were still lower, though the transactions of the entire day may be set down as averaging nearly ¼c. higher than last Wednesday. The tone of the market, however, may be best estimated by a comparison of the closing operations of the two market days, and these were, to say the least, no better to-day than last Wednesday. The yards were barely cleared out at sundown. Except the bad look of the cattle, the estimated weights scarcely favored either party. The quality of the stock was somewhat uniform, there being few of superior grade, and not many scalawags —always excepting the still-fed, or "stump tails," as they are called, and this not figuratively, since the effects of "still-slops" upon the caudal extremities is scarcely less marked upon milch cows than upon fatted bullocks. There were several lots of this class offered and purchased to-day. They were too plainly *marked* not to be known by the merest tyro, though some would have the greener ones believe that they had purposely cut off the tails "stub-short" merely as a matter of convenience. They may "tell that story to the marines." A pretty large business was done at Albany this week. Troy buyers took about 150 head, and about 1,350 went East to Brighton, Providence, Worcester and Springfield.

PRICES OF BEEF AT FORTY-FOURTH STREET.

	To-day.	Last Week.
Premium Cattle.....	none	none
First quality .....10c.	@—	9¼c.@10c.
Medium quality..... 9¼c.@	9¾c.	9c. @ 9¾c.
Poor quality..... 8¾c.@	9c.	8¾c.@ 9c.
Poorest quality..... 8c. @	8¾c.	8c. @ 8¾c.
Gen'al selling prices 8¼c.@10c.		8c. @ 10c.
Average of all sales. 9c.	@—	8¾c@ —

The *average* prices to-day, as compared with last week, are near ¼c. higher.

MILCH COWS WITH CALVES.

The number of fresh cows now sent in is comparatively small, the receipts for the past week being about 200 head less than for the corresponding week last year, while sales are now made with far more difficulty, at much less prices. Even the present receipts are more than can be disposed of while the anti-swill panic rages as at present.

VEAL CALVES.

The markets have been fully supplied during the past week, and prices do not vary materially from our last quotations. Sales are made with more difficulty, however, and prices may now be quoted