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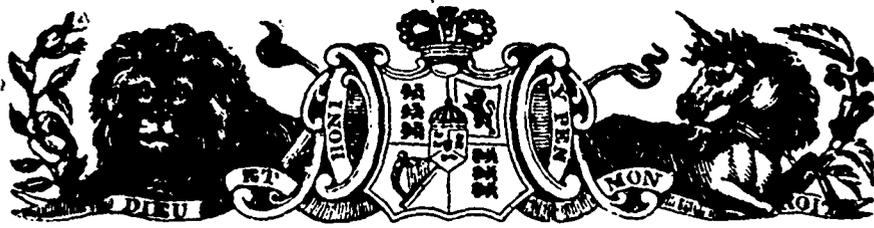
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# THE CANADA FARMER



A MONTHLY JOURNAL OF AGRICULTURE & HORTICULTURE.

Vol. 1.

HAMILTON, C. W., FEBRUARY, 1855.

No. 2.

The Canada Farmer,

A MONTHLY JOURNAL OF

AGRICULTURE & HORTICULTURE,

Published at Hamilton, C. W.

JOHN E. FORCE, PUBLISHER AND PROPRIETOR.

EACH NUMBER CONTAINS 32 ROYAL OCTAVO PAGES, IN  
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## THE IMPROVEMENT OF NATIVE CATTLE.

We have long regarded the common methods of attempting to improve the native cattle of this country as short-sighted and extremely defective. The process consists mainly in the importation of foreign breeds, reared in different climates, and under peculiar circumstances, which have no parallel in the United States. Compared with the stock that has been thoroughly acclimated in North America, and constitutionally adapted to the herbage of the continent, all recent importations labor under many disadvantages; and unless they receive extra keep and care, they are uniformly less thrifty and poorer than native cattle. To improve the latter in the most economical way, requires skillful breeding from the best American blood, rather than the large infusion of foreign blood, which is illy adapted to the scant vegetation and poor pasturage of this comparatively wild country. It has been so fashionable to propagate Short-horns, Devons, Herefords, and other English breeds, that no one has attempted to get up similar American breeds from the best native stock which has been one or two centuries from Europe. Were the true principles of meliorating the organic

structure and functions of domesticated quadrupeds generally understood, we feel confident that genuine American blood would be regarded as in no respect inferior to that of any other nation for all useful purposes. It has never been proved that American cows and oxen are less productive in milk, beef, or labor than those of any other country. They may be, perhaps, a little less beautiful, or come somewhat later to maturity; but these defects, where they exist, may be removed without importing at an enormous expense, the pampered animals of English breeders, or those of any other foreign land. When we duly consider the fact that there are about twenty million head of neat cattle in the United States which need improvement, it appears Eutopian to suppose that anything beside correct rules in *home breeding* will suffice to change for the better the general character of the live stock of thirty-one States and six territories. To bring animals to early maturity, whether calves, lambs, or pigs, they must be pushed from their birth till they are deemed ripe for the butcher. On this principle, Short-horns have acquired the habit of attaining the size and weight of four and five year old steers, when they are only two years old. The calves of native stock, after a few generations of generous feeding, would indicate the same tendency in an equal degree. The truth of these remarks is illustrated by taking a pair of pigs from an inferior race, and developing therefrom a breed distinguished equally for its beauty and disposition to fatten at an early age. The best breed in the world if badly treated for several generations, will show many *bad points*, and become utterly worthless for propagation. What are denominated "points," are made and lost with much greater facility than many suppose. There is no inconsiderable humbug in the craft of the professional herdsman, stock-breeder and speculator. Like the horse-jockey, he gets up his

wares more for sale than for service. These facts however, do not detract from the importance of studying closely both the anatomy and physiology of all the animals kept on the farm. The organs of digestion, respiration, circulation of the blood, and of locomotion, need to be thoroughly understood. Effective and profitable assimilation of nutrient elements can only be realized in systems of the right form. Where the chest is too small for the free and healthy play of the lungs, and the ribs too flat and near together to allow adequate room to the abdominal viscera of ruminants, digestion and respiration are imperfectly performed, and the gain in flesh, wool or dairy products, for the food consumed, is less than it ought to be. Hence, a broad skeleton, indicating a barrel form of the body, and a deep, capacious chest, show a high capacity to fatten. On the other hand, a narrow, flat carcass, with both the hind and fore legs close together, because the osseous frame is defective, indicates feeble powers of digestion and assimilation, and a bad animal for breeding, as well as feeding. The bones of the pelvis, spine, ribs, chest, legs and head are too little examined and compared by those who aspire to the honors of good stock-breeders. Indeed, we regard a knowledge of comparative anatomy as indispensable to one who would really improve the live stock kept on his farm. The whole theory of good and bad points, rests on anatomy and physiology. Reject these, and all is darkness, doubt and uncertainty; for no man can possibly understand the organization of an animal before he has made its anatomy the subject of special study. No one has ever distinguished himself as a breeder of neat stock or horses, who did not understand all the essential points of a good animal. These should be seen, and particularly described by some one familiar with the same, rather than learned from any mere book account of them. The most common defects in native cattle, are large heads and horns, long, large and crooked legs, big, coarse, bull necks, narrow chests, and narrow across the back and loins, hair coarse and harsh, skin hard and close to the bone, and the whole appearance of the creature indicates all the evils of domestication, with little or none of its advantages. The brute has been taught to depend on man for its food, and finds anything but plenty, or kindness at his hands.

Such of our readers as have had opportunities of seeing the fine forms of the native deer of American forests and prairies, need not be told how far they excel in beauty and symmetry most of the so-called cultivated neat stock of the country. The latter, instead

of being improved, is sadly deteriorated by thousands of farmers. If cattle were properly cared for, they would never fail to improve by domestication. All wild animals show the advantages of good keep in their appearance when abundantly supplied with nourishment. The husbandman should show his art in providing aliment for his stock, as well as his science in pairing males and females. In this way, all really mean stock would soon become scarce, to the great benefit of the public.

In selecting breeding animals, it is important to have the female proportionably larger than the male; for the blood of the mother nourishes her offspring both before and after its birth for some months. If she is small and the male large, the young is likely to be disproportionably large as compared with the supply of aliment, especially if its mother be not well fed. Males of the most perfect form, with sound constitution and of medium size, are always to be preferred. Animals either over-grown or under-grown are generally to be avoided for breeding purposes. Fashion often leads to the production of cattle which are monstrous in size and fatness; but such monstrosities show a corrupt public taste, and are not to be encouraged by wise persons. Animals kept for propagation should not be allowed to become either very fat or very poor. Extremes of all kinds are to be sedulously avoided. They are the bane of all that live, and the natural fruit of human folly. Many err in attempting to keep more cows than their pastures will properly feed, so that they yield but a small quantity of milk, and their calves get stunted before they are three months old, to a degree that injures them for life. Keep all calves well the first twelve months of their existence, and it will do much to improve the bovine race. It is needless to say how grass and milk are to be produced: for no reader is presumed to be ignorant on this subject.

#### MAPLE SUGAR.

THE season for making maple sugar will soon arrive, and a few remarks as to fixtures and preparations therefor may not come amiss. A few years since it could be purchased in our market at from six to eight cents per pound by the quantity; but within the past two years it meets with a ready sale at ten and twelve cents per pound, and choice samples will readily command extra prices. From being an article of slow sale, it has, in consequence of the clearing up of our lands, become an article of luxury; and we do not, under ordinary circumstances, anticipate any future decline in prices.

The quantity, color and taste are materially influenced by the care taken in the various stages of its manufacture, the cleanliness observed in the gathering of the sap, and its evaporation to the graining point. By reason of the high temperature required in the last stages of evaporation, unless great care be taken, it is very apt to be burnt, and acquires a bitter empyreumatic flavor, very different from its own peculiar aroma and taste.

To gather the sap in buckets from fifty or one hundred trees, and carry it by manual labor to the kettles, we know from experience is rather hard work, and we much prefer having previously broken out good roads, to let the conveyance be done in a barrel on a sled drawn by horses or oxen, than carry it ourselves. Much lifting may oftentimes be saved, if the place of manufacture be so much elevated on one side that the sap will run from the barrel or hog-head into the boilers in a steady stream by simply turning a faucet near the lower part of the cask used for its conveyance.

It has also been ascertained by careful experiments that the flow of sap depends more upon the depth of the incision than upon its external size—also that an aperture half an inch in diameter is almost equally as effective as one of double its size; but in the one case the wound readily heals over by the growth of the same season—in the other, the growth of several seasons will hardly close the wound, endangering the vigor and health of the tree.

The experiment to which we refer was made under the direction of the Agricultural Club of Brattleboro', Vt., and is in substance as follows: "In the spring of 1850, a committee consisting of three persons, was appointed to ascertain by actual experiment the proper size and depth of the bore in tapping the sugar maple. They accordingly proceeded to test this question in the most thorough manner, using all sizes of bits, from half an inch to an inch and a half in diameter—each making his experiment independently of the other—and the result of all was, that no difference could be perceived—the half inch giving as much sap as any other. Each one also tapped several trees, setting two buckets to a tree, with a single spile to each, but bored to different depths, from one to three and a half inches; and the results in this case were in every instance, when the weather was sufficiently warm to thaw the tree through, that the flow of sap was in proportion to the depth of bore; and to make the matter more certain, on deepening the shallow bores subsequently, they immediately overtook the others in quantity.

These experiments were repeated in 1851 by a different committee, with the same general results."

The sap of the sugar maple and a few other trees only, yields sugar when taken from the tree before the expansion of the buds and blossoms from their dormant state;—what precise change is induced by the expansion of the buds, whether of cause and effect, we know not. We also know that clear bright days alternating with frosty nights give the greatest flow of sap; and that if mild weather ensues and continues for any length of time, we can only obtain an uncrystalizable syrup as the product.

Supposing your buckets are all in order and readiness—troughs made by the axe we would only use as a last resort, simply because they become such convenient receptacles of dead leaves, &c.—take your spiles or tubes of suitable diameter, with a hole through them of one-quarter of an inch in diameter, with an auger, bore about three inches into the body of the tree, let the tube enter the tree only so far as will be necessary to ensure its permanent attachment; attach your bucket to a nail or peg driven into the body of the tree a little above the spout, and you may feel secure that a casual thaw will not perhaps upset your trough and spill the sap.

Below we give an account of the process adopted by Mr. WOODWARD, who obtained the premium from the State Agricultural Society, in 1846, for the best article of maple sugar. The statement says:

"In the first place, I make my buckets, tubs and kettles all perfectly clean. I boil the sap in a potash kettle, set in an arch in such a manner that the edge of the kettle is defended all around from the fire. This is continued through the day, taking care not to have anything in the kettle that will give color to the sap, and to keep it well skimmed. At night I leave fire enough under the kettle to boil the sap nearly or quite to syrup by the next morning. I then take it out of the kettle and strain it through a flannel cloth into a tub, if it is sweet enough; if not, I put it in a caldron kettle, which I have hung on a pole in such a manner that I can swing it on and off the fire at pleasure, and finish boiling, then strain into the tub, and let it stand till the next morning. I then take this and the syrup in the kettle, and put it altogether in the caldron, and sugar it off. To clarify 100 lbs. of sugar, I use the whites of five or six eggs, well beaten, about one quart of new milk, and a spoonful of saleratus, all well mixed with syrup before it is scalding hot. I keep a moderate fire directly under the caldron until the scum is all raised; then skim it off clean, taking care not to let it boil so as to rise in the kettle before I have done skimming it; when it is sugared off, leaving it so damp that it will drain a little. I let it remain in the kettle until it is well granulated; I then put it into boxes made smallest at the bottom, that will hold from fifty to seventy pounds, having a thin piece of board fitted in two or

three inches above the bottom, which is bored full of small holes to let the molasses drain through, which I keep drawn off by a tap through the bottom. I put on the top of the sugar in the box, two or three thicknesses of clean, damp cloth, and over that a board well fitted in, so as to exclude the air from the sugar. After it has nearly done draining, I dissolve it, and sugar it off again, going through the same process in clarifying and draining as before."

#### TENANT LABOR.

In many sections of our country, and particularly in the long settled portions, there is a complaint of the scarcity of laborers to secure the harvest. In our love for large farms and the possession of much land, we apprehend, lies the true source of this want; and it can only be remedied when means are provided by which this labor shall be retained in the country. A friend who is one of the most successful farmers in Western New York, having been for many years annoyed by the difficulty of securing good and efficient help in summer, has resorted to the plan of having what may be called "tenant labor." He has several small houses suitable for a laboring man and family, which he rents at a fair price per annum, on the condition that he shall have the first refusal of service at a stipulated price per day or month, as the case may be. In this way he is free from the care and trouble of providing for a large number of hired men on his own homestead, and his better half is not worn down and wearied out by the labor of cooking and washing for them. Mr. C. P. HOLCOMB, in his address before the Montgomery County (Md.) Agricultural Society, suggests the same practice, and we copy a portion of his address relating thereto:

"Let me now address you on a topic second, perhaps, to no other in connection with the occupation we follow — I mean labor

"Among the rules of the Royal Agricultural Society of Great Britain, setting forth its object, is the following:

"To promote the comfort and welfare of the laborers, and to encourage the improved management of their cottages and gardens."

"If I was called on to name or point out upon what agricultural success more depended than upon anything else, I should say, upon the labor of the farm — the farm hands, and the judicious direction of them.

"Good tillage, working crops well, and in season, will not always insure great production on all land, but the husbandman may undoubtedly so thoroughly cultivate, by 'pulverizing, pulverizing, pulverizing,' as JETHRO TULL has it, as to obtain the last particle of the phosphates and alkalis the earth contains, while the perfect tith of the surface thus exposed, will invite the rain and the dews in their descent to

dress his fields with a substitute for Peruvian guano.

"What, then, is the best kind of labor for us? Those who have them, and have them in sufficient numbers, may use their own domestic servants, which is undoubtedly good labor; but they are generally quite inadequate to the supply of the labor necessary in the now improved condition of our farms — an addition of fifty to one hundred per cent. more labor being now required in carrying on the system of high cultivation that has been, and is being, generally adopted, than before our agriculture was so improved. I speak particularly of the northern counties of Maryland and of Delaware.

"I believe that the English description of farm labor is the best we can have. I mean the labor of tenants — 'cottagers,' as they are called in England — living on the estate. What is the objection to our having this description of labor? These English cottagers come here; the German, the Swiss, and the French come. We have but to domiciliate them on our estates as they were domiciliated before they came. When first arrived, entertaining high expectations, it may be necessary to let them look about a while; but in the end, if a comfortable cottage, with its ample garden and neat surroundings of shade and water invites them, they are likely to settle down contented, and be satisfied with moderate wages, especially now since the price of produce is so advanced that the laboring man, even at city wages, or the price paid by manufacturers, finds it hard to feed his family out of city markets at retail prices, and will appreciate the advantages of a rural home, where the necessaries of life may be had so much cheaper. This state of things will probably continue, and the landed proprietor, who has so long been overbid by other interests, is likely to command an abundance of this description of labor.

"But to get a selection of the best of these laborers — those trained from their youth up in all the details of a careful and neat husbandry — it might almost justify a trip to Devonshire, where farm labor is said to be cheaper than in any other part of England. But I would not, by any means, confine the choice to foreigners. Our own countrymen, either white or black, when they could be had, would often be preferable.

We must take an interest in them, and make their homes comfortable. The English proprietor takes a great interest in his tenants — his 'cottagers,' as he calls them — and is proud to show you their neat, comfortable dwellings; and will take care, at the same time, to let the *gude* wife show you her neat, clean cottage, her ruddy children, and cupboards filled with crockery ware; the latter — the crockery ware — in the opinion of the owner of both, seeming, however, to challenge the most admiration!

"This tenant labor is what we, in Delaware, a good deal depend upon at present, especially among the larger cultivators. Twenty-five dollars a year is the price usually allowed the landlord for the rent of the house and garden; and fifty cents a day, and board, is paid for labor, furnishing regular work, all fair days, for nine or ten months. Sometimes through harvest, harvest wages are paid; or where the tenant is hired by the year, \$130, \$140, or \$150;

or \$10 or \$12 a month is paid, as the parties may bargain.

These laborers, lodging themselves, are less in the way than young men. Then they are much easier paid; it is felt less, as they are paid, to a considerable extent, off the farm—thus making a home market. Then they are reliable; they are always there, for their families are there, and sometimes the wife, or the junior members of the family, may be of service, and can be called on in the hurry and press of harvest, or at other times, for light jobs or for domestic labor. To be surrounded by an industrious yeomanry of this kind, comfortably fed and lodged, should be gratifying to the proprietor, and will make him feel strong for executing business on the farm. The relation is patriarchal, and is an interesting one; but the interest of the proprietor should not be confined to getting work out of his men, and even paying them fairly for it. He should interest himself to know that they spent their means wisely, inquire how they were getting on, how they were likely to make the ends of the year meet, be sure that the garden was well cultivated, that garden seeds were provided, and even propose, with all or any of his tenants, a generous competition for producing the best and earliest vegetables; thus, by a little address, exciting their emulation, and insuring an abundance on their humble but neat spread boards. The tenant will soon realize that he is getting on well, and will be contented; and the contented man is always best prepared to discharge his duties. Is this personal interest in his laborers and tenantry too great a tax on the proprietor? On the contrary, he should find his happiness in it, for he would often realize that while thus promoting his own ends, he was discharging high Christian duties, the duties of philanthropy and benevolence. There is a certain kind of society, too, to be found by the well-regulated mind, in intercourse with these unlettered sons of toil. The man who always preserves his own self-respect will never be in danger from any familiarity of not receiving the respect of others. Such permanent tenants get to take an interest in the farm and in the success of its operations, for they feel their own is identified with it. That these views may not seem to rest merely on theory, I may add that I have a half a dozen of these tenants on my own estate, who have been with me, most of them, for several years; and I have found the relation, as I have described it, one of the best that can exist in the absence of other labor, between the proprietor and the hands on his farm."

#### SAVE YOUR WOODLANDS.

The present demand for firewood, as fuel for our own use, and for the supply of the railroads threading our country like network of iron bands, bids fair in a few years so to enhance the price, as to render its use impossible, except to those with well filled pockets. Every country which does not in itself contain mines of coal, should pay strict attention to the preservation of its forests, and not leave the matter to the cupidity of private and individual interest.

The time has already come in many sections of our country, when an acre of woodland is worth more as it stands than the land when cleared. We know of instances of woodland bought a few years since within ten miles of this city, the avails of the firewood cut upon which paid all the expenses of clearing, the cost per acre, and left the land a clear gain to its owner. Such being the case, we think it the duty of every one who has woodland, to preserve the same both for his own use and the use of his posterity. Many owners of farms, in their inconsiderate haste to realize a present gain, have so far cut down their woodland that the annual growth of timber is insufficient to meet the yearly demand.

From the short time, comparatively, that has elapsed since the settlement of Western New York and the abundant forest growth which is a characteristic of our lands, we have but few data by which to compute the length of time that is requisite for the second growth of trees to be of the most profitable size to cut for firewood or timber. In the town of Wheatland we have observed some fine second growth woodlands—mostly hickory and oak—and we presume that in fifty years from the time they were set apart for that purpose, the timber from those lands will net hundreds of dollars in value. We observed, too, that the timber had been cut off clean, and that no large trees had been left to rob the younger trees of their due proportion; and from the accounts given by the keepers of the royal forests of England and France it is found to be the best plan to cut off all clean as you can, put up good fences around your lot—by all means keep your stock from browsing on the young trees—and in a few years you will have the pleasure of seeing a thriving grove.

In the long settled portions of New England, considerable attention has been paid to this subject, and the above plan is found to be the best in practice.

On the western prairies, where there is a scarcity of timber at the first settling of a country, it is found that where the fires are prevented, and the young growth is protected from the ravages of stock, in a few years there will be a miniature forest; and those who in settling a new country sparsely timbered, have forethought to sow locust seeds, hickory, &c., will in a few years reap a rich reward for their foresight.

We see it stated that the Hudson River Railroad consumes 36,000 cords of wood annually. From a brief estimate of the number of miles of railroad in our own State, we should estimate that over \$1,500,000 are annually paid to supply the fire-horses of our

State,—add to this, the amount used by every family, also for mechanical and manufacturing purposes, and the aggregate would swell the amount almost past credence. Things cannot go on in this manner, and those who are wise in time may profit thereby.

### BONES AND THEIR USES.

THE introduction and general use of bones in their various degrees of fineness form an important epoch in the history of agriculture. Their use had long been confined to the mechanic arts, as handles for utensils of various kinds, as buttons for our clothes, &c., and tons upon tons of the refuse of comb and button factories and the horn piths of the tanner, were allowed to waste, without contributing to the fertility and amelioration of the soil. Even when experiment and trial had fully shown their utility as a fertilizer, prejudice and ignorance still prevented their use. It was urged, and very plausibly, too, that they would breed worms in the soil, and thereby injure the growth of herbage—forgetting that the animal or insect that lives on animal flesh or substances, is, by the very nature of its organization, unable to derive its support from vegetables; and also ignorant of the fact that every species of the nutritive grasses or grains contains bone-earth in a greater or less degree. The fact has been known for centuries, that animals fed on land that has long been used for pasturage, would oftentimes manifest an inordinate craving for bones, ashes, or earth, even. The fact that they craved such things, led to an examination of their composition, and also, in connection with it, an analysis of the soils on which they had been pastured. Analysis at once revealed the fact that bone-earth, or phosphate of lime, was wanting in those soils; and as soon as the fields were sown with bone-dust, and time had been given for the herbage to be benefited by its application, the disease in question disappeared. Mr. LEVI BARTLETT, in the *Practical Farmer*, gives statements of similar series of facts occurring in his own experience.

Many accounts have been given in our agricultural journals, of fields which seemed to possess every element of fertility, the soil appearing to answer every condition requisite to the growing of crops, but which failed to yield a remunerative harvest to the cultivator. On analysis they were found to be deficient in phosphate of lime, or bone-earth.

It is a singular fact that in the analysis of the remains of the bones of extinct animals of former geo-

logical epochs, fluorine seems to be substituted in place of phosphorus, thus appearing to be isomorphous in its relations to lime and its compounds. Traces of fluorine are found in many of our vegetable productions as well as mineral; but such is the energy of its action on nearly every element which enters into the materials of a working laboratory, that it is extremely difficult to isolate it and examine its properties in detail. We may judge somewhat as to its power of chemical affinity, from the fact, that a fraction of a grain of fluato of lime is capable of deeply etching a large surface of a plate of glass.

Bones are composed of about one part of organic matter and two parts of inorganic or mineral matter. By the gradual decay of their organic portions in the soil, ammonia is furnished to the growing plant, and also lime and phosphorous to the seed.

Though so much has been said in former volumes of the *FARMER* as to their utility and efficiency as a fertilizer, yet we apprehend that hardly one farmer in ten is careful to save what bones he finds on his own premises—much less purchase them in a state suitable for immediate use. The duration of their effects depends upon the size into which they are broken: if an immediate and palpable benefit is wanted, pulverize them as finely as possible, or still better, by dissolving them in sulphuric acid (oil of vitriol) convert the insoluble phosphate of lime into the soluble bi-phosphate (superphosphate.)

The form in which phosphorous and lime are combined naturally, is one equivalent of each, constituting an insoluble salt; and while in this state, it is only as the phosphoric acid is slowly replaced by the carbonic acid ever present in the atmosphere, that it is unlocked from its combination, and made available.

In the form of what are called half-inch bones, their effects continue for many years, as is seen in the gradual supplanting of the coarser grasses by the finer and more nutritious kinds. For instance, white clover will not flourish if bone-earth be wanting in the soil.

Prof. SHEPARD found by an analysis of the cotton plant—seed and fibre—that 16½ per cent. of the dried plant consisted of phosphoric acid; of the fibre, 18.8 per cent.; of the seed, 47½ per cent. Also that potash, soda, lime and magnesia were present in large quantities. Hence, the process for restoring worn out cotton lands to fertility is evident. The inorganic elements removed by continuous cropping must be restored to mother earth before she can again yield her increase.

A writer in the *New England Farmer* gives na

account of an experiment tried by Mr. EDWARD WILLIS, near Marshfield, Massachusetts. "Taking a quantity of bones, none of them larger, and most of them smaller than a man's two fists, he made a good layer of fresh horse manure, on which he placed a layer of bones, then a layer of manure, then another layer of bones, and so on, alternating to the top, covering the heap over well with the manure. It lay somewhat longer than he intended, and became somewhat fire-fanged. But the bones were utterly decomposed, disintegrated and dissolved, so that the whole heap had become a homogenous mass, and you could not detect any bones in it. Now, the bones were decomposed by the fermentation induced in their component parts by contact with a fermenting substance."

We give below an extract from Prof. NORTON'S Elements of Agriculture, showing the method of preparing bones for use by means of sulphuric acid.

"To every 100 lbs. of bones, about 50 or 60 of acid are taken; if bone dust is used, from 25 to 45 lbs. of acid is sufficient. The acid must be mixed with two or three times its bulk of water, because if applied strong it would only burn and blacken the bones without dissolving them.

"a. The bones are placed in a tub, and a portion of the previously diluted acid poured upon them. After standing a day, another portion of acid may be poured on; and finally the last on the third day, if they are not already dissolved. The mass should be often stirred.

"b. Another good way is to place the bones in a heap upon any convenient floor, and pour a portion of the acid upon them. After standing half a day, the heap should be thoroughly mixed, and a little more acid added; this to be continued so long as necessary. It is a method which I have known to prove very successful.

"In either case the bones will ultimately soften and dissolve to a kind of paste; this may be mixed with twenty or thirty times its bulk of water, and applied to the land by means of an ordinary water cart. Used in this way, it produces a wonderful effect upon nearly all crops.

"A more convenient method in most cases is to thoroughly mix the pasty mass of dissolved bones with a large quantity of ashes, peat earth, sawdust, or charcoal dust. It can then be sown by hand, or dropped from a drill machine. Two or three bushels of these dissolved bones, with half the usual quantity of yard manure, are sufficient for an acre. This is therefore an exceedingly powerful fertilizer. One reason for its remarkable effect is, that the bones are by dissolving, brought into a state of such minute division, that they are easily and at once available for the plant. A peculiar phosphate of lime is formed, called by chemists a *superphosphate*, which is very soluble; and in addition to this, we have the sulphuric acid, of itself an excellent application to most soils.

"I would particularly recommend farmers to ex-

periment with bones dissolved in sulphuric acid. The dissolving of them is a simple business, and can be easily shown on a small scale, by the teacher to his class. He can do it, for instance, in a tea-cup or tumbler, or on a plate or a flat stone. The cheapness of this manure is a great recommendation. Two bushels of bones would not certainly cost more than \$1; then say 50 lbs. of acid to dissolve them would cost by the carboy, \$1.50, making only \$2.50 for a quantity quite sufficient for an acre, with half the usual dressing farm-yard manure. It would be worth almost as much as this, to cart the common manure from the yard, to say nothing of its value. There are few farms on which bones enough might not be collected in the course of a year, to help out in this way the manuring of several acres."

We will resume the subject in our next.

### JAPAN PEA.

This new and rare article is found to be adapted to our soil and climate, and yields bountifully. The writer has counted on an average 300 pods to each plant—pods containing from two to three peas. They are small, round, of a cream color, and very hard. Should think they might be ground. They are very nutritious. The plant attains the height of about thirty inches; it is stiff and woody—unlike all other peas, it stands independent of all surrounding objects, and upright, like a shrub or small tree. Experience will prove the best manner of cultivating and harvesting.

They should be planted or sown about the usual time of planting corn not earlier, as frost is fatal to the young plants.

J. W. BRIGGS.

WEST MACEDON, Wayne Co., N. Y.

THE OHIO STATE AGRICULTURAL CONVENTION at its recent meeting, passed the following resolutions, among others, showing that the spirit of progress is abroad. We wish the members of every Agricultural Society would exert their influence to secure the establishment of a National Agricultural Bureau:

*Resolved*, That this Convention recommend to the Boards of County Agricultural Societies to address the Representatives in Congress from their respective districts, requesting them to use their utmost endeavors to secure a liberal appropriation by Congress for the establishment of a National Agricultural Bureau, to be placed upon a permanent basis, under such management as will disseminate practical agricultural knowledge throughout the entire Union, thereby promoting the general interest of the age.

*Resolved*, That we recommend to the farmers of Ohio, the Osage Orange, a most valuable plant for hedging, superior in every respect to any other plant which has yet been introduced in Ohio for economical and enduring fences.

## THE MUSCULAR SYSTEM OF THE HORSE.

We copy the following from the *Plough, Loom and Anvil* :

Fig. 1. The forehead. Few things more clearly indicate the blood of the horse than the forehead. In the blood-horse the forehead is broad and angular, gradually tapering from this point to the muzzle; while in the cart-horse the face is large, and the forehead narrow in comparison with that of the blood-horse.

2. The eye-pit. By the depth of the eye-pit we are enabled to form some idea of the age of the horse: at the posterior part of the eye a considerable quantity of fatty substance is deposited, which enables it to revolve in its orbit with facility and freedom: in old age, and in diseases attended with general loss of condition, much of this fatty substance disappears, the eye becomes sunken, and the pit above the eye deepens. To obviate this appearance, some of the lower class of horse-dealers puncture the skin, and, by means of a quill or tobacco-pipe, blow into the orifice, and thus fill up the depression. This operation is called "puffing the glims," and may be easily detected by the application of pressure.

3. The poll.

4. The muzzle. The muzzle includes the lips, mouth, and nostrils. The darker the color of the muzzle, the more is the horse esteemed. The lips should be thin and firm; in old and sluggish horses they are usually loose and pendulous.

5. The withers. The speed and action of the horse is intimately connected with the length and height of the withers, and such a development is absolutely necessary in the hunter, the hackney, and the farmer's horse; but in the heavy cart-horse this rule may be reversed, as the more bulky and weighty he is before, the more advantageously will his powers be applied.

6. The croup. The croup, which extends from the loins to the setting on of the tail, should be long, and but slightly rounded.

9. The hock.

10. The sheath.

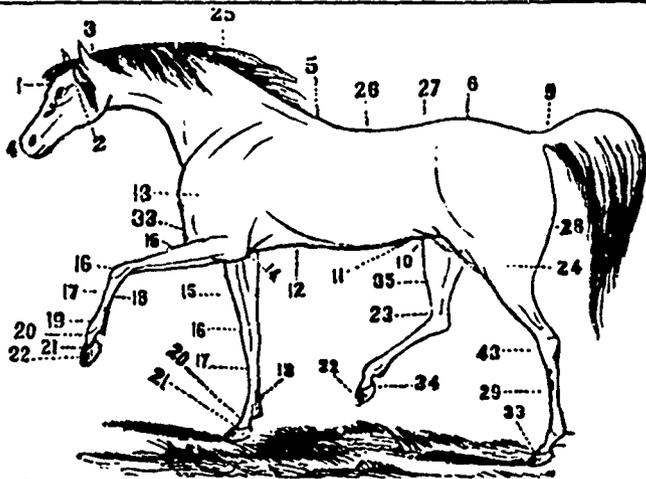
11. The flank. The space contained between the ribs and haunches is called the flank; when too extensive, it is an indication of weakness. The flank is usually referred to as indicating the state of respiration; during fever and chronic diseases of the lungs, it rises and falls with a rapidity greater than under ordinary circumstances.

12. The girth or brisket.

13. The shoulder. A muscular and slanting shoulder is indispensable where action and speed are required; but an upright shoulder may be preferable for horses exclusively destined for the collar.

14. The elbow. Good judges prefer a deep elbow, as it is always connected with increased power of action.

15-15. The arms. It is universally agreed that the arms should be long, large, and muscular; if they are flat on the sides, and narrow in front as they approximate the shoulders, and deficient in muscle, they are radically defective, and the horse should of course be rejected.



16. The knee. The knee should be broad, as offering more space for the attachment of muscles; breadth in this part being an indication of strength.

17-29. The cannon, or shank. The cannon should appear wide when viewed laterally, and thin in front, as any addition besides bone and tendon, must arise from disease, or useless cellular matter.

18. Back sinews. The back sinews should be large, firm, and distinctly felt from the knee to the fetlock. If there be any thickness of cellular matter around them, it indicates previous injury, as a rupture of the ligamentous fibres; and as this thickening may limit the motion of the tendon, and predispose the part to a recurrence of lameness and inflammation, such a horse, although perfectly free from lameness at the time of examination, should be regarded with suspicion, and rejected as unsound.

19-30. The fetlock joint. It is usual to apply the term fetlock to the joint itself; and the space between the fetlock and the foot, the pastern; but, properly speaking, the fetlock, or *footlock*, is only the posterior part of the joint, from whence grows a lock or portion of hair.

20-31. The pasterns. The pasterns should neither be too long nor too short; if too short, they are non-elastic, and such horses are uneasy goers, and unsafe to ride; on the contrary, if they are too long, they are frequently too oblique, and although from their elasticity the motion of the horse may be pleasant to the rider; yet an increased length of limb is an indication of weakness.

21-32. The coffin joint.

22-33. The hoof.

23. The hock. The hock is the most important and complicated joint of the whole animal; like the knee, it should be hard and extended. An enlarged hock constitutes unsoundness.

24. The haunch.

25. The neck. A moderate and elegant curve of the neck adds greatly to the beauty of the horse. The neck is sometimes recurved and hollow; a horse with such a conformation is called *ewe-necked*.

26. The back. The comparative advantage of a long or short back depends entirely on the use for which the horse is intended. For general purposes (says Youatt,) a horse with a short carcass is very properly preferred. He will possess health and strength—for horses of this kind are proverbially strong. He will have sufficient ease not to fatigue

the rider, and speed for every ordinary purpose. Length of back will always be desirable when there is more than usual substance, and particularly when the loins are wide, and the muscles of the loins large and swelling. The requisites, strength and speed, would then probably be united. The back should be depressed a little immediately behind the withers; and then continue in an almost straight line to the loins. This is the form most consistent with beauty and strength. Some horses have a considerable hollow behind the withers; these are called *saddle-backed*; a few have the curve outwards, and are called *roached-back*. This is a very serious defect, a together incompatible with beauty, and materially diminishing the usefulness of the animal.

27. The loins can scarcely be too broad and muscular; the strength of the back and hinder extremities hinges upon this point. At the union of the back with the loins, a slight depression is sometimes observable; this must always be regarded as an indication of weakness.

28. The hind quarter.

35. The inside of the thigh or stifle.

38. The point of the shoulder.

#### FARMING IN ESSEX COUNTY, MASS.

THE following account of a New Hampshire farm and farmer, by the editor of the *Connecticut Valley Farmer*, can be perused to profit by those who are content to do only as their fathers have done.

At the close of an enthusiastic two-days' cattle fair, held last month at Exeter, Rockingham county, N. H., in which nearly a thousand dollars had been exhausted in premiums and necessary expenses, we were introduced by one good farmer to another—by ALLEN W. DODGE, of Hamilton, Essex county, to WM. F. PORTER, of Bradford, in the same county. Our purpose was to have visited JOHN W. PROCTOR, Esq., of Danvers, with a view of seeing the onions and other root crops in the neighborhood. From this purpose we were turned aside by an assurance on the part of Mr. PORTER, that if we would go home with him, he would make himself at leisure the next day to show us his farming. We did so; and, after spending a day with Mr. PORTER, left a little wiser, we would fain hope, than when we went. The fault must have been our own if we were not. It will be recollected by some of our readers, that Mr. PORTER drew the Essex Society's premium for the best managed farm, in 1851. His statement on that occasion was the best we have seen. It was full of valuable suggestions, which we doubt not have been ere this the cause of similar improvements on other farms, to those which he describes in his own. In that statement Mr. PORTER shows the year's expenses of his farm to have been \$1,441 91, the receipts for the year to have been \$3,369 76, and the net profits, \$1,927 85. He shows also that the farm, stock and tools stood at \$17,000, and that the year's profit amounted to about twelve per cent. on that investment.

An important consideration here presents itself: Mr. PORTER has very extensive orchards of apples,

pears and peaches, most of which are young, only eight or ten years from the seed. These, of course, have been hitherto only a bill of expense; they are now coming into bearing; and they cannot fail to produce more in proportion to the expense attending them hereafter than heretofore.

If, then, such a farm would pay twelve per cent. on \$17,000 in 1851, it would pay the same per cent. on a larger sum in 1854, the year being equally favorable; and a still larger sum in 1857; that is, the farm that is managed as we see that Mr. PORTER'S is, must of necessity increase in value. There is, of course, a point beyond which this would not hold true, but we believe this point is much higher up the scale than most farmers think.

We want to say a few things more about Mr. PORTER'S farming, even though we should do it at the expense of being thought long-winded, or more enthusiastic than is meet. His barn, which is built wholly of new materials, and has taken the place of an old one since he has been on that farm, is 75 feet long. It is 45 feet wide, we believe. Two wings running southward from the south-west and south-east corners, and protecting the yard or the east and west sides, as the barn protects it on the north, are together nearly as large as the barn, the east one being used for a shed below, for a stable in the second story, and for a hay loft in the third; and that on the west side of the yard being for a shed below, and a granary above. Under the whole of the main building, 75 feet by 45, (if we are right in this last,) is a barn cellar. This is surrounded on the north side and two ends by a very heavy wall laid in mortar, and is so warm that it seldom freezes, and then never retains the frost more than a few hours. The business of composting, therefore, can be carried on all winter. Next above this cellar is a barn floor, into which loam, muck, &c., for composting, are drawn to be dropped as wanted through scuttles into the cellar below. Next above this is the regular barn floor, upon which the hay and grain are drawn, and on which the threshing is done. The business of composting the solid and liquid excrements is attended to daily as they are dropped. One consequence of this is, that no unpleasant smell ever infects this barn. The air in the barn cellar and through the long sheds, both of which are on a level with the yard, is almost as sweet as that over a new plowed field, and for the same reason—the upturned soil in one case, and the loam or muck applied in the other, absorb and lock up in their pores every offensive gas that may be floating above them. Mr. PORTER keeps sixty head of cattle, and one hundred and fifty sheep. From these and his horses and pigs he makes 600 loads of compost, and he regards every load of it as decidedly better than the excrements of animals thrown out to take the wind and weather. He showed us two and a quarter acres of corn on which he put 12 loads of compost and 300 pounds of guano to the acre. This he thinks will give him a hundred bushels of shelled corn to the acre. We think he over-estimates—should not dare to expect much above eighty bushels. He showed us another field of nine acres, which received 12 or 14 loads of manure, without guano, and which he estimates at from fifty to sixty bushels on an acre. We could not but

estimate it higher; and the difference between the guanoed and the unguanoed, appeared to us not much more than would fairly balance the expense of the guano. Mr. PORTER thinks otherwise—that the guano this year will much more than pay for itself; and in order to decide whether the continued application of guano exhausts the soil, he is resolved to try it on the same field, (the two and a fourth acres.) year after year. He seems inclined to think that the continued use of guano on a well manured soil will pay, or a little more, at present prices. Our opinion is, that it will pay or a little less, and we should not think it strange if it should be considerably less; but we are willing to await the result of further trials; and we will only say now, that if guano on fields richly dressed with barn manure should be found to increase the crop enough, in a succession of years, to pay for itself and leave a margin for profits, we shall be disappointed. Our present belief is that it will not pay, except on poor lands so situated that heavy manure cannot be carried to them. If it shall prove otherwise, after more thorough trial, we will own that we were wrong.

Sixty-one acres of Mr. PORTER's farm constitutes an island in the Merrimack. This he cultivates separately from the rest, and calls it the Island farm. Of the sixty-one acres which it contains, thirty-six are under the plow; half of the rest is a natural meadow; and the other half is woodland. The plowed land is divided into four lots of nine acres each; and the rotation practiced is rye, corn, oats and clover. For the rye he plows in the second crop of the previous clover; for the corn crop he applies about fifteen loads of barn manure to the acre; for the oats are applied one hundred bushels of leached ashes to an acre, which he procures for 6½ cents a bushel. The land is naturally a light, sandy soil. With the cultivation before indicated, it yields from fifty to seventy bushels of corn, according to the season, and other crops in proportion. The corn, rye and oats are nearly all carried from this Island farm instead of being expended upon it; and by it, Mr. PORTER is of the opinion that the land is rather improving under this cultivation from year to year.

Some of our readers are now ready to say, "If we had as much capital as Mr. PORTER we would farm as he does." Now, it was not our business to know how Mr. PORTER came by his capital; but we think it quite as likely as any way that he obtained it by farming; and we believe that any man who owns a tolerable farm, free or nearly free of debt, can command capital to carry it on advantageously, if he will; and that if he does this for a few years, and manages with energy and perseverance, he will have capital of his own ere long.

**GALLS FROM THE HARNESS OR SADDLE.**—Maj. Long, in his valuable account of his expedition to the Rocky Mountains, says, that his party found white lead moistened with milk to succeed better than anything else in preventing the bad effects of the galls on the horses' back, in their march over the plains that border the mountains. Its effect in smoothing or soothing the irritated and inflamed surface was admirable.—*American Farmer.*

## RAISING FOREST TREES.

Why will our land-owners fail to do "themselves and the State" good service, in giving their practical attention to this sort of culture? No crop is surer, nor so sure, and many crops that cost much labor will not pay half as well. For example, a sugar maple grows and flourishes with a vigor scarcely diminished, though forced to yield to the sugar-maker many gallons of sap every spring. Probably a little more careful cultivation would restore all the loss it might otherwise sustain. Hence it furnishes a very profitable crop, always commanding cash in the market, while it also produces as pleasant a fuel as can be found. We know of nothing, unless it be hickory, which is more desirable for such use. For charcoal it is one of the best of trees, while its timber is useful for many purposes. Besides all this, it possesses uncommon attractions as a shade-tree.

Birch trees can be sown or transplanted with very little cost or trouble. The chesnut is also a desirable tree. It flourishes where many crops would starve. A dry, sandy loam, enriched only by its own product is its natural soil. Hence it would prove successful on land where little else would grow, and where nothing else would render a very liberal return. The most important elements required by deciduous trees are alkaline. Nearly one-tenth part of the ash of such, and even of most trees, is of this character. Hence, when pines and other evergreens have been cut off, and the land has been burned, we find a second growth of deciduous trees. The land is changed in its character, so that what had before but a scanty supply of these elements, is now better furnished with them, and under these improved circumstances the seeds of the deciduous trees, dispersed everywhere, by winds, snows, water-streams, birds, animals, etc., germinate and grow, to the exclusion of those for which the soil and other conditions are not now so well adapted. Trees of the fir tribe, we are told by Liebig, grow upon the sand-stone and lime-stone of the Carpathian mountains, and the Jura. The finest forests of deciduous trees cover the soils "of gneiss, mica, slate, and granite, in Bavaria; of clinkstone on the Rhone, of basalt in Vogelsburgh, and of clay-slate on the Rhine and Eifel, while they can not be produced on the sandy or calcareous soils on which pines thrive."

The black-walnut and the butternut (quite worthy of culture for its capital nuts) need a deep gravelly loam, or a rich clay. A calcareous soil is best adapted to these. The hickory, oak, beech-tree, etc., will not succeed so well in sand, but either of these trees will grow in any good primitive soil. Oak grows well on any variety of good soil, if it be not too wet.

The various nut-trees should be sown before the nut is thoroughly dried. Follow nature. Those with a hard shell require the action of the frost, and should not be buried too deep. If not quite fresh when planted, all seeds should be soaked in water before they are sown, and with many, if gypsum or other fertilizer is partially dissolved in the water, and suffered to adhere to the seed, so much the better. Seeds, properly matured, are nature's only reliance; and hence, if we are wise in copying her ways, we can not fail to obtain the reward of our labor. The

cedar grows in any soil, from dry sand and gravel to rich loam.

But something more than this general information is desirable; for in fact this is no more than any observing man would be likely to discover for himself; and therefore we present, in a concise manner, the principles adopted in countries where such culture is systematically entered upon. In some parts of Europe, the growth of forests is as scientifically conducted as crops of wheat. The following method, which combines the culture of trees and of ordinary crops, is perhaps as judicious and as practicable, in this country, as any other plan, though by no means the only one by which a growth of trees may secure substantial benefit both to the land and to its owner.

For new countries, where the original forest is still in existence, the first suggestion may be important, but it would not, of course, be applicable to the older sections of our country; such farmers are interested only in the subsequent suggestions, but all these are worthy of note everywhere. We proceed to set forth our method:

1. Choose a forest, the circumstances of which are appropriate to such a treatment, and divide it into a certain number of sections or cuttings, having regard to the condition and qualities of the soil, climate, and the kind of tree desired.

2. Each year one of these sections is cut down and cleared, and the soil is devoted to cereals, as an ordinary field.

3. A kind of tree adapted to the wants of the place is selected, and these are planted in rows, at a distance of fifty feet or upward, as one has a desire to increase the growth of wood, or of grass, or of grain. The stems of the trees forming these rows should be from two and a half to four feet distant.

4. Between the rows of trees, grain or some other crop may be cultivated, so long as the trees will not injure them.

5. When the trees grow to such a size as to injure each other, part of them should be cut down.

6. The land should not be cultivated when the trees shall produce a shade injurious to the crop. Other trees should be cut from time to time, until a suitable number is left, regard being had to the use to which the trees are to be applied, whether for fuel, timber of large or small size, etc.

7. When the trees have reached a suitable age they should be cut down, the stumps removed, and other trees planted. But the trees should now be planted where the crops were cultivated before, and the crops sown where the former row of trees was grown.

8. The rows of trees should range north and south.

Fruit trees or forest trees might be treated by this method with great benefit.

On the selection of the place, regard should be had to the exposure and position, as well as to the soil.

Grounds that are to be treated in this manner, should be well prepared and cultivated. To plant trees when the soil is not in a suitable condition, would be a waste of labor.

Numerous comparisons have shown that a growth of sixty years, thus conducted, fully equals that of one hundred and twenty years in the native forest.

More abundant crops are obtained by the alternate culture of different kinds of plants. If a soil, exhausted by successive crops, is planted with trees, and it remains forty years in this state, cereals will afterward grow upon it with much more vigor than before, and even for some years, without manure. But fruit trees and vines can not succeed each other on the same ground with advantage.

In India, when the soil is exhausted by crops of indigo, trees are planted for the purpose of restoring its fruitfulness. In default of trees, the ground covered with branches or brushwood, which are useful in restoring freshness and vigor to the soil. Everything which covers the ground promotes its fertility. A heap of stones at the foot of a tree promotes its growth.

Among the advantages of this system, one important consideration is that by it no ground is wasted. The space required by the trees, in different stages of their growth is furnished, while the cultivation of other crops is not interfered with by the growth of the trees. When cereals can not be profitably raised, crops of grass may be obtained until the growth of the trees is such as to interfere with any other crop. When the trees have reached a certain growth, they will not be liable to injury if cattle are turned in to feed upon the grass, while trees that are planted in pasture-lands are often destroyed.—*Plough, Loom and Anvil.*

**SHEEP AND DOGS.—Important Decision.**—DANIEL CARTER recently shot a dog in Cecil county, Md., belonging to EDWARD W. MAHANY, for killing his sheep. MAHANY sued him before a magistrate and got judgment for \$25 damages, from which CARTER appealed to the Circuit Court. The defence alleged that to justify the shooting of the dog he must be caught in the act of worrying or killing the sheep. The Court (Judge CONSTABLE on the bench) held a different opinion, reversing the magistrate's decision. The *Cecil Whig* says:

"Judge CONSTABLE is reported to us to have decided unequivocally and clearly that under the English common law, and the Maryland statutes for the protection of sheep, which extended to the common law, any person who sees a dog within an enclosure where there are sheep, (no matter whether he be the owner of the sheep or an entire stranger,) and has sufficient reasons for believing he is there for the purpose of worrying or killing the sheep, is perfectly justifiable in killing him on the spot or even in pursuing and killing him.—*American Farmer.*

The *Country Gentleman* states that the following remedy for the foot rot in sheep, has been used with great success by H. HOWLAND, of Aurora, Cayuga Co., for the last thirty years:

"Mix flour of sulphur with the salt given to the sheep, in a proportion just sufficient to discolor perceptibly the salt, or about one-eighth part. Sulphur may be had at a wholesale price at a cost of not over two cents. Where local applications are necessary, we should much prefer a solution of chloride of lime, to any other application.

## CIRCULAR.

DEAR SIR:—During the past year, I have been enquired of by several Short Horn Cattle breeders, when I intended to issue a second volume of the American Herd Book. My reply has been, "Not until the Short Horn breeders would come forward in sufficient number to patronize the work, by furnishing the pedigrees of their stock, and to buy the book to an extent sufficient to warrant the expense of its publication." The first volume of the American Herd Book, which I published in 1846, is still indebted to me in the cost of the book itself, throwing in the time and labor I spent upon it.

At the late "National Cattle Show," held at Springfield, Ohio, a large number of Short Horn breeders were assembled, from ten or twelve States, and the Canadas. The subject of a continuance of the publication of an American Herd Book was fully discussed by them. It was agreed that, with so large a number of Short Horn Cattle as are now owned and bred in the United States, and the Canadas, a Herd Book, devoted to the registry of AMERICAN Cattle was imperatively demanded. The expense and trouble of transmitting their pedigrees to England, and the purchase of the voluminous English Herd Book, now costing at least one hundred dollars, is no longer necessary; and that as the breeding of pure Short Horn blood must depend much upon having a domestic record at hand, when the requisite information can be obtained, and that of a reliable character, a Herd Book is indispensable.

In pursuance of the unanimous request of the gentlemen engaged in breeding Short Horns, above alluded to, together with many individual solicitations, which I have received from other breeders during the past year, I have concluded to issue this, my prospectus for a second volume of "The American Herd Book," and to request you, if you feel an interest in the work, to inform me at your earliest convenience, whether you will aid in its publication by sending a record of your animals registry, and to designate the number of volumes of the book you will take. The size of the work will, of course, depend upon the number of animals registered, which, if this opportunity is embraced by the breeders generally, will be several hundred pages octavo, and illustrated with portraits of such animals, properly engraved, as the owners may be desirous to have inserted, they furnishing the cuts for the purpose.

I shall also give an account of all the recent importations into the United States. A copy of the Catalogue of each separate herd will be given, whenever they can be obtained, together with the account of their sales, their prices at which they were sold, purchaser's names, &c. In short, every matter of interest in relation to them, so far as it can be obtained, will be given.

All papers relative to such information will be thankfully received, sent to my *Post Office* address at BLACK ROCK, NEW YORK.

As it is necessary that I get to work by the first March next, you will oblige me by replying immediately, and informing me whether you will have your cattle recorded, and if so, what the probable number will be, and the number of volumes you will take.

The recording fee for *each* animal will be fifty cents; the price of the book five dollars. The recording fees will be expected to be remitted in advance, when the pedigrees of the cattle are forwarded, and the book paid for on delivery.

*If, by any casualty, the book should not be issued, the advance money will be promptly refunded.*

That there may be as little uncertainty as possible, I wish that the reply to this may be as prompt as convenient, that I may know whether I shall be justified in undertaking the work; if so, I will give you notice of the fact as early as the first of February, 1855, on receiving which, your pedigrees and insertion fees will be required to be sent immediately.

Very respectfully yours,

LEWIS F. ALLEN.

BUFFALO, Black Rock P. O., N. Y.

WE give below the analysis by Prof. C. DEWEY, of shell-marl found on the farm of Dr. J. B. BRISBAN, Schuylerville, Saratoga Co., in this State. The suggestions made by Prof. D. are valuable as a means of supplying deficient elements in a soil.

ROCHESTER, Dec. 30, 1854.

J. THOMPSON, Esq., Dear Sir:—The marl you left with me, from Saratoga, I have examined as you proposed. It is the *common shell-marl* of the country, found often in what are called sphagnum swamps, on account of the vegetable (sphagnum) which covers the surface.

This marl is composed of decayed and decaying shells of snails, clams and the like, and has diffused through it remains of the above named vegetable.

|   |            |
|---|------------|
| I took of the medium quality,             | 100 grains |
| and found the vegetable matter to be      | 46 "       |
| leaving as nearly pure carbonate of lime, | 54 "       |

This marl is useful for the dressing of soils, as the vegetable matter is nutritious to vegetation, and the lime portion is specially fitted to improve *heavy* and *clayey* soils, or *light* and *sandy* soils. Where there is lime carbonate enough in soils, the marl would be useful only by its vegetable matter. It is well known that the soil of Western New York abounds in this lime, which is most important for a wheat-growing country. It is to be presumed that there must be fields of sandy soil about or near the locality of the marl, which would be much benefitted by this dressing.

Yours, &c.,

C. DEWEY.

MR. EDITOR:—The season was uncommonly dry—an unprecedented heat prevailed for three months—yet the corn crops in Jay were good. Notwithstanding the excessive drouth I had a middling crop of potatoes; a good many weighed twelve ounces—one weighed over one and a half pounds. A richer and more productive soil an industrious man could not wish than there is in Jay and adjoining counties. On ground brought up by the roots of fallen trees, and which was so tenacious the team could hardly draw the plow through two or three inches deep, there is re-

markably fine corn. There is a wealth in our soil many feet below the surface, beyond belief. It seems even more fertile several feet down than on the surface! Let the husbandman only do his part, and rich, abundantly rich crops will reward him. It fills me with thankfulness and joy—enthusiastic joy—to see what inexhaustible food lies below to a great depth for the plants that sustain life in man and brute. A mine far more precious and valuable than those in California.

A. BAER.

BEAR CREEK, Jay Co., Ind.

DEAR SIR:—I have made a discovery in the cure of warts on cattle. I have a young cow that had twelve or fifteen warts on the neck varying in size, from half an inch to two inches in diameter. The largest were quite sore, and frequently discharged blood.

*Remedy.*—Slak a piece of lime the size of a hen's egg, add four tablespoonfuls of soft soap; stir the same until well mixed. Apply the same to the warts. They will disappear in a few days, and the skin become smooth, as I have found by experience.

LENOX, 1854.

A. H.

MR. EDITOR:—I have taken the FARMER for some years and have several bound volumes, in which, whenever I look them over, I find so much interesting and useful matter, that I can not resist the inducement to avail myself of its further benefits. Having for some years past been engaged in other pursuits, but now desiring to turn more of my attention to farming, which was the occupation of my early days, and I fondly hope may be of my latter, I find myself entirely behind the "intelligence of the age" without the GENESSEE FARMER.

One word more. As our farmers are beginning to think of the improvement of their stock, and some difference of opinion exists in regard to the best breeds to introduce, I wish to make one inquiry. There exists on the Genesee River a race of cattle which the breeders call Red Durhams some fine specimens of which have been introduced into our State. They are raised to a considerable extent by a family by the name of Brooks, and are really splendid stock, but the question has arisen in regard to the purity of their Durham blood. Most of our farmers prefer the Durham Cattle to all others, but dislike the white and grizzly color which has usually characterized the race. If they can be fully assured that they are getting the pure Durham stock, and

can obtain with it a bright red color, their ideal of perfection in stock growing will be attained.

If yourself or some of your numerous contributors will answer this query, it will confer a favor on the writer, and many others in the agricultural profession.

E. G.

GOODRICH, Jan., 1855.

HARD AND SOFT WATER—Hard spring or well water has by filtering through the earth for a considerable time, imbibed many impurities held in solution, consisting of various earthy salts. There is a very curious fact noticed by Professor GRIFFITHS, presented during the formation of lime-water, namely, that the *colder* the water, the more lime it will dissolve: thus, water at 33 degrees, or near the freezing point, will dissolve exactly twice as much lime as water will do at boiling heat. Hence, cold water saturated with lime will precipitate one-half of the mineral if its temperature be raised to 212 degrees. Lime, however, never exists in the earth uncombined with any acid. If there be no one stronger than carbonic acid, that unites with the alkaline base to form common limestone.

All the earthy salts found in hard water decompose soap, and therefore it is not desirable for washing purposes; nor is hard water so good for boiling meat and vegetables, or for making tea and coffee. Pure white soap dissolved in spirits of wine is one of the best tests of the purity of spring or well water. Good soap is perfectly soluble in pure or distilled water. If water contains a little gypsum, or alum, or copperas, on which its hardness usually depends, soap curdles in it.

#### WINTER WORK.

There was a time, when the farmer calculated as much upon three or four months leisure, in the winter, as on drifting snows and frosty panes. If he could cut a season's wood, feed his cattle and make a weekly visit to town, he congratulated himself on having performed all that was required of him. In some seasons, and in some localities, there was flax or hemp to break, grain to thresh, or a little wood to take to market. These accomplished, the farmer felt at liberty to dose over the kitchen fire, hang about the bar-room, the country store, or the workshop of some industrious mechanic. There was witnessed much drinking, not a little loud talk, and many a hearty laugh, as political debate grew warm, or the party listened to some half mythological tale of olden time.

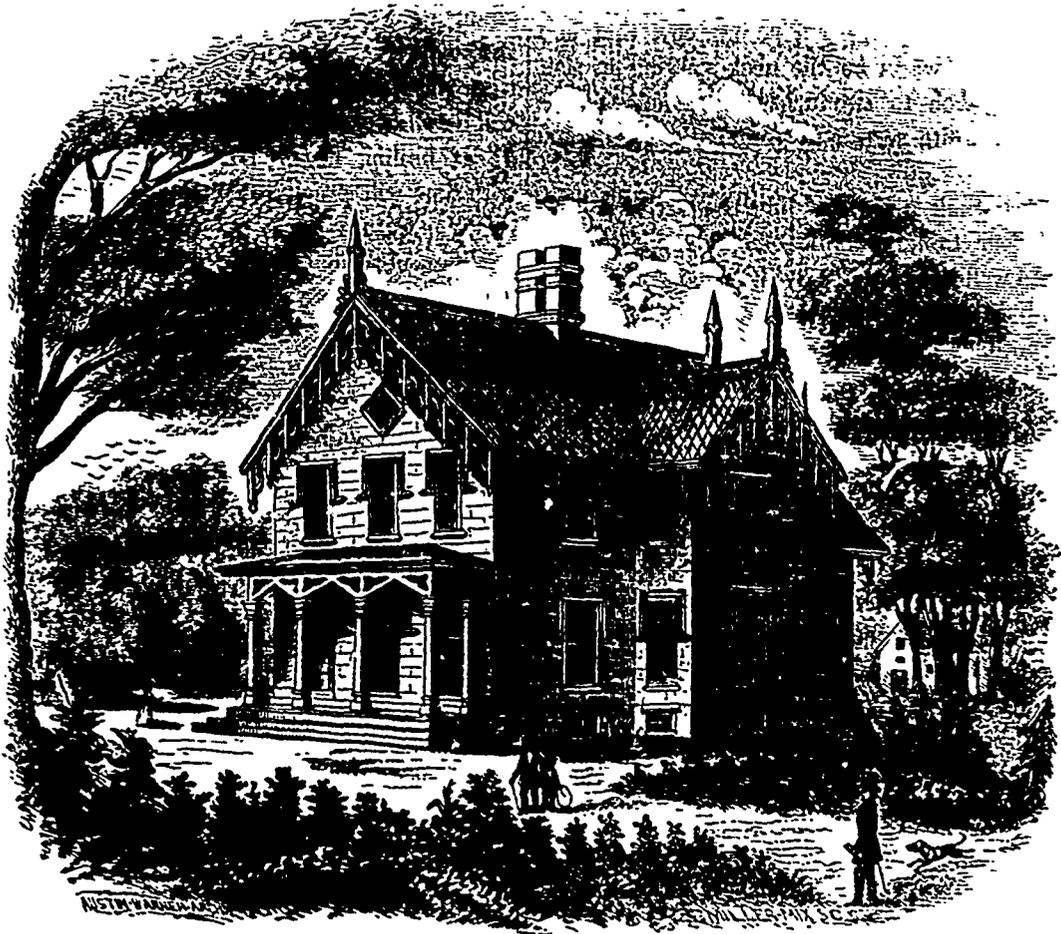
But in more recent times, since farmers have read and experimented, since they have learned that it is not imperative upon them to be idle in the winter season, they find sufficient to occupy their time.

When there is a disposition to work, there is enough to be done. Aside from the ordinary labor required of them—the care of stock, the preparing of the year's fuel, the threshing of grain, the breaking of roads, the occasional visit to the market town with wood, or grain, or wool, with pork, or hay or apples, duties press upon them. The winter, instead of being long and wearisome, is quite too short for the accomplishment of all they find to do. The farmer now speaks of his winter labor as well as his spring or fall's work, and feels that it is quite as important that one be well done as the other.

Among the pleasurable employments of this season, is that of *reading*. No thrifty farmer can now be found in New Hampshire who does not read.

He is not confined to the political newspaper now as he once was. He cares less for party, and more for principle. He takes a good agricultural journal. On his table are found bound volumes of such works as are issued by Saxton, Jewett, and Phillips & Sampson. The leaves are all cut, and the pages show signs of study there.

Reading leads to thinking, and the farmer soon begins to lay his plans for the spring and summer. He considers the nature of his lands, decides what crops to grow and what manures to apply. He calculates the cost of certain repairs or additions to his buildings, how he shall reclaim a bog, improve an exhausted pasture, or render more profitable an old orchard. —*Granite Farmer.*



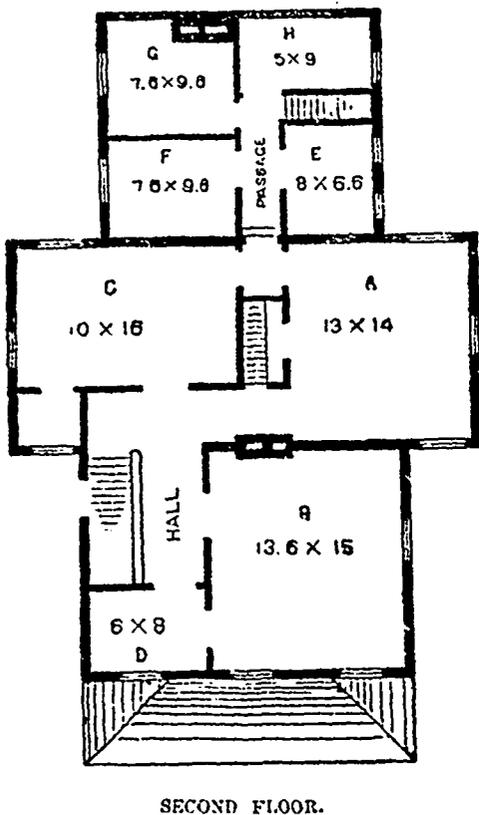
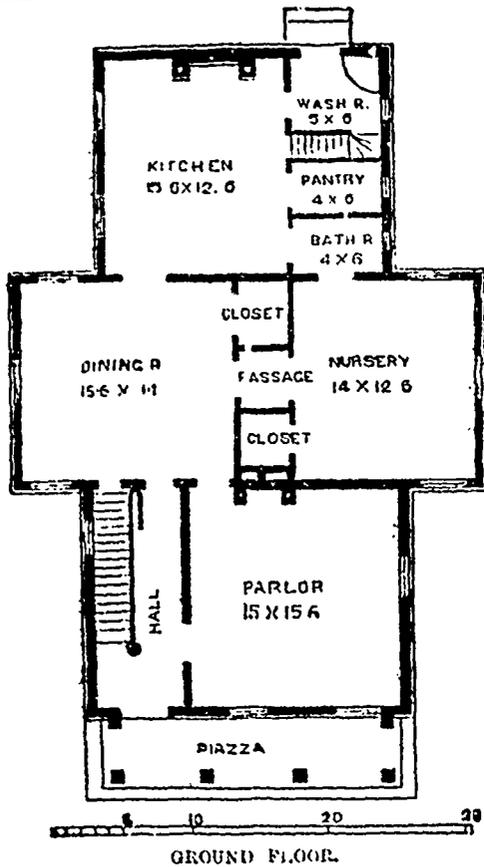
### A SYMMETRICAL COTTAGE.

BY AUSTIN & WARNER, ROCHESTER, N. Y.

WHOEVER loves symmetry and the simpler kinds of cottage beauty, including good proportion, tasteful forms, and chasteness of ornament, we think can not but like this design, since it unites all these requisites. It is an illustration of a cottage made ornamental at a very trifling expense, and without sacrificing truthfulness to that kind of tasteful simplicity which is the true touchstone of cottage beauty.

This cottage is entered by means of an ample hall, off which is the parlor, 15 ft. by 15 ft. 6 in. The dining and living room is entered from either the hall

or parlor, and is 15 ft. 6 in. by 14 ft., having closets also a closet under stairs. Adjacent to the dining-room is the nursery, 14 ft. by 12 ft. 6 in., having a bathing-room and closet. Off of dining room is the kitchen, 15 ft. 6 in. by 12 ft. 6 in., having an oven, pantry, sink room, &c. The back stairs ascend from the sink-room, which is a great convenience, as slops, &c., from the second story can be brought down these stairs without being seen from any of the principal rooms. Entrance to the cellar from the kitchen. In the hall is the principal stairs leading to second story, which is divided into bed-rooms having closets attached; also inclosed stairs to attic, in which there are three large sleeping-rooms, with store-rooms, &c.



The little front room in second story would make a bed-room if required, or a dressing room attached to the large front bed-room.

First story 9 ft. 6 in. high, second story 8 ft. high.

The superstructure is framed, sheathed on the outside with 1½ in. boards about 9 in. wide, put on horizontally, and rebated to imitate block work, and painted three good coats, the last two to be sanded; thus making the building appear like a stone one, with very little expense. To be plastered on the inside two coats (browning and white finish). The inside finish is to be plain and neat. Architraves in principal story to be 7 in. wide, bevelled bands those in the second story, 6 in. The building finished complete, will cost about \$2,000.—*Horticulturist*.

**PRICES NOW AND THEN.**—The Albany *Knickerbocker* says: "A citizen who has ever kept an account of every thing purchased for his family, gives the following list of articles and their prices in 1829, to which he added the price of similar articles at the present time:

|                      | 1829          | 1854.          |
|----------------------|---------------|----------------|
| Flour, per bbl.      | \$3.59        | \$10.00        |
| Wood, per load,      | 1.00          | 3.00           |
| Potatoes, per bush., | 25            | 1.25           |
| Beef, per lb.,       | 4             | 10             |
| Veal, per lb.,       | 3             | 9              |
| Pork, per lb.        | 5             | 10             |
| Butter, per lb.      | 10            | 31             |
| Cheese, per lb.      | 5             | 12             |
| <b>Total</b>         | <b>\$5 11</b> | <b>\$14 97</b> |

These figures show an advance of about two hundred per cent. in household expenditures during the last twenty-five years. During the same period, the wages of mechanics and laborers have only advanced about twenty-five per cent. The more money that comes in the country, the worse it appears to make it for a man of toil—especially those who toil in the towns and cities. The high prices of food and the low prices of labor must give our people a taste for farming. If we are not much mistaken, our land offices will sell more farms during the next five years than they have for the past twenty.

**FARMS AND FARMERS.**—Farms occupy two thirds of the land of England. The number of farms is 225,318; the average size 111 acres. Two thirds of the farms are under that size, but there are 771 of above 1,000 acres. The large holdings abound in the south eastern and eastern counties; the small farms in the north. There are two thousand English farmers holding nearly 2,000,000 acres; and there are 97,000 English farmers not holding more. There are 40,650 farmers who employ five laborers each; 16,501 have ten or more, and employ together 311,307 laborers; 170 farmers have above 60 laborers each, and together employ 17,000.—*Census Report, England*.

A new iron ore bed has been discovered about five miles from the Lake, near Westport, Essex county, New York. It is sixty feet deep, sixty rods wide, extends into the earth an unknown distance, and yields seventy or eighty per cent.

There is in existence a piece of Egyptian darning, unfinished, and with the wooden needle stuck in it, begun before Abraham was born, it is thought.

## Horticultural Department.

CONDUCTED BY JOSEPH FROST.

### PLANTS FOR PROTECTION.

But little attention is given to the protection of our fields, buildings, orchards, &c., from our prevailing winds. Indeed, it scarcely enters one's thoughts that our crops, our orchards of apple, pear, cherry, &c., need the protection which is conceded should be given horses, cattle and sheep.

It seems that quite opposite views are entertained by the public. Nature had given us her natural protection, the woods and forests, but our forefathers did not think it wise to allow skirts and belts of trees to stand, thus ensuring a greater regularity of crops, and at the same time, rendering our landscape interesting and beautiful, but the pervading furor has been "down with our forests." No one could withstand the overwhelming popular opinion, no more than stem the current when the mandate "down with the alianthus" went forth from the pen of the lamented DOWNING.

Our climate has become visibly changed within the past twenty years, and is becoming more and more marked in proportion to the diminution of our forests. This affects our crops to such an extent that a good yield of wheat, corn, or oats, for years in succession, is unknown at the present day; formerly, farmers are well aware, a remunerating product could be relied upon, almost to a certainty. Nothing, however, feels these adverse influences of climate to so great an extent as fruits. It is a noted fact that all kinds of fruits thrive finely within cities where proper care can be given them, and even produce abundantly under very unfavorable influences. The ripening of the different varieties, too, is from ten days to two weeks earlier; because they are protected by the walls of the buildings from cold winds, and the temperature is thereby equalized. The orchardist and farmer, however, make their complaints, and present them something in this wise: "My trees will not have any fruit on them this season; in fact, I do not expect to get a crop much oftener than once in three years, now. I can well remember when every summer would find my trees completely laden with fruit; but now it is changed; neither do I think that it is as fair." They could, however, inform you that the changes in our climate are much more frequent and severe. But it did not at once occur to their minds that this was one of the principal causes. If

it had, they might assign it as one of the dispensations of Providence, and utterly useless to try to effect a cure.

As a preventive, we would advise in all wooded countries that a sufficient amount of young underwood be allowed to stand at intervals in the most exposed situations, and within a very few years a perfect barrier would be formed, thus effectually protecting one's farm; and in many instances the selection might be so judiciously made as to protect extensive tracts of land.

Where land is now cleared, the only remedy is to plant. Deciduous trees (those which drop their leaves annually) of rapid growth, have been recommended, but they do not afford much protection only during summer, when in full foliage. In the autumn and through winter and spring, when protection is most needed, these trees with their naked limbs and trunks can not be expected to be as effectual as evergreen trees, whose foliage remains on during winter.

The two best varieties of evergreens for this object, are the American *Arbor Vita* (White Cedar,) which is quite common in many parts of our country, and is generally found growing in low swampy places, and the *Norway Spruce Fir*, a variety of evergreen imported from Europe, or grown from imported seed. The *Norway Spruce* grows very rapidly, making from two to three feet growth in each season, as soon as the plants become established; when planted in good soil, and under proper care, will frequently exceed this. The tree is very erect, of pyramidal shape, and will attain in height upwards of one hundred feet. It is extremely hardy, enduring the lowest degrees of temperature without being injured in the least. It bears pruning well at almost any season. Its roots are composed of the finest fibres, which allows it to be transplanted very easily without endangering life. This plant would be just what is required at the West for hedges to break off the winds which prevail so much upon the extensive prairies; and we have no hesitation in saying that it would accomplish its object most effectually.

These plants, of small size, can be obtained of most nurserymen at a low price, say from \$25 to \$100 per 1,000, according to quality and size.

The proper distance to set them would be about twelve to fifteen feet apart, according to the quality of the soil.

The *White Cedar* compares favorably with the preceding in every respect, but does not grow as strongly nor as upright; but its habit is more spreading and dense. The price of this is generally lower:

- than the spruce, as it is more common and easily obtainable—varying from \$15 to \$50 per 1,000.

Last autumn we visited the grounds of J. P. CUSHING, Esq., of Cambridge, near Boston, where we saw the largest and finest hedges of *Norway Spruce* and *White Cedar* there is in this country. It was truly a beautiful sight to ride through the avenues, lined as they were by these evergreens for miles in extent. Some had been planted, we were informed about eight years, and had attained about thirty feet in height, presenting to the passer-by, an insurmountable wall of green.

Mr. CUSHING is so well pleased with the results that he planted more than a mile in extent last spring.

These trees, with their naked limbs and trunks, can not be expected to be as effectual as evergreen trees, whose foliage remains on during winter.

### THE RASPBERRY.

THIS delicious fruit which comes in most seasonably after the period for Strawberries, is our especial favorite. A few years since the price of the common wild black Raspberry was only from six to eight cents per quart. Last season a fruit dealer in our city would have been glad to contract for 100 quarts per day at double those rates. No one should depend on the straggling plants along the road side, or around the stumps of his fields for a supply. But few of our small summer fruits require so little attention, and none will better repay care in culture. We have three kinds of wild Raspberries transplanted from the woods a few years since. From one stool of the black variety we have gathered more than a quart of berries, during each of the past two seasons. The common red grows very thriftily, but if the berries are allowed to ripen thoroughly on the bush, before they can be gathered. Another kind, a very thrifty and hardy variety, bears a perfect hemispherical berry, red, very small seeds with a fleshy pulp.

Of the cultivated varieties in this latitude, we prefer the red and white Antwerp. The white, with us is the more tender plant, but the better bearer. Perhaps we can not better illustrate the method of successful cultivation than to allude briefly to our practice when commencing their cultivation. The plants being obtained at the proper time, which is before the leaf-buds open, were carefully dug up (*not pulled up*) with a spade—as much earth as possible was left attached to their roots, and then conveyed gently home. The rows were trenched two spades in depth,

to a width of from twelve to sixteen inches. The plants were then placed in holes left by taking out a spadeful of earth—the roots laid out in all directions by the hand—the earth drawn up closely around the roots—care being taken that no unfilled cavities should admit air to the roots. When planted they were then tied firmly to stakes—and left to grow, the ground kept free of weeds. A part of the plants were pruned to a stem about two feet in length, while the remainder were left untouched. Those well pruned came on much faster than the unpruned. We were rewarded with a few berries the same season. The ensuing winter the tops of nearly every plant were killed—in spring the dead portions of the limbs were cut off, and they were left to grow as they might. By the way, we should say, that the soil was a sandy loam of about two and a half feet in depth, underlaid with a reddish clay hard pan of about four feet in thickness, and had been pastured as public commons for more than twenty years. They yielded a fair return of fruit, but not as much as seemed a fair equivalent for labor bestowed in cultivation

In December of the same year we directed a barrel of the sweepings of the henery—which receives a sprinkling of plaster of Paris every week or so) to be applied to all the trees and shrubs in the garden. Each stool of Raspberries had about half a spadeful of this mixture of *guano* plaster, and loam, applied to its roots. The ensuing spring showed its good effects, the leaves were of a much deeper green—the shorts were more vigorous, and the whole appearance of the plants strikingly changed.

In a word, the bushes were loaded with the finest, fairest berries we had ever seen, and from three rows of plants in a space of nine by eighteen feet, we gathered from one to three quarts daily. Had it not been for the extreme drouth of the season, we doubt not the yield of fruit would have been doubled.

We made the rows three and a half feet apart—it would have been much better to have allowed five feet of space between rows. We placed the plants two feet apart in the rows—three feet would have been better.

THE best mixture for filling up wounds in trees is made with cow-dung one bushel, old lime-rubbish half a bushel, wood-ashes half a bushel, and a little river-sand, well worked together by spade, or beaten until it is of the consistence of fresh plaster, such as is used for ceiling rooms.

Many are great because their associates are small.

## CATALOGUE OF FRUITS.

We have received the proceedings of the Third Session of the American Pomological Society, held in the city of Boston, on the 13th, 14th and 15th of September last. In it we find much information which is of the greatest value to orchardists and planters of trees. The Society has adopted the following catalogue of fruits, which may be valuable for reference:

**APPLES—For General Cultivation.**—American Summer Pearmain, Baldwin, Bullock's Pippin, Danver's Winter Sweet, Early Harvest, Early Strawberry, Fall Pippin, Fameuse, Gravenstein, Hubbardston Nonesuch, Lady Apple, Ladies' Sweet, Large Yellow Bough, Melon, Minister, Porter, Red Astrachan, Rhode Island Greening, Roxbury Russet, Summer Rose, Swaar, Vandervere, White Stek-no-Further, William's Favorite, (except for light soils), Wine Apple, or Hays, Winesap.

*New Varieties which promise well.*—Autumn Bough, Benoni, Coggswell, Genesee Chief, Hawley, Jeffries, Ladies' Winter Sweet, Monmouth Pippin, Mother, Pimate, Smoke House, Winthrop Greening, or Lincoln Pippin.

**PEARS—For General Cultivation.**—Ananas d'Ete, Andrews, Lawrence, Louise Bonne de Jersey, Belle Lucrative, or Fondante d'Automne, Beurre d'Anjou, Beurre d'Artemberg, Beurre Diel, Beurre Bose, Bloodgood, Buffum, Dearborn's Seeding, Doyenne d'Ete, Flemish Beauty, Fulton, Golden Beurre of Bilboa, Madeline, Manning's Elizabeth, Paradise d'Automne, Rostiezer, Seckel, Tyson, Urbaniste, Uvedale's St. Germain (for baking), Vicar of Winkfield, William's Bon Chretien, or Bartlett, Winter Nelis.

*For Cultivation on Quince Stocks.*—Belle Lucrative, Beurre d'Amalis, Beurre d'Anjou, Beurre d'Artemberg, Beurre Diel, Catillac, Duchesse d'Angoulême, Easter Beurre, Figue d'Alençon, Glout Morceau, Long Green of Cox, Louise Bonne de Jersey, Napoleon, Nouveau Poiteau, Rostiezer, Beurre Langlier, Soldat Laboureur, St. Michael Archange, Triomphe de Jodoigne, Urbaniste, Uvedale's St. Germain, or Belle Angevine (for baking), Vicar of Winkfield, White Doyenne.

*New varieties which promise well.*—Clairgeau, Beurre Sterkman, Beurre Superfin, Brande's St. Germain, Brandywine, Chancellor, Charles Van Hooghten, Collins, Compté de Flanders, Doyenne Boussock, Doyenne Goubault, Duchesse d'Orleans, Beurre St. Nicholas, Duchesse de Berri, Epine Dumas, Fondante de Malines, Fondante de Noel, Howell, Jalou-

sie de Fontenay Vendee, Kingsessing, Kirtland, Limon, Lodge, (of Penn.), Nouveau Poiteau, Onondaga, Ott, Pius IX., Pratt, Rousselette d'Esperin, Sheldon, St. Michael Archange, Steven's Genesee, Striped Madeleine, Theodore Van Mons, Van Assenc, (or Van Assche,) Walker, Zepherin Gregoire.

**PLUMS—For General Cultivation.**—Bleecker's Gage, Coe's Golden Drop, Frost Gage, Green Gage, Jefferson, Lawrence's Favorite, McLaughlin, Purple Gage, Purple Favorite, Reine Claude de Bavay, Smith's Orleans, Washington.

*New Varieties which promise well.*—Ive's Washington Seedling, Mumre Egg, Prince's Yellow Gage, River's Favorite, St. Martin's Quetche.

**CHERRIES—For General Cultivation.**—Belle Magnifique, Black Eagle, Black Tartarian, Downer's Late, Downton, Elton, Early Richmond (for cooking), Graffon (or Bigarreau,) Knight's Early Black, May Duke.

*New Varieties which promise well.*—American Amber, Belle d'Orleans, Bigarreau Monstreuse de Bavay, Black Hawk, Coe's Transparent, Early Purple Guigne, Governor Wood, Great Bigarreau of Downing, Hovey, Kirtland's Mary, Ohio Beauty, Reine Hortense, Walsh's Seedling.

**APRICOTS—For General Cultivation.**—Breda, Large Early, Moorpark.

**NECTARINES—For General Cultivation.**—Downton, Early Violet, Kluge.

**PEACHES—For General Cultivation.**—Bergen's Yellow, Cooledge's Favorite, Crawford's Late, Early York, serrated, Early York, large, George IV., Grosse Mignonne, Morris White, Old Mixon Free.

**GRAPES (under glass)—For General Cultivation.**—Black Hamburg, Black Frontigan, Black Prince, Chasselas de Fontainebleau, Grizzley Frontignan, White Frontignan, White Muscat of Alexandria.

(Open culture—For General Cultivation.—Catawba, Diana, Isabella.

*New variety which promises well.*—Concord.

**RASPBERRIES—For General Cultivation.**—Fustolf, Franconia, Knevet's Giant, Red Antwerp, Yellow Antwerp.

*New Varieties which promise well.*—French, Orange, Walker.

**STRAWBERRIES—For General Cultivation.**—Boston Pine, Hovey's Seedling, Large Early Scarlet.

*New Variety which promises well.*—Walker's Seedling.

**CURRENTS—For General Cultivation.**—Black Naples, May's Victoria, Red Dutch, White Dutch, White Grape.

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## ARBORS.

ARBORS, covered walks, and shaded resting-places, come within the limits of picturesque grounds, if they are formed of living trees or shrubs. On the continent, the vine is much used for this purpose; and so it may, to a certain extent, in the south of England; but beyond the midland counties, and in Scotland, the Hop, Clematis, Ivy, Hon-suckle, and Climbing Roses, must be used as substitutes. Fig. 1 displays the taste of the French and Germans in this matter, who in general place them against walls, and often carry them by a slight of steps to a considerable height, as in our figure.

In Germany, arbors are fitted up among the branches of very large and old trees, and access got to them by means of a ladder. If study or privacy induce the visitor to ascend, the ladder can be drawn up, and so intrusion be prevented. We may here remark, that in general the terms arbor and bower have been considered synonymous; it appears that properly they are not. Mr. MALLETT, of Dublin, frequently quoted in this work, says: "An arbor is a space covered and enclosed by the interweaving branches of trees, and reticulated stems of living plants, intended to afford shade and retirement. The words arbor and bower are properly very distinct; the former alone being formed of the living branches and stems of trees, whereas the bower, which is not derived from *bough*, or any analogous word, means simply any small chamber; yet they are used indiscriminately by the best writers.

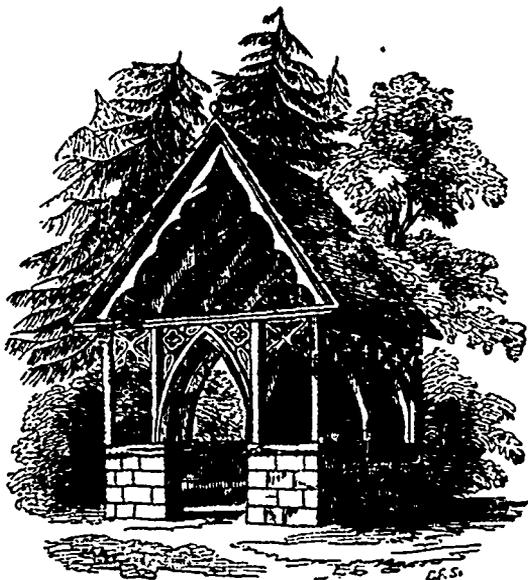


FIG. 2.

The term bower seems, as it were, the word of poetry, in which it is frequently made use of: whereas arbor seldom is, if ever.

With us, few natural arbors are to be met with. The least artificial are those formed by slightly arranging the pendant branches of the Weeping Ash, or similar growing trees. A few props within, to support a rod or hoop, to carry up the pendant branches, is all that is required; and if these have too

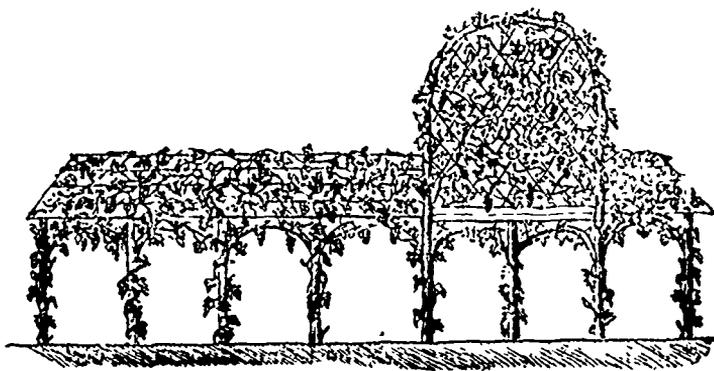


FIG. 1.

much the appearance of art, the smaller branches of the tree may be trained down upon them, or ivy may be planted and trained over them, and allowed to intermingle with the branches forming the roof.

The next kind of arbor for simplicity of form, is that formed of tall, straight, young trees, of beech, hornbeam, mountain ash, willow, &c. These planted close together in a line, forming the back and sides of the proposed arbor, the front being in general left open, are bent over at the tops to form the roof, and tied together to keep them in their proper places. Sometimes the stems are crossed in trellis fashion, and after a time they unite by a species of natural engrafting, and become exceedingly strong, and will last for years.

Fig. 2 represents a Gothic rustic arbor, or resting-place; the basement to be of stone, the superstructure of unbarked timber, and the roof thatched with heath. The floor should be pitched with pebbles in Gothic pattern, and the seats be made of oak plank.

## PRUNING.

PRUNING, properly speaking, is the judicious removal of encumbering and useless wood every year, so as to regulate the branches in every part of the tree, and thus give access to the sun and air to freely penetrate through the whole tree; this is necessary, for if the air and sun cannot get freely to the fruit and the leaves, they are imperfectly matured: the leaves cannot properly perform their functions, thus the sap is imperfectly elaborated, and both the wood and fruit is imperfectly ripened.

As to the time to prune, there is a diversity of opinions, whether it should be performed in the fall, after the leaves are off, or early in the spring, before the buds break. This is immaterial; it is only a disagreement whether trees should be pruned at the beginning or end of their dormant state, but it amounts to nothing; pruning may be done any time during the dormant state of the tree; it should, however, be performed before the sap begins to flow in the spring. In these remarks we allude to what is termed winter pruning — summer pruning is a different operation, of which we shall speak on a future occasion.

In pruning it is necessary to be well acquainted with the nature of the tree to be pruned; without this, it is impossible to prune to advantage. All trees are not alike in their nature; some produce their fruit on the young wood of the previous year's growth,

others on spurs which grow from the old wood, and others on the young wood of the present year's growth; these points require attention by the operator, to enable him to perform the operation aright.

Apple, pear, plum and cherry trees bear principally on spurs which grow or arise out of the wood of two or three years' growth. These branches with spurs continue to bear for several years.

In pruning these trees, due regard should be paid to the production of these spur branches, by shortening the young wood on the main branches; the main branches should be regulated as to distance from each other, so as to give the tree a uniform appearance, and to keep it open for the admission of the sun and air.

Peaches, nectarines, and apricots, produce their fruit on the young wood of the previous year's growth; in pruning them, care will be necessary to retain the strongest and clearest wood of the previous year's growth, cutting out the weak shoots, and such as grow in a direction in which they are not needed, being careful to keep the tree open.

Vines bear on the young shoots of the same season. In pruning these, all weak shoots should be taken out, retaining only the strongest rods or canes; these should be shortened according to their strength; the object to be aimed at, is to retain only such a quantity of buds as will break strong. Care will be necessary so as not to retain more rods than the space occupied by the vine will allow of, and placing them in such positions as will allow free circulation of the air, and freely admit the rays of the sun.

Gooseberry bushes bear on the young shoots of the previous season's growth. In pruning them cut out all cross shoots, retaining only the strong, straight shoots of the previous year's growth: of these retain only the best and most ripened wood. Gooseberry bushes cannot be left too open; if you allow the branches to get crowded, you cannot expect fine fruit; air must be admitted freely among the branches to obtain good fruit. The black currant also bears on the young wood, and should be pruned in a similar manner to the gooseberry. The red and white currant produce their fruit on spurs of old wood; in pruning them care will be necessary to form an open bush, with the bearing branches, which should be stopped, to induce them to sour, and all the other young wood should be cut back to two or three eyes, being careful to keep the bush open.

In pruning, it is necessary to cut clean and smooth with a sharp knife, and all young shoots that come where they are not needed, should be cut clean out close to the main stem, so as to leave no eyes to fill the tree with useless wood.

In giving directions for pruning, it is impossible to give directions which branch should be taken out, and which left in; only the principles of the system can be given in writing; the relative position of the branches can only be determined by actual observation; the operator, if he understands the principles and nature of the tree, will be able to determine on this point. The above remarks will give him the requisite information on the principles that should guide him in the operation.

FRUIT.—We have on our table apples from the orchards of Messrs. WESLEY and DAVIS SHANNON, of the Howell Prairie, (in this county,) Oregon.

The large *Yellow Bough* of LUELING's selection, "as big as two fists," is a splendid specimen of Oregon fruit culture; also, the *Golden Sweet*, and the *Summer Queen*, of the same selection, both ripe, are fine flavored apple.

The *Early Harvest*, of LAD's selection, is a splendid eating apple.

The orchards of the Messrs. SHANNON comprise three hundred trees each, and have mostly been planted three years. They have this year some fifty or sixty bushels of apples, grown in each orchard, it being the first bearing year. However, some few trees bore last year, being but two years old. In two or three years the produce of these orchards will undoubtedly be worth more than the full crops of these farms beside.

This is a great encouragement to farmers in Oregon to plant fruit trees. There is no country which can equal Oregon in producing Apples, Pears, and all cultivated fruits of the temperate climate, with the exception, perhaps, of peaches, which do not seem to be as healthy and successful as other varieties.—*Statesman*.

VILLAINY VS. VILLAINY.—The New York paper tells of a dodge to raise the wind in that city that does credit to the sharpers whose wits got it up. There are three gentlemen engaged in this enterprise, and we are told they have collected some thousands of dollars during the past few weeks. Their plan of operation is: Two of them dressed as laborers visit a grocery store, buy a pound of some cheap article, take it off to a corner and weigh it with a standard scale which they carry with them. If it falls short of the full and correct weight, (which it does in nine cases out of ten,) they kick up a grand breeze with the grocer, threaten prosecution, and finally, through the intervention of a gentleman (the other partner,) who steps in just at the nick of time the trouble is compromised by the payment of an X or a V by the grocer to settle the matter. In one instance, \$30 was paid to hush up one of these cases; the article bought was sugar, and the pound only weighed thirteen ounces.

PLANT your Plum trees near water and inclining so as to hang over the water, so that you can gather the plums in a boat. I have a hundred of them growing on my farm in that way, around an artificial lake, and not a plum has dropped from them. The curculio has here and there made its segment of a circle on the skin, and then thought better of it, for it left no egg in the incision, observing no doubt that when the plum fell it would be into the water, and so drown the progeny. Our plums generally did well on all soils south of the Highlands, twenty years ago. R. T. UNDERHILL, in *Trans. Am. Ins.*, 1857.

A WINTER CAKE.—Take half a cup of butter, two of sugar, three of flour, and one of thick, sour cream, (instead of eggs) get it ready for the oven in the usual way, then sprinkle and stir in a teaspoonful of soda, bake it slow.

## TO PREVENT APPLES FROM BEING WORMY.

THE Apple Worm, which is so prevalent in this part of the country, without doubt is produced by a miller, or miller, which deposits its eggs in the calyx of the apple when it is very small. (When I speak of apple worms, I do not mean those caterpillars which infest our apple trees almost every spring, devouring the leaves and almost destroying the trees.) These eggs soon become worms, and gnaw holes into apples, where they feast themselves all summer and sometimes nearly all winter. I need not spend time to describe these worms, for every man that has eaten wormy apples, knows very well what they are. I suppose these worms turn to millers in the spring before the opening of summer, and deposit their eggs on the young apples the same as the previous year. The damage done to apples every year amounts to a great sum. Many of the apples after they are punctured, fall from the trees before they are half grown. Many of the apples that remain on the trees till fall, will not keep more than three weeks after they are picked. Every fruit culturist knows that apples will keep but a short time after the skin is broken so as to let in the air.

Having been troubled with wormy apples for the last fifteen years, I thought I would try an experiment on one tree this season, to see if I could not stop these marauders in their wild career. I took half a dozen quart beer bottles, and filled each half full of sweetened water; I then suspended them from the branches of the tree in the following manner: I tied leather straps three-fourths of an inch wide around the branches to prevent them from being girdled; to these leather straps I tied hemp strings, to which I attached the bottles, leaving them open to allow the millers to enter.

I let the bottles remain in this situation five or six weeks, and on taking them down and emptying them, found the millers had entered in great numbers, and were drowned in the liquid. In one bottle I counted sixteen, in another forty, and so on. The tree thus treated produced fourteen bushels of large fair apples while the fruit on the trees not experimented upon was wormy. Whether the remedy produced all the difference or not, I will not pretend to say, but I hope some fruit culturist will be enterprising enough to try the experiment next summer, and report their success to the editor of this or some other paper.

Another method that I would recommend for destroying these millers that produce the apple worms, is to take shavings or straw, and light fires in the orchard in the evening, in the month of June. As soon as the millers see the light they will fly towards it and be consumed in the flames. Millions may be destroyed every season in this way.

ELIHU CROSS, Hoosick, Rens., co., N. Y.

CURE FOR RINGBONE.—I noticed in the *Cultivator* for May 15th. an inquiry for the cure for a ringbone in a colt, and answer, take highwines of cider or branly, add saltpeter as much as will dissolve, and wash the ringbone two or three times a day. One of my neighbors cured one of three or four years' standing, by the application a few times.

SA T LAKE BARLEY.—We received some time since from CHAS HARVEY, Esq., of Delaware county, Pa., a small parcel of barley, which he thus describes:

"The barley I sent you is a new variety in this section of country; the seed (1 pint) was presented to me by a relative, ROBERT PIERCE, Esq., who brought it five years since direct from the Great Salt Lake Valley. Mr. P. assured me that a yield of 60 bushels to the acre, weighing 60 pound to the bushel, was of common occurrence; that 70 bushels and over had frequently been raised for malting purposes; he says, it by far excels our eastern barley; the beer, &c., they manufacture from it entirely surpasses ours in point of flavor, its standard (California) weight is 60 pounds to one bushel, after five years' cultivation with it still retains its standard weight, weighing this spring 60 pounds fair measure; the straw is of a very superior quality, as food for cattle, being heavily coated with leaves; its hull or husk, you will observe, very much resembles wheat, having no roughness of coating, as we are accustomed to see on our common variety; as food for stock it must be superior; in short, I think it is just what is much wanted for strong land."—*American Farmer*.

BLACK KNOT ON PLUM TREES.—MESSRS. EDITORS:—Facts are everywhere admitted to be better than theories; and observation is the fruitful mother of the farmer, while speculative animus often creates the latter.

WM. SMITH, Esq., of Ballston Centre, a gentleman of close observation and of much practical skill, informs me that a year ago all his plum trees were badly affected with the black knot, except one, growing with the rest, and having the same general treatment. In looking about for a specific cause he found this particular difference; at the base of the unaffected tree was a large tomato vine. Making note of the fact, this year he removed all the diseased branches from his trees, and around a portion of them set out the tomato plant, leaving part uncared for. Now mark the result. Those with the tomato at the roots, have no *knot whatever*, while those not treated in this way, were *full* of black bunches, the same as last year.

Mr. SMITH offers no analytical explanation, but simply gives the public these facts. F. D. C.—*Charlton*.

CABBAGE WORMS.—The Charleston (S. C.) *Mercury* tells us that JOHN FARRAR, one of the most practical farmers in the State, says these destructive insects may be destroyed in the following easy and simple way:—"Break off a large leaf from the bottom of the cabbage, and place it on top, upper side down.—Do this in the evening, and in the morning you will find near or quite all the worms on each cabbage have taken up their quarters on this leaf. Take off the leaf and kill them, or feed them to the chickens, and place the leaf back if there be any more to catch."

Know that if you have a friend, you ought to visit him often. The road is grown over with grass, the bushes quickly spread over it if it be not constantly traveled.

## Ladies' Department.

### A FEW WORDS TO THE WOMEN OF CANADA.

Though the following remarks are addressed to the women of Canada, we think that many things contained in the communication are equally applicable elsewhere, and commend them to our readers.

"Her husband is known in the gates when he sitteth among the elders of the land.

"She looketh well to the ways of her household, and eateth not the bread of idleness."—*Prov.* 31, xxiii.-xxvii.

THE education of the young females in a colony is a matter of great importance to its prosperity, more, too, perhaps, than it may at first appear to us; but on reflection, the thinking mind will perceive that the future greatness of the new country will be materially affected by the character of those who are destined to be the wives and mothers of its colonists. If our daughters are brought up to follow a life of mere vanity and frivolity now, can they assist in bringing up energetic, industrious and virtuous sons?

If the tree be weak, so also will be the branches, and the fruit that springs from them corrupt and insipid.

It was one of the glories of the matrons of ancient Rome to be the mothers of great and good citizens. To merit this honor they also must have labored to train up their sons to be brave, useful and honorable men. Had the daughters of Rome given their minds only to idle vanity, where would have been the line of heroes, lawgivers or statesmen who have astonished the world by their prowess, and enlightened barbarous nations by the blessings of useful knowledge bestowed upon them in the arts and manufactures, left as a lasting legacy by the conquerors to the conquered? Why should not the daughters of Canada emulate the matrons of old Rome? Have they not also the great and glorious privilege of being the nurses of a nation which may in the course of time, and that at not a distant period, equal or surpass any upon the face of the globe?

Wives and mothers, and you, young daughters of Canada, the elements of a growing country's prosperity are in your hands. Your examples, your teaching and moral training may make us a great, and good, and noble-minded people—the pride and glory of all lands. But will it be so?

We have often heard strangers make the remark, that the young women brought up in Canada, with excellent natural talents, are, nevertheless, more frivolous in mind and manner than those of Britain, or

in the other States of America. The justice of last part of the remark, I am incompetent to depend upon, my acquaintance with the young females of United States being very limited.

We hear continually young men who have emigrated from the old country object to taking wives from among the Canadians. They want cheerful sensible partners, who are able and willing to take an active part in their houses, to guide and assist, if necessary, not as a slave and mere drudge, but as a mistress kindly, cheerfully and with that moral dignity which commands at once respect, and inspires affection from a household.

Mothers err greatly in imagining that to make their daughters accomplished (and this they think can only be done by sending them to school in one of the larger towns) they are making them ladies, and raising them in the scale of society. This is a great error: the superficial acquirement of a little music, dancing, (as taught,) drawing, and the various sorts of embroidery in wool or cotton, is not to be accomplished. Still further off is the grace of mind, and manners, and feeling, which alone constitute a real gentlewoman. A sensible, graceful young woman will adorn any station in life, even if she possess not one single accomplishment (commonly so called). Such an one, though she may be plain in person, will be sought out as a companion for life, by men who will choose her in preference to the giddy, vain, noisy girl, whose only attraction consists in a pretty face and a display of accomplishments imperfectly acquired, and which, having been learned merely as a task, are discontinued in a few years, because really distasteful.

There are natural gifts which should be cultivated, and which are sources of pleasure to the possessor, as well as their friends. Among these may be ranked first, the possession of a musical voice and correct ear, which, even unassisted, will yet be a source of enjoyment; nor would we shut our young Canadians out from any rational and intellectual sources of amusement for which they have a natural taste. We only object to those things being made the sole occupation of early life to the exclusion of higher duties, and all the necessary and useful employments which are essentially requisite in her future station of life, whether she be destined to play her part as the wife of the agriculturist, the mechanic, or the merchant.

To fit our younger females for a life of usefulness it is highly essential that the early part of their education should be devoted exclusively to acquiring the plain elements of reading, writing, ciphering and

needlework—let these be the foundation on which the more ornamental may be added, if situation, natural talent and other circumstances concur to make such additions suitable and expedient—let useful household works be always encouraged and taught in families. The daughter should not be above her mother, but strive with honest pride to follow her steps in household economy, improving where she can as she can do so to advantage.

We too often have noticed when spending an evening with a country friend, the young ladies dressed and enjoying themselves with dancing and music and singing, while the mother has served and borne the whole burden of the evening, unassisted and uncared for. How hardly do the duties of a household fall upon those girls who, like mere butterflies, have only hovered over the flowers and basked in the sunshine of life. These become mere drones in the busy hive, and gather no honey to support themselves during the dark wintry day of age, sickness or adversity. What a contrast to the bright, active, cheerful, contented matron, "whose children come up and call her blessed!" Of such an one it may be said—"The heart of her husband doth safely rest in her, so that he shall have no need of the world's oil. She shall do him good and not evil all the days of her life; strength and honor are her clothing, and she shall rejoice in the time to come. She openeth her mouth with wisdom, and in her tongue is the law of kindness. Many daughters have done virtuously, but thou excellest."

Read the portrait of a virtuous woman by the wise King Lemuel, most probably drawn from the character of his own mother, a princess or noble lady in disgrace, who was not ashamed to superintend the spinning and household labors of her maidens—an example not unworthy of imitation by our own daughters.

Women of Canada, "go and do thou likewise."  
K.

#### ECONOMY IN TIME AND LABOR.

AUNT HANNAH'S advice to a young housekeeper, which we find in the *Ohio Farmer*, contains many good things, and practical common sense suggestions, which we copy for the benefit of housekeepers who may not have Mother's tact for business.

"How in the world do you manage to get along with the work, Auntie?" said Mary, one day, after she had sufficiently recovered to lie upon the lounge, which at her request, had been moved into the kitchen, that she might not keep Aunt Hannah from her household duties, while they chatted together.

"I never could get along so. What a difference there is in women! Mother always said that I had no tact for business—I wish I had yours."

"It's all in taking advantage of your work," said the good lady, giving her dish cloth a vehement twist; and shaking it out, she proceeded to wipe off the table, whereon the morning dishes had been washed. "All in taking advantage. Now, I am never in a hurry, if you ever noticed it. I keep ahead of my work. Sometimes, indeed, sickness, or some other circumstances, will throw one back; but I always want to catch up again as soon as I can, and then keep up. I don't take near as many steps as you do, Mary; but I make every step count, as father used to say. When I go out to shake the table cloth, I bring in an armful of wood; I always calculate to make one journey answer two purposes, if possible; for instance, when I am cooking pastry, I take my dish of shortening, salt, or something back into the pantry, and bring back the rolling-pin and kneading-board; or, in crossing the room after something for use, I stoop to pick up some misplaced article, a child's toy, or something of that sort; then I know how much time I require for a certain amount of work—just how long it takes to cook every dish—just how long it takes to wash, to iron, to bake, to do everything; and so, I can have any kind of work done at a given hour. I never let my fire get down, while I am using it; and if you ever noticed it, I burn a great many chips, and always want wood chopped, instead of sawed; one can't always have it, but give me nice, dry chips, with a few sticks of wood to keep them up where the blaze can circulate through them, to make a humming fire. I always have my breakfast calculated over night, the coffee ground, the potatoes dressed, the meat cut, and then I have only to clap on my tea-kettle and potatoes, the first thing in the morning—brush up the room, put the meat cooking, make the coffee, set the table, and breakfast is ready. Then I always have the water on, for washing the dishes, before I sit down to the table. There is a great deal of time saved by this simple act. As soon as a meal is finished, you have only to clear up the dishes, wash them in the steaming-hot water, put them away, sweep, dust, and rub your stove over with the blacking brush used for the purpose, and your kitchen work is done. Then, unless you have bread, pastry, cake, or something of that sort to make, you have only the chamber work, the sitting room to set in order, and a few little things to see to, and you are ready to sit down to your sewing. If the baby cries take it up and make it good natured if you can. Give it your shoe, the broom, a tin pan, or some other odd plaything; it will suit it much better than the toys made on purpose to please children.

"Always wash on Monday, if you can. Have your regular days for everything—your washing day, your ironing and baking day—and never put away your clean ironed clothes till every rent in old garments is made whole. Have a basket in which to put garments, stockings, &c., that want mending; and never let that basket stand neglected till Saturday night. In so small a family as yours, you can generally mend in the afternoon after ironing. If you manage in this way, your work will go on smoothly,

because systematically; you will never be obliged to eat hot bread because you will bake before your bread is all gone.

"In the same way with your sewing; always keep a good supply of garments on hand, and never let your stock run low before replenishing. Make your husband's shirts for the year in the winter season, they will then be comfortable both winter and summer—new garments are too thick for summer wear.

"There's another thing, Mary, in which you fail now that we've got to talking about it, I'll mention it for your good. You can't *work* and *talk* too. Some folks can. Now I can sometimes get along just as well with my work and talk all the while—though as a general thing when I am about house-work I don't want to talk much; but if I had to, and had the natural faculty of working and talking together, why I'd let the talk go until I could sit down to it. Now when you are sewing, and go to say anything, you drop your work and never take another stitch, till you have said your say. Now if you'd try and think, you could learn to take part in a very entertaining conversation and at the same time keep your fingers flying all the more lively to a merry tune. Learn to take the advantage of your work, my dear, and by the time you are as old as I am, you will be a model house-keeper, I doubt not. I don't pretend to that title myself. I am an old fashioned body, and don't know much about new fangled ways, but I rather pride myself on my abilities in a good country farmer's kitchen, or as house-keeper for a plain mechanic, or even for Georgie, if he is going to be a merchant."

#### A CHEMICAL QUESTION FOR BOYS AND GIRLS.

A LUMP of sugar that sinks to the bottom of a tea-cup full of tea which is not stirred, will be two or three times longer in dissolving, than it will if held in a tea-spoon and not stirred in the tea, but retained near the surface. Query: Why does the tea dissolve the sugar faster at its surface than at the bottom of the cup?

The fact is curious, and has been observed by thousands who could not give a satisfactory explanation of the phenomenon. This is its *rationalis*: sweetened water or tea is heavier than that which is not sweetened; and a lump of sugar held in the tea at its surface, parts with the sweetened fluid at once, for it sinks to the bottom of the cup, which causes tea that is not sweetened to flow in and around the sugar not yet dissolved. This tea becoming in turn heavier by dissolving, falls also; and in this way a current is kept up until the sugar in the spoon is all dissolved. Sugar at the bottom of the cup soon surrounds itself with a saturated solution of this sweet, whose increased weight keeps the unsweetened tea or coffee above it. To some this topic will appear a small matter. Such should remember that

the fall of an apple was to NEWTON a phenomenon of mighty astronomical import.

If any little philosopher wishes to test the relative solubility of lumps of sugar at the bottom and the top of water in a glass, he may proceed in the following wise. Procure two lumps of equal size, and cover both with ink; put one into the bottom of a deep wine glass and gently fill it with water, and then another glass of the same capacity with water, and hold the lump in a tea-spoon under water, but not touching its surface. The latter will dissolve in less than half the time occupied in the solution of the former.

YEAST FUNGI AND ROPY BREAD.—Microscopical and chemical researches have satisfied their cultivators that yeast vesicles belong to the lowest order of plants. In form they differ not materially from the vesicles in mould that grows alike in bread and cheese; but yeast fungi are almost infinitely less in volume. It is the small quantity of sugary matter in flour formed into a sponge that most favors their growth, aided by genial warmth, of yeast vesicles, and if permitted to stand too long, an excess of the fungi will render the bread ropy. Bread should never ferment too long, nor be baked too soon. Old flour, whose sugar is half soured, never forms excellent bread; but soda or saleratus is the best corrective.

TO COOK HOMINY.—Wash the hominy if you think you must—though we should as soon think of washing flour before using it—and put it in soda water in three times as much water as you wish to cook the hominy, and set it where it will become a little warmer. It should soak at least twelve hours. Boil it in the same water in a porcelain lined kettle, until it is soft, still leaving each grain quite whole. Be very careful to keep sufficient water in the kettle to prevent the mass from sticking, or it will burn. When done all the water will be absorbed. Never add salt, sugar, butter, or meat to the hominy while cooking. Season it after it is done, or leave every one to add salt, sugar, butter, or meat gravy to his liking.

REAL "ENGLISH PLUM PUDDING."—One pound each of flour, beef suet, sugar, currants and raisins, four eggs, one pint of milk, spice to the taste; tie in a bag—allow no room for swelling, and boil four hours. This rule is from an English family.

CRANBERRY AND RICE JELLY.—Boil and press the fruit, strain the juice, and by degrees mix it with as much ground rice as will, when boiled, thicken to a jelly, boil it gently; stirring it, and sweeten to your taste; put it into a basin or form, and serve with cream or milk.

If you want to keep up your health, avoid what you know to be injurious, and don't keep swallowing down medicine.

## Editor's Table.

**HARD TIMES.**—Hard times is the key-note of many an article in our exchanges. That facilities for the borrowing of money at legal rates are now withheld is very true. That confidence among business men of each other's soundness and ability to meet obligations falling due, is also true. That extravagance and recklessness among those who claim to be the leaders in society, have lowered the standard of conventional morality among our citizens, is also true. Meantime, while thousands of operatives are thrown out of employment in all our large cities, while many of our extensive manufactories and machine-shops are discharging their laborers, or reducing the time of working, the agriculturists, as a class, were never in a more stable position than at present. Everything that a farmer raises in every section of the country will command money, and at highly remunerative prices. Mother earth is kind, and though she may not at all times honor drafts upon her banks with profuse liberality, yet carefully cultivate her fields, give as well as take from her broad surface, and seed-time and harvest will never fail. The reverses now being experienced by many, will have a salutary effect, if they tend to induce more economy in the details of business and household expenditure, in shutting down the gates upon reckless speculation, whether it be in land, stocks, or agricultural staples. It is a characteristic of our people to go ahead. It is a good trait of national character, but one condition is requisite to safe progress—"Be sure you're right, then go ahead."

In times like these, when labor in some sections seems to be a drug upon the market, let those who have improvements to make, avail themselves of the supply, and cause their swamps and marshes to be thoroughly drained and fitted for cultivation. Many a family will be grateful for the chance of employment given to the father, and many a cry for bread in the homes of the poor can be hushed, if true philanthropy will give employment to those willing to labor. We do not favor the idea of giving food without work. We see daily in our streets those who are too lazy to work at fair prices, but not too proud to accept relief at the hands of our public officers. For such we have no sympathy; and we question whether the liberal provision now made in nearly all our large cities for the relief of destitute poor, does not in a measure increase the evil it aims to avoid. Let not the word hard times induce those who can give employment to laborers, to withhold the opportunity.

### DRAINAGE.

At a time when the results of extensive and scientific practice are daily adding their incontrovertible testimony to the latent capabilities of the soil, and thereby strengthening the conviction that in the progressive development of its productiveness rests the true and permanent prosperity of this Province, and at a time too, when passing events seem to warrant the continuance of highly remunerative prices, it may not be inopportune or unprofitable

to bring under the special consideration of the Farmers of Canada the important operation of Drainage.

Although the art of Drainage is, to a certain extent, almost as old as cultivation itself; and although, we find ample evidence of its being the practice both of the Egyptians and the Romans, yet it was not until the force of circumstances and the requirements of the nineteenth century, obliged the land owners of Great Britain to depend upon their own exertions and intelligence, that the operation in our day had made any very material advance over that which Columella so minutely describes, as prevailing in his time. It is quite true that English landlords and farmers have, during the present century, had periodical stimulants, from fashion and other causes, for Agricultural Improvements, when drainage was always a prominent feature; but in the absence of precise and scientific knowledge of the effects to be produced, and from the cost and scarcity of suitable material, all the systems which one after another came into vogue, were more or less imperfect, both in execution and results, and served only to demonstrate the necessity (as was indeed the case in many other industrial operations,) for that more complete and perfect system which had its introduction with the repeal of the Corn Laws, and has since grown into that gigantic, practical, and durable reality, which counts a sum of at least Ten Millions Sterling, as its invested cost within the brief period of the last ten years.

Now, when there is encouraging proof on all hands that the Province is fully alive to the progressive influence of the times in which we live, it would be a great injustice to her Agriculturists to suppose that they are insensible of their own direct interest, or of the position they occupy towards the country and the world; and hence, that, knowing the means, they will not be as ready to raise the average yield of their farms to that higher standard of productiveness corresponding with their own increase of knowledge, as they are to avail themselves of those increased facilities for transit and locomotion which now happily exist. If a digger from California or Australia was to come amongst us and show from his experience and practical data, that the farmers of Canada, by cutting a few parallel trenches, four or five feet deep across their lands, could extract from these diggings as much of the precious metal as would fully repay them for their trouble (with here and there a nugget or two for greater encouragement,) there would soon be diggers in abundance for the expected treasure; how much rather then, when by the self-same process, under the name of Drainage, they can, as we confidently assure them, secure a no less golden harvest of twenty latent bushels of wheat per acre, and that too (unlike the gold diggings) in perpetuity.

As at one time in England, so in Canada, the want of suitable material, at a reasonable cost, must for a time prevent the execution of such effective and durable work as it is the best interest of the farmer to have done; and when we speak of suitable materials, we allude to the pipe-Tiles now exclusively adopted in the mother country. As showing the progressive demand for this description of Drainage material, since it was first introduced ten years ago, it may be mentioned that whilst, at that period,

there was no means by which pipes could be manufactured, and that the only article then in use was the rude, hand-made and costly horse-shoe Tile, there are now at work throughout Great Britain, on the most moderate computation, from three to four thousand machines, which daily turn off, during the season, from 6,000 to 10,000 feet of drainage pipes of all sizes, and at a cost which, whilst their manufacture is a profitable business, renders them a constantly increasing article of use. That the same result will follow the introduction of these machines into this Province, we cannot have a doubt. Already we understand they are at work to a limited extent; and with the next season we have reason to believe that under the auspices of the General Drainage and Land Improvement Company of Upper Canada, Tileries will be established at several points in the Western Province to which the operations of the company are confined. We would also venture to suggest to the established brick-makers throughout the country, that by procuring a machine they might, at a small outlay, add the making of drainage pipes to that of bricks, with profit to themselves and great advantage to the farmers of their respective districts.

MR. EDITOR:—I received your Prospectus for the CANADA FARMER, and was much gratified to think that some one had taken it in hand for our own country.

I have for some time been agent for American Agricultural papers, and have found much matter in them that pleased me, but a small share that was applicable to our cold north. They tell us about raising three crops of strawberries in one season, and of choice plums that ripen in October and November, in California or the Southern States, but I should be better pleased to learn what sorts of Plums and Pears, Apples, and other fruits will grow and do well 44 $\frac{1}{2}$ ° north latitude; on this subject they say but little. This is what I wish to learn, and many others should learn likewise.

F. W. FEARMAN, of Hamilton, tells a fine story of his Canadian Chief Grape. I hope you will tell us something about it. If it is as he says, I should like some slips from it. You have a great field before you, and have begun a great work. I hope you may prosper with it, and benefit yourself and the country, and not let it go to sleep and become extinct in two or three years, as they have done in Toronto two or three times heretofore. I think you will find good correspondents in this country (even in Canada,) who will be willing and ready to render you every aid in their power to enable you to grasp so great an undertaking. I have obtained a few subscribers for you, and give you the list. If you will send me 40 or 50 numbers so that I can obtain them on or before our Town-meeting, on that day I can show them to the people, and I flatter myself that I should get many subscribers. I shall give you all the help I can to get you on the track, and then I expect you to go ahead. I am no farmer, but I cultivate fruit and flowers, and feel more interest in such matters than any man that I know of within ten miles of me. I am a native of the New England States, born in 1798, lived more than thirty years in Canada; cannot stay much longer, but while,

I do live, I shall advocate and help to circulate Agricultural and Horticultural knowledge for the good of mankind. W. H. S.—Portland.

MR. EDITOR:—I take this opportunity of forwarding you the amount of one year's subscription for the *Farm*, having only seen the prospectus last month in our friend the *Genesee Farmer*. And having patronized Agricultural publications for the last eighteen years, I am happy to say I have derived much benefit both in the theory and practice of Agriculture, and still hoping to gain further information from the young farmer; but I am sorry to say, that I am living in a parish where the most of my brother farmers would rather catch a few prizes at an agricultural exhibition, for a bushel or two of hard-picked grain, than subscribe for a farmer's paper. But my motto is still to advance. Have the kindness to send me a few specimen numbers and one of your show bills, and I shall use my best endeavors to obtain a few subscribers. Hoping you will give the above a place in the columns of your valuable journal, I shall conclude by wishing you much success in your new undertaking. M. D.—St. Francis Road, County of Quebec.

It is very desirable, both for the thrift of the animal and the orderly progress of the labors of the farm, that all domestic animals, as far as possible, be fed, watered, &c., at the same hour and minute every day. It has been found by experienced and intelligent herdsmen, that when this is attended to, they learn to expect their fodder at the stated time, and remain quiet until that period comes round. This is true of all domestic animals, and should be heeded by the farmer. Let him so arrange his labors at the barn that every operation may be performed at a stated time, and he will find matters to go on much more comfortably and pleasantly than when all is left at hap-hazard, without system or regularity. Few things are more unpleasant to the good farmer than the complaints of hungry stock,

#### Notices of New Books, Periodicals, &c.

WE have received the first and second parts of "The Female Emigrant's Guide and Hints on Canadian House-keeping," from the pen of Mrs. TRAILL, authoress of the "Backwoods of Canada," "Forest Gleamings," &c., &c.—This work contains much valuable information, and deserves to be extensively read, both at home and on the other side of the Atlantic. Published by MACLEAN & Co., Toronto, at 25 cts. per each part.

GODEY'S LADY'S BOOK for January, fully redeems all the promises of its publisher. The plate of "John proclaiming the Messiah in the wilderness," is richly worth the price of the number; and the continuation of a series will render it a very desirable companion for all who would support a publication without a rival in its own peculiar sphere.

**Inquiries and Answers.**

MR. EDITOR:—I wish to know if there is any remedy or prevention for the black-leg, or black-quarters, among calves. There was such disease among calves here, to my knowledge, till 1843 or 44. Since that time we have lost many calves, and occasionally a few are still dying. But none older than two years have died with it. I think I have been a subscriber for your paper three years, and have not seen any remedy. All the remedies that I can find in cattle doctors, are of no avail. I am trying to raise some Durham cattle; and you see, a cure for it would be useful to me. Will you, or one of your correspondents inform me if there is a remedy, and what is the best method for raising calves? A SUBSCRIBER.—Union, Pa.

The following extract from *Doyle's Cyclopaedia of Husbandry*, explains the nature and causes of the complaint described by our correspondent:

The inflammatory fever, known by the familiar name of the *black-leg*, or *quarter*, (which rarely attacks any but young cattle), is usually occasioned by over-feeding, and a sudden transition, when they are in a lean state, from poor to rich and succulent pasture; it occurs in spring or autumn, is very frequently fatal, and may be known by the following symptoms: a hard, bounding pulse, quick, feverish breathing, heavy, red, and listless eye, the neck extended, burning skin, the root of the horn hot, dry muzzle, extended nostril, parched tongue, staggering in the limbs, or a projection of them from the body as if to prop it up, a tremor, great debility, lameness in the hind quarters, a pain in the joints, and mortification ensues unless the disease be conquered by timely and very copious bleeding from the neck, even to faintness. If, after the first bleeding, the pulse continues hard and throbbing, the bleeding should be repeated, and a draught of epsom salts, from half a pound to a pound, and an injection of oil in gruel should be administered, for it is essential to free the bowels completely; and the medicine must be repeated until this is effected. This terrible disease, if allowed to make any progress, becomes quickly fatal. The first good symptom will be an abatement of offensiveness in the smell of the ulcers, which then begin to heal quickly. When putridity has assumed a decided character, there is no hope. Petons in the dewlap are recommended as preventives."

EVERGREENS—L. J., Houston, Alleghany Co., Pa.—The branch which you send us, is the English yew. The tree will attain eight or ten feet in height, and about three or four feet in diameter. We are not acquainted with the American yew you mention. The difference between the habits of your junipers is undoubtedly owing to natural causes, if they are the same variety. Perhaps those of compact form are growing in a stiff clay or gravelly subsoil. In order that your evergreens may assume a fine shape, the leaders should be thinned out, leaving only one to take the lead. We do not consider that rich soil or the shade of the house in the afternoon would be injurious to the growth of evergreens.

MR. EDITOR:—Believing you take a lively interest in the welfare of farmers generally, and are willing to answer questions touching their interest, I will make a few enquiries.

The farm, which I now occupy is called here gravelly loam, underlaid with a coarse sandy gravel to a great depth. The soil on the top is from six inches to twenty-four inches deep, and produces good crops of corn and potatoes, in favorable seasons. The rock is a hard white lime stone. The timber is sugar maple, elm, hemlock, and beech. I should like your opinion of such land, the best mode of cultivation, and whether if made rich, it is suitable for apple trees, &c.

REMARKS.—A soil underlaid by a coarse sandy gravel

is what may be called a hungry soil. Such soils well manured produce well, but the good effects of manure, are not as permanent as if clay was an element in the soil. From your description of the timber growing on it, we should think fruit trees would do well, particularly, if leached ashes are freely applied, and your trees were supplied with stable manure as often as every other year.

If lime is wanting in your soil, which you can easily ascertain for yourself, by applying diluted chlorohydric acid (commonly known as muriatic acid) drop by drop to a small quantity in a saucer, and carefully noting whether gas is extricated or not—if no effervescence is observable, it may be presumed that lime would be of great benefit. It is a well understood fact, that many soils underlaid by limestone rock, are themselves destitute or nearly so of lime, this fact can only be known by analysis. Suppose you apply a bushel of lime to two or three rods of land, and notice its effects upon two or three kinds of grain compared with the same grown upon an equal quantity of land unlimed. A single experiment properly made, and closely analyzed, may be of great advantage in future cultivation of your soil.

MR. EDITOR:—Please inform me of the best manure to apply to meadow land, (timothy), clay soil, rolling; how to apply, and when, and the price. A. G. G.—Cincinnati.

Where leached ashes and lime can be had at a moderate price, they are probably the best fertilizers for meadows. If the soil is poor, stable manure should be spread on the land in addition to a liberal top-dressing of ashes and lime. Early in the spring, and when the ground is frozen, is the best time to haul out manure of any kind and spread it over the ground to aid the grass in getting roots and tillering before hot, dry weather comes on late in the spring. Where stable manure is not available, or too expensive, guano may be sown just before a rain, or in wet weather, as a top-dressing, in March or April, according to the climate, at the rate of from 200 to 300 pounds per acre. It is impossible for us to name the price of any fertilizer in any particular neighborhood. In many places, unleached ashes are the cheapest and best for meadows; in others, superphosphate of lime may be used at a profit. Much depends on the average price of hay.

MR. EDITOR:—Will you inform me whether there is any other machine similar to and for the same purpose as *Sanford's Patent Cern Planter*? and if so, which is allowed to be the best? I am desirous of using one on a plantation in Georgia, and wish to use none but an approved article. W. R. B.—Homer, Cortland Co., N. Y.

Will some of our correspondents answer the above?

A CORRESPONDENT inquires the price of fancy fowls; and in reply we would say, that Royal Cochins and Brahma-pootras can be had of pure blood at \$5 per pair; and Shanghais of different kinds from \$1.50, upwards per pair.

MR. EDITOR:—Can you tell me anything about the blind teeth in horses? I have a young horse blind from that cause; the blind or wolf-teeth have been abstracted, but he does not recover his sight. Is there any remedy? J. M.—Newfax, Va.

Will some one of our correspondents answer the above?

MARKETS

OFFICE OF THE CANADA FARMER,  
January 16, 1855.

HAMILTON, Jan. 16.

|                         |           |        |
|-------------------------|-----------|--------|
| Flour per bbl.          | £1 15 0 a | £2 0 0 |
| Wheat per bush          | 7 6 a     | 8 0    |
| Barley                  | 3 9 a     | 4 0    |
| Oats per bush           | 2 6 a     | 3 1½   |
| Potatoes per bush       | 0 0 a     | 5 0    |
| Beef per cwt.           | 1 5 0 a   | 1 7 0  |
| Pork per 100 lbs.       | 1 5 0 a   | 0 0 0  |
| Mutton per lb.          | 0 5 a     | 0 6    |
| Butter per lb.          | 1 2 a     | 1 4    |
| Bacon and Bacon per lb. | 0 6 a     | 0 7½   |
| Veal per lb.            | 0 3 a     | 0 4    |
| Eggs per doz.           | 1 3 a     | 0 0    |
| Hay per ton.            | 4 10 0 a  | 5 0 0  |
| Wood per cord.          | 1 5 0 a   | 1 10 0 |

TORONTO MARKET PRICES.

Flour, Farmers', per 196 lbs., 35s a 37s 6d. Wheat, per bush., 60 lbs., 7s 4a a 7s 7d. Barley, per bush., 48 lbs., 4s 9d a 4s 10½d. Oats, per bush., 34 lbs., 2s 6d a 2s 8d. Potatoes, per bush., 3s 1d a 3s 6d. Butter, fresh, per lb., 1s a 1s 3d. Pork, per 100 lbs., 22s 6d a 27s 6d. Beef, per 100 lbs., 21s 3d a 26s.

MONTREAL MARKET PRICES, Jan. 10.

Wheat, per bush., 11s a 12s. Oats, do, 3s a 3s 4d. Barley, do, 4s 9d a 5s. Peas, do, 5s 3d a 6s 6d. Buckwheat, do, 4s 6d a 5s. Rye, do, 5s. Flaxseed, do, 6s a 7s 6d. Potatoes, do, 5s a 5s 6d. Beans, do, 10s a 12s 6d.

ROCHESTER MARKET, January 13, 1855.

|                                |           |       |
|--------------------------------|-----------|-------|
| Flour, extra Genesee,          | \$11 00 @ | 11 25 |
| Wheat, prime Genesee per bush. | 2 34 @    | 2 40  |
| Corn, per bush.                | 85 @      | 00    |
| Oats, "                        | 42 @      | 43    |
| Barley, "                      | 00 @      | 00    |

NEW YORK MARKET, Jan. 10, 1855.

|                                |           |        |
|--------------------------------|-----------|--------|
| Flour, extra Genesee,          | \$10 15 @ | 12 00  |
| " Canadian, (in bond)          | 9 00 @    | 9 12½  |
| " Ohio, extra,                 | 9 75 @    | 10 75  |
| " Michigan and Indiana, extra, | 9 68 @    | 10 62½ |

Holders of wheat are very firm—light arrivals—little demand for export.

|                                  |           |      |
|----------------------------------|-----------|------|
| Wheat, good white Genesee,       | \$ 2 50 @ | 2 62 |
| " Sales of prime white Michigan, | 2 45 @    | 0 00 |
| " Canadian, (in bond)            | 2 10 @    | 2 22 |
| " Southern                       | 2 15 @    | 2 30 |
| " Ohio,                          | 2 23 @    | 2 35 |
| Corn, per bush.                  | 1 04 @    | 1 06 |
| Barley, "                        | 1 25 @    | 1 35 |
| Oats, " western,                 | 58 @      | 60   |
| Rye, " northern,                 | 1 37 @    | 1 40 |

NEW YORK CATTLE MARKET, Jan. 10.

Beeves, 1st quality per lb., 10 @ 10½ cts. 2d quality, 9 @ 9½. Ordinary, 8 @ 8½ cts.

Swine—Hogs for packing, 4½ @ 5c live weight; large hogs corn fed, dead weight, 6 @ 6½c for very best.

The mildness of the weather prevents sales of any account, and prices are not as reliable as if there was a brisk demand for packing.

CAMBRIDGE CATTLE MARKET.—Beef, extra, \$8.50 per cwt; 1st quality, \$8; 2d quality, \$7 @ 7½; 3d quality, \$6.75; ordinary, \$5.50. Swine, 5 to 5½ cts. per lb.

ADVERTISEMENTS,

To secure insertion in the FARMER, must be received as early as the 10th of the previous month, and be of such a character as to be of interest to farmers. TERMS—Two Dollars for every hundred words, each insertion, PAID IN ADVANCE.

A CHANCE TO MAKE MONEY!

PROFITABLE AND HONORABLE EMPLOYMENT!!

THE subscriber is desirous of having an agent in each county and town of the Union. A capital of from \$5 to \$10 only will be required, and anything like an efficient, energetic man can make from three to five dollars per day; indeed, some of the agents now employed are realizing twice that sum. Every information will be given by addressing, postage paid, WM. A. KINSLER, Feb. 1, 1855.—1\* Box 601, Philadelphia Post Office.

THOROUGH-BRED MARES FOR SALE.

ON account of the owners leaving the country, two young full-blooded mares are offered for sale low. They are of good size and form, and in all respects desirable animals for breeders of stock. They can be seen by application to RICHARD S. CHARLES, Bolvidale, Albany Co., N. Y., who can give all information in regard to pedigree, price, &c. Feb. 1, 1854.—3L

CATALOGUE OF AGRICULTURAL AND HORTICULTURAL BOOKS

FOR SALE AT THE

OFFICE OF THE CANADA FARMER.

|   |            |
|---|------------|
| The Fruit Garden, by P. Barry,                                  | Price, 6s. |
| American Fruit Culturist, by J. J. Thomas,                      | " 6s.      |
| Culture of the Grape, by J. Fisk Allen,                         | " 3s.      |
| Culture of the Grape, by Buchanan,                              | " 2s.      |
| The Horticulturist, for 1851, 1852, 1853, and 1854, per volume, | " 12s.     |
| Johnston's Lectures on Chemistry and Geology,                   | " 6s.      |
| Norton's Elements of Scientific Agriculture,                    | " 3s.      |
| American Farm Book, by R. L. Allen,                             | " 2s.      |
| American Poultry Yard, by D. T. Brown,                          | " 2s.      |
| Domestic Animals, by Allen,                                     | " 2s.      |
| Modern Horse Doctor, by Dr. Dadd,                               | " 7s.      |
| Reformed Cattle Doctor, by Dr. Dadd,                            | " 7s.      |
| Family Kitchen Garden, by Buist,                                | " 2s.      |
| Saxton's Rural Hand Book,                                       | " 2s.      |
| Saxton's American Rose Culturist,                               | " 2s.      |
| Treatise on Milch Cows, by J. S. Skinner,                       | " 2s.      |
| Farmer's Land Measure,  | " 1s.      |

Additions will be made to the above every month; and any our friends who may want any work not named in the above can be furnished with it on short notice.

JOHN E. FORCE,

Hamilton, C. W., January, 1855. Publisher and Proprietor

DRAINAGE AND SEWERAGE PIPE MACHINE CHARNOCK'S PATENT.

BY this Machine, Drainage and Sewerage Pipes of all diameters, as well as perforated and other Bricks, Flooring Tiles &c., are molded with the greatest facility and precision.

A man and three boys can turn out from 5,000 to 10,000 feet pipes per day, according to sizes; and if worked by horse, steam or water power, a proportionate increase will be obtained.

This Machine is in extensive operation in England, where, in addition to the testimony of numerous Tile Makers, as well as that of some of the first Machinists of the day, the following Prizes have been awarded to it:

By the Yorkshire Agricultural Society, at its annual meeting, 1845, as the first Tile Machine with a continuous motion, £5 0 0

By the same Society, the following year, as the best Machine of the day, 10 0 0

By the Lancashire Agricultural Society, at its annual meeting, 1845, Silver Medal

By the Highland Agricultural Society, at its annual meeting in 1846, as the best Machine, 5 0 0

At the meeting of the New York State Agricultural Society, Saratoga (1853), a Working Model of this Machine was awarded the SILVER MEDAL AND DIPLOMA; and at the Fall Exhibition the same year of Lower and Upper Canada, held respectively at Montreal and Hamilton, the same Model was awarded a DIPLOMA FROM EACH SOCIETY. It was awarded the FIRST PRIZE AND DIPLOMA at the recent Exhibition in London, C. W.

The price of the Machine is £50 (half cash and remainder at 3 months), with five Dies for Pipes. Brick and other Dies at a moderate charge.

THE PATENTEE GUARANTEES THE EFFECTIVE WORKING OF THE MACHINE.

All orders to be addressed to

JOHN H. CHARNOCK,

Drainage Engineer, Hamilton, C. W., the Patentee.

January 1, 1855.—if

PEAR STOCKS.

THE undersigned offers the following: 400,000 one year seedling Pear Stocks very fine.

100,000 one year seedling Pear Stocks extra fine and good.

100,000 two year seedling Pear Stocks very strong and good. The quantity of these stocks in this country and Europe at the present time is very limited. Persons therefore requiring any should make early application. The whole are remarkably clean, vigorous and good stocks. Prices reasonable.

Feb. 1—1t JOHN SAUL, Washington City, D. C.

TO NEW NURSERIES.

WM. R. PRINCE & CO., FLUSHING, N. Y., being now engaged in closing up their Nurseries gradually, will enter into arrangements with the proprietors of New Nurseries, to furnish every article required for their advancement on an economical and advantageous basis. It is an absurdity to expect to establish and develop a respectable Nursery without a reasonable amount of capital, but it can be done with far less than is usually expended, if the arrangements are made by persons experienced in the business; and by proper management, some returns may soon be forthcoming to aid in the disbursements. Proprietors stating the amount of cash capital and other available means in a plain business manner will receive attention. Feb. 1—1t

**PROSPECTUS OF THE  
GENERAL DRAINAGE AND LAND IMPROVEMENT  
COMPANY OF UPPER CANADA.**

**CAPITAL, £100,000, IN 10,000 SHARES OF £10 EACH.**

With power to increase the Capital to £250,000.

DEPOSIT, 5s. PER SHARE.

**PROVISIONAL DIRECTORS.**

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With power to add to their number.

**BANKERS.**

The Gore Bank and Branches.

**ENGINEER IN CHIEF.**

Mr. John H. Charnock—Hydraulic and Agricultural Engineer—Patentee of the first Drain and Sewerage Pipe Machine established in Canada—a Member of the R.A. Society of England, and late Assistant Commissioner under the English Drainage Acts—assisted by such local Engineers and Provincial Surveyors as from time to time it may be necessary to engage.

**SOLICITORS.**

Messrs. Burton and Sadtler, Hamilton.

**SECRETARY PRO TEM.**

Stephen Robert Cattley, Esq., Hamilton. Temporary Offices, James street.

**PROSPECTUS.**

This Company is established for the purpose of executing Works of Drainage, Sewerage, Water Supply, Sewage Application, Irrigation, and General Land Improvement, in accordance with the most approved systems of the day.

The eminent success which has attended the operation of the English Drainage Companies, not only as a profitable investment for capital, but as a means of enabling the owners of land to carry out those more extended and systematic improvements of their property which were so essential to their interests, must convince all who are cognizant of the benefits to result from such works, that equal if not greater advantages may be secured by adopting similar means in this Province, where in almost every other branch of industry joint stock capital is already effectively applied.

The great proportion of the population of Canada direct their attention to the acquirement and cultivation of land, and as most farms would be benefited by a judicious course of Drainage, and other works of a permanent character, the instrumentality of the Company now proposed having all appliances at command for speedily and effectually putting lands into a state for profitable occupation, would assuredly be greatly to the advantage of the owners of property, and at the same time to afford a fair remuneration for the capital embarked.

To illustrate the manner in which the Company will conduct the business:—The owner of the land makes an application for certain Drainage to be effected, upon which an inspection of the property will ensue; upon the application being passed, an estimate of the entire work, with detailed plans, will be prepared, which, receiving the approval of the owner, a contract will be entered into, the Company engaging to do the work, and the owner binding himself to grant a mortgage for the payment of the sum agreed upon, the instalments to be at such dates as may be convenient, in no case to exceed twenty years. The preliminary expenses in the first place to be paid by the proprietor.

In undertaking Works of Sewerage, Water Supply, Sewage Application, and other sanitary operations with city and town authorities, much the same course would be pursued; and since the undertakings of this nature, which are now in progress, are all being done on the principle of gradual extinction of the cost, there would be a community of action between the Company and corporations which would afford to the public not only an assurance of the work being executed in the most effectual manner, but of their being earlier placed in possession of the benefits to result from it, for the best interests of the Company would be involved in executing all their contracts with as little delay as possible.

With regard to the profit which may be anticipated from the operations of the Company, it must be borne in mind that its objects are two fold—to serve the interests of the community by the introduction and extension of modern approved practices throughout the Province, and in so doing to realize for its shareholders such an equitable return for the capital embarked as shall satisfy their just expectations and give stability to the undertaking in the minds of all.

In the first place, the Company will be able to command the services of an efficient staff of officers, superintendents and workmen; in the next place, they will be in a position to avail themselves of all the mechanical appliances of the day for their operations, such as portable Steam Engines, Drain and Sewer Pipe Machines, Drain Cutting Tools, &c. &c., to say nothing of having all their operations conducted in strict unison, with a well-considered and organized system.

That the Company may the more effectually carry out their design, and occupy a position befitting the high destiny which the right execution of their great task of national amelioration will accord them, it is intended to apply to the Legislature for a special Act of Incorporation, with suitable powers and provisions. Among these may be mentioned, not only the power to execute all ordinary works for the improvement of land, such as draining and road-making, but also the laying out and erection of suitable houses and farm homesteads, the irrigation of water meadows, and the power to improve old, or make new out-falls and water-courses; also the power to execute all works for the sanitary improvement of cities, towns and villages, such as Sewerage, Water Supply, Sewage Application, &c.

It is also intended to obtain powers to hold, improve and re-sell land, and to establish tileries and other works that may be needed for the improvement thereof; and further, the power to issue debentures bearing interest, and payable at such periods respectively as may correspond with the periods over which their mortgage charges for executed works may extend.

Looking at the present prosperous condition of the Province, and the encouraging prospect of remunerative prices which the events of the day hold out, it may be safely affirmed that at no former period of its history was there so opportune a moment for the formation of such a Company as that now about to be established. The facilities of railroad communication, already partially secured, will their further development afford to the Company a ready and expeditious opening for their operations, which must in their turn bring increased traffic to the railways of the Province.

The Company have also had the opportunity of securing the services of an Engineer whose great experience in such works, and intimate acquaintance with all the approved systems of the day as practiced in England, warrant them in believing that their works will be conducted in a way to insure general satisfaction. The Company have also by this appointment secured the advantage of using his patented machines for molding all descriptions of Drainage and Sewerage Pipes throughout the Province on reasonable terms, and which will at once place the Company in a position to commence profitable operations.

The calls upon the shareholders will be made with due regard to general convenience, and in such instalments as the progressive applications for the services of the Company may warrant; no call to exceed ten shillings per share, and none to be made with a shorter notice for payment than two months.

January 1, 1855.—1f

**CATALOGUE OF RARE AND VALUABLE SEEDS.**

RAISED AND PUT UP BY I. W. BRIGGS, MACEDON, WAYNE COUNTY, N. Y.

|  |           |
|--|-----------|
| Orange Watermelon, from China, per paper, .....  | 25 cents. |
| Ice Cream, or White Sugar do., of Alabama, .....   | 25        |
| Citron Nutmeg Muskmelon, .....   | 12½       |
| The Celebrated Japan Pea, .....  | 12½       |
| California Muskmelon, .....  | 12½       |
| Watermelons—Mount on Sprout, Mountain Sweet, Mexican and Sandwich Island, 2 varieties each, .....          | 03        |
| Squashes—Winter—Sweet Potato, Vegetable Marrow and Polk; Summer—Apple, Cuckoo-neck and Scallop, .....      | 06        |
| Mammoth Red and Grape Planters, each, .....  | 06        |
| White Vegetable Egg—looks like an egg, .....   | 06        |
| Double Sunflower—the "Flora King," .....   | 06        |
| Victoria Rhubarb—the best pie plant, .....   | 08        |
| Flat Dutch Cabbage—the best winter, .....  | 08        |
| Pop Corn (3 variety), Adam's Early (a field corn), very early Sweet Corn, and late, large do., each, ..... | 08        |
| Poland Oats, per bushel of 40 pounds, .....  | \$1.00    |
| Mexican Wild Potatoes, per bushel, .....   | 1.00      |

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October 1, 1854.—tf

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|---|-----------|
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| Ico Cream, or White Sugar do., of Alabama,.....   | 25        |
| Citron Nutmeg Muskmelon,.....   | 12½       |
| The Celebrated Japan Pea,.....  | 12½       |
| California Muskmelon,.....  | 12½       |
| Watermelons—Mountain Sprout, Mountain Sweet, Mexican and Sandwich Island, 2 varieties each,.....            | 06        |
| Squashes—Winter—Sweet Potato, Vegetable Marrow and Polk; Summer—Apple, Crookneck and Scallop,.....          | 06        |
| Mammoth Red and Grape Tomatoes, each,.....  | 06        |
| White Vegetable Egg—looks like an egg,.....   | 06        |
| Double Sunflower—the "Floral King,".....  | 06        |
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| Flat Dutch Cabbage—the best winter,.....  | 06        |
| Pop Corn (3 varieties), Adams' Early (a field corn), very early Sweet Corn, and late, large do., each,..... | 06        |
| Poland Oats, per bushel of 40 pounds,.....  | \$1.00    |
| Mexican Wild Potatoes, per bushel,.....   | 1.00      |

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November 1, 1854.—4t

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