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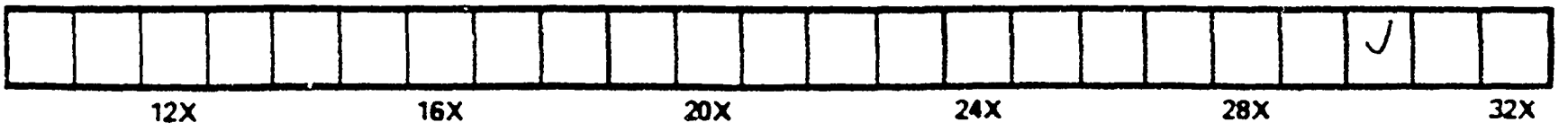


THE CANADA FARMER

VOL. IV. No. 10. TORONTO, UPPER CANADA, MAY 15, 1867. POSTAGE FREE.

The Field.

Collard's Patent Horse Hoe and Pea Harvester.

We give herewith three illustrations of a farm implement for which a first prize was awarded at the last Provincial Exhibition, and which, we are informed, has been found in practice to be thoroughly efficient and satisfactory. It is the invention of Mr. H. Collard, of Gananoque, C. W., and is a combined machine, which can be used either as a horse hoe, a scarifier, or a double mould plough. For the first purpose, the two mould-boards with which the complete implement is furnished are removed, leaving in the standard and spear and the two knives, and regulating the breadth of the working gear with a screw crank. Fig. 1 shows the implement in this form.

To employ it as a scarifier, the maker's directions are:—"Take out the whole of the plough by loosening the two screw bolts that fasten it in the beam; afterwards tighten the front bolt so as to fasten the colter or centre scarifier, and take out the two knives and put in the four scarifiers, two in each wing; set them so that they will work to an equal depth; fasten the back two with the wedges used with the knives, and the front two with the thumb screws."

Fig. 3 represents this form of the implement; and fig. 2 shows the mode of adapting it as a double mould plough to hill up corn, potatoes &c., to do which it is requisite to take off the two outside wings, together with the four scarifiers, by taking off the two nuts that fasten them to the front end of the beam, and two small iron pins that connect them to the spread irons at the back end; screw the crank in so as to be more out of the way, and put into its proper place the whole of the double mould plough.

In this form it is also said to be a very convenient and efficient plough for digging up potatoes.

The implement here illustrated and described, has received three or four first prizes at Provincial shows in Upper Canada, and two in Lower Canada besides pwards of thirty at county Township and shows. Indeed it has invariably taken the first prize wherever exhibited.

Mr. Collard is also the inventor of a pea harvester which is said to do its work well. It consists of a rake with the shaft curved towards the head like those commonly used in binding grain. At the base of the teeth is fixed a steel plate, with the front edge notched into sharp serratures, like the teeth of a coarse saw. The accompanying illustration will give a good idea of this simple implement. Mr. Collard claims for it that, by following the directions which he gives for its use, one man, after becoming accustomed to handling it, will cut more with it than four men would be able to do with scythes, take them off cleaner, and shell fewer peas. If this be

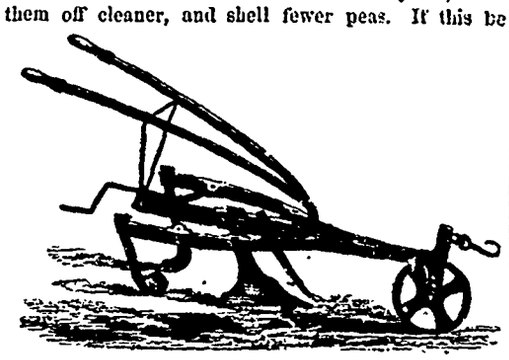


FIG. 1.

the case, it will indeed prove a blessing to the farming community, for there are few jobs on the farm that

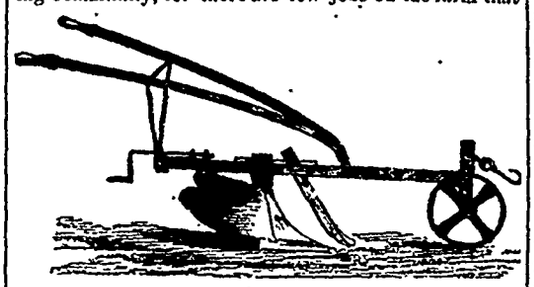


FIG. 2.

are more tedious, tiresome, and back-breaking, than pulling peas with the scythe in the old-fashioned way.

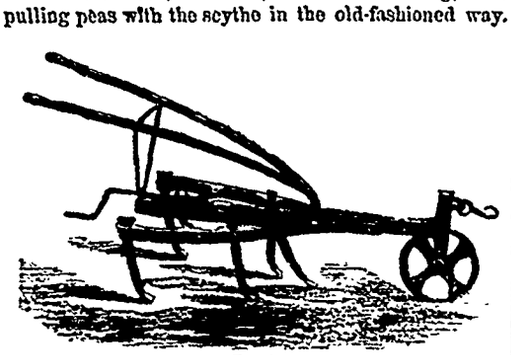


FIG. 3.

Every labor-saving implement is to be hailed as a means of making life on a farm at once more pleasant and more profitable.

PEA HARVESTER.

The pea harvester is inexpensive, and, until some horse machine still more efficient is invented, deserves at least the easy test of a trial.

Familiar Talks on Agricultural Principles.

FORESTS AND CLIMATE.

The influence of forests on climate has been more than once noticed in this journal, and earnest warnings have been given regarding the natural consequences of an indiscriminate felling of trees, and the denudation of the surface of a country by the ruthless axe; but we think the subject of sufficient importance, and the need of reiterated remonstrance pressing enough, to bring the matter again and again before the attention of our readers. This subject has recently received the careful consideration of various legislatures in the adjacent States, and the propriety of planting new tracts of wood, and preventing the entire destruction of older growth of forests, has been deliberately and earnestly discussed. Much valuable information has been thereby collected, in reference to this important element in the economy of nature, and the immense value of trees, in an agricultural and climatic point of view, is now much more generally understood and felt than formerly. The early settlers in our own country have looked upon the forest as useful only in supplying timber and fuel, and have still more commonly regarded it as an encumbrance, to be got rid of as speedily and completely as possible. Large tracts of land have been indiscriminately cleared of every vestige of tree, and already the effects of this wholesale destruction are seriously felt in many sections, not only in the increased scarcity and high price of fuel, and the removal of kindly shelter to stock and crop, but also in more general changes, affecting the climate of the whole Province, and not confined to the local condition of the cleared sections themselves. Our own brief history may thus read us a useful lesson, if we would only heed it, and the more extended experience of older countries is full of instruction on this very point, which it behoves us to consider carefully, and apply to the circumstances of our own land and people.

The subject is one of somewhat complicated and very extensive bearings, and it would be quite impossible to enter fully upon its various details within the limits of a single article. We can merely point out some general facts and principles that have been satisfactorily established, and refer to the most important deductions to be derived from them.

The effects of forests on a country are due in part to their mere mechanical influence as dead matter, and in part to their physiological action as living bodies. Of the first kind is the effect they produce as a screen from the sun's rays upon the ground beneath, which is thus preserved more moist and of more even temperature. They moderate, also, the violent action of tempestuous showers of rain, which, in an open country, wash from the surface its richest soil, work out unsightly and wasteful channels, and running off too rapidly to sink in any considerable quantity, or to any depth, deprive the ground of a large portion of

the moisture which a slower, gentler, or obstructed fall would supply. They furnish, by the decaying leaves which they annually shed, a spongy surface to retain the moisture that falls upon them, and allow it to percolate gradually to the ground beneath. They present an effectual barrier to the force and chilling influence of stormy and cold winds; and they serve to retain the covering of snow that protects the ground during winter. These are some of the important mechanical effects of woods. The influence they exert upon the atmosphere and conditions of climate, by their vital action, is still more marked and important. During the life of a tree, two processes are going on, at certain seasons of the year especially, with surprising vigour; these are,—absorbtion of fluid by the root, and exhalation of watery vapor by the leaves. The amount of water taken up by the roots of a tree, and circulating throughout its entire mass, is very considerable. We may form some idea of the extent of this process, though only an approximation to the reality, by considering the rapid and abundant escape of sap from the cut surface of a vine, in spring. Or again, the familiar process of maple sugar-making affords a striking illustration in point. It is estimated that, in the course of a single sugar season, a single maple, two feet in diameter, will yield not less than twenty gallons of sap. Now, when we consider that this quantity has been abstracted within the short space of two or three weeks, from only a very small proportion of the sap vessels of the tree—that the quantity, in comparison with all the sap that is contained and circulates in the tree, is so inconsiderable as not apparently to arrest its growth or vigour to any appreciable extent—when we multiply this amount in a single instance by the number of maples and other trees, of all sizes and ages, within the compass of a single acre, we shall be convinced that this acre of wood is indeed a vast reservoir of water Many other illustrations might be given of the influence of trees in collecting and storing moisture. As an instance in point, we may mention that in an account of an excursion to the east of Tocat, in Asia Minor, Mr. Van Lennop mentions the fact that, although the ground was everywhere else perfectly dry, the oaks in that region had collected so much moisture, that their leaves and stems and trunks were wet, and the soil about them was in some cases even muddy. Mr. Ellis, in his account of Madagascar, also describes a remarkable tree, called the "Travellers' Tree," the leaves of which exude a copious supply of water from their points, which is conducted by a grooved channel along the stalk to the base of the leaf, which is there bulged out and forms a hollow receptacle to receive and hold the water that flows into it. This natural reservoir of water affords a welcome draught to assuage the thirst of the traveller, in a region where there is often no spring or stream, or other means of obtaining the needful element for sustaining life. These examples are a few only of the many that might be given to show the vast amount of fluid that is thus stored up in trees.

From this abundant reservoir of water, part is returned by the roots into the soil, and a very large proportion is given off into the air by exhalation from the leaves. Both soil and atmosphere are thus rendered more humid by the presence of forests. From the moist ground, and from the saturated sponge, as it were, of the aggregate of the forest foliage, the exhalations of watery vapor give rise to the formation of clouds, which shield the earth from the too fervid rays of the sun, moderate temperature, and return to the soil in freshening showers the liquid treasures which they serve to store and distribute. Moreover, the evaporation thus going on, from the forest and the soil, produces by a natural law a considerable amount of refrigeration, and thus materially tempers the heat of the summer season. Experience in many lands has abundantly confirmed this view of the subject, and shows that the destruction of the woods has been followed by a diminution of the annual quantity of rain and dew, and other corresponding changes.

A Model English Farm.

HARVESTING THE CROPS

To the Editor of THE CANADA FARMER:

SIR,—At harvest time all the strength and energy of the English labourer is called into action; working hours are lengthened, and all hands that can be had are called on. When much expedition is required, between forty and fifty men, besides their wives and children, have often been employed in the harvest field at the same time. Neither scythe nor machinery are used in cutting the grain, but the wheat is all reaped, and the oats, barley and beans, for the most part "fagged" with curved stick and fagging-hook. This may, perhaps, excite some surprise among the advocates for machine work in Canada; but England is different from this country,—there labour is cheap, and the summer is long, and there all the straw possible is wanted for litter and the manufacture of manure, and for this purpose the fagging-hook cannot be excelled;—this, I think, will sufficiently explain the continuance of this custom, mingled perhaps with a little hereditary love for old ways and old things. The fields are generally marked out into lands by water furrows, and the men in working each take a land, or two or three lands, according as they work alone or in parties. A good workman, with the assistance of a child or two, will cut and bind from ½ to ¾ or even one acre in a day. The cost per acre of reaping is ruled by current prices and the condition of the crops,—about $2.50 per acre, for the white straws, and somewhat less for the peas and beans. After the grain is carried, the wheat stubbles are usually mown close, at a cost of 75 cents per acre, and the haulm used as litter during the early winter.

In harvesting the root crops, the usual method is for about fifteen or twenty men to take each seven rows of roots, pull them, and throw them into heaps with leaves turned outward; women and children follow to top them and cover up the heaps with leaves as they finish them; then the carts are brought on (light two wheel carts), and the roots filled in and carried off to "the bury"—a long ridge of roots formed generally on the outskirts of the field, where the crop has been grown; a couple of men stack them up, and as soon as all are stowed away they are well covered in, first with a thick layer of haulm or straw, and then a coat of earth. When Swedes are to be fed off on the land during winter, the roots are pitted—that is, they are laid in heaps with their leaves on, and covered up with earth till wanted for use.

The growth of roots per acre is usually estimated by weighing the product of one pole in several parts of the same field. In 1863, 28 tons of mangold were grown per acre, on a piece of 22 acres; six different plots were marked out previously to the roots being pulled, and the mangold from each piece weighed separately—

	ton.	cwt.
The 2 best plots gave	35	17 per acre.
" 2 medium "	30	1 "
" 2 worst "	18	15 "

In 1864, 32 tons per acre were grown on a 15 acre piece.

AFTER TREATMENT OF THE LAND.

After the different crops are off, the land is seldom interfered with, until the plough is put in for the succeeding crop; regular attention being paid to the destruction of weeds, it is scarcely ever necessary to go to any great labor or expense in cleansing the stubbles; the fork is used occasionally at almost all times of the year for drawing out couch roots, which are gathered together and burnt by boys and women. Where fields or parts of fields have become very much overrun with couch-grass, the breast-plough is generally used to pare the surface; the men work in couples and drive the "plough" in front of them, the handle being held horizontally by both hands, and pressing against their thighs, which are protected by small wooden plates; between them they do about three-quarters of an acre per day. The breast-ploughing costs $1.50 to $2.00 per acre, and the subsequent raking and burning about 50 cents more.

MANURING.

A somewhat large proportion of the farm is dunged every year. In 1864, one hundred and thirty acres of arable land were manured with from ten to fifteen tons of dung, and about fifty acres of pasture, with seven or eight tons. Putting the average per acre at ten tons, there must have been fully eighteen hundred tons got out on the land during the year. The yards and boxes are cleared from time to time as soon as they become moderately full,—the latter will hold fully two feet depth of dung. Dung-heaps are formed in different parts of the farm—wherever, and at what time they are most required; when wanted for immediate use they are usually turned, but if required to remain for some time before being taken out on the land, it is a common practice to cover them with a coat of earth to preserve their goodness.

PASTURE.

The pasture land has already been described as consisting of 480 acres; it is divided into fields of about twenty-five acres each, some more, some less; the largest is one of one hundred acres. The grass is variable in quality,—in some parts very fertile and productive, in others less so. Among the best grasses are timothy, rye, brome, soft woolly, and sweet scented vernal, and of the coarser sorts are dog's-tail, fox-tail, oat grass, and cock's-foot; in most of the fields is a good undergrowth of Dutch clover, mingled with a little red. The only weeds at all prevalent on the pasture land are the wild chamomile, wild parsley, dock, and thistle; but by constant and persevering attention they are pretty well kept down.

Of the 480 acres, rather more than half is hayed annually; the remainder being kept back for grazing purposes. Fields intended for hay are not grazed after Christmas,—unless, perhaps, a few ewes may be turned on during the very early spring. The grass is all cut by the scythe; machinery has been tried, but the scythe is still preferred The mowers are set on about the 1st or 2nd week in June. As soon as the grass is cut the swathes are tedded by the machines, which are driven across them, and scatter the grass evenly over the whole face of the field; after drying for a time it is raked into "wallows," and then the wallows are put into "wake" by raking four rows into one, and the wakes turned by the machines passing down them; if the hay is still too green to carry, the wakes are again split into two or three wallows, and once more turned by the machines; at the approach of rain the hay is put up in cocks, or if there seems prospect of much wet, is summer-cocked. In fine weather it is seldom left out more than three days, and great care is always taken not to over-dry it. The cost of mowing is from 75c to 90c per acre. The precaution is usually taken to ventilate the hay-ricks; it is done by means of a long wicker basket placed upright on the stathel, and raised as the rick advances. The quantity of hay usually grown per acre may be put at something more than thirty cwt. In 1865, 500 tons were grown upon 269 acres. No hay is sold off the farm, but all is consumed on the premises, some sixty or seventy tons being always kept in reserve in case of any emergency. Dung is generally got on as soon as possible after the hay is off; it is thoroughly spread and broken over the ground, and after rain is still further broken and distributed by the chain-harrow All the pasture lands are chain-harrowed in the spring—the cattle droppings being first broken and knocked about by women with forks.

LONDON. E. T. W.

On the Cultivation of Hops.

POLING.—Hops in this country will generally come into full bearing, particularly when raised from nursery plants, the second year. Poles should therefore be provided and got in the ground during the preceding winter; an operation that involves one of the principal items of expense in raising hops. In most parts of Canada white cedar, hemlock, &c., can be readily got; and as these young trees have a tapering growth, they are admirably adapted to the climbing habits of the hop, and also possess, in a high degree, enduring qualities. A pole, nearly as large at the top as at the bottom, is not only of a form unsuitable to the hop's natural habits of growth, but is peculiarly liable, when heavily laden, to be blown from its original position by the action of the winds.

The size and length of poles must be regulated by the age and vigor of the plant, and in some degree

by the richness of the soil and the variety cultivated. Young plantations require longer poles than older ones, and also richer soils and more liberal cultivation than the contrary. As a rule, we are of opinion that hops similarly treated require longer poles in this country than in England, where the growth is slower. With us even *Jones's* would probably require not less than twelve or fourteen feet poles, *Grapes*, certainly not less than sixteen feet, and *Goldings* eighteen or twenty feet. We have seen instances in Canada and in the State of New York of nursery sets planted in the spring, reaching the tops of sixteen and eighteen feet poles of proportionate diameter, forming a large bushy head, the same year! Notwithstanding this natural tendency to rapid and vigorous growth of the hop in this climate, the planter should always be particularly careful not to "*over* pole;" a practice which, if persisted in, will speedily ruin his plantation. No rule can be laid down of general application; the observant farmer will study to adjust the size, and number of poles to a hill, to the strength and habits of his plants, and the condition of his soil. Two long, stout poles to a hill, will be generally found sufficient in this country, but there are doubtless cases where three, somewhat smaller, would be more advantageous. In all cases the poles, especially in the same hill, should be of *uniform length*. Hops set out correctly should be poled by line; the rows being straight and uniform, admit free admission to light and air, and the bines are less liable to be injured by horse cultivation. Great care should be taken in properly sharpening the poles, and making the holes sufficiently deep to hold them fast in the ground. The workman should in all cases satisfy himself that the *tip* of the sharp has firmly reached the *bottom* of the hole, otherwise the pole will be liable to be turned by the wind. The ends of some poles are a little curved, which require a corresponding form in the hole, or they will not remain firm. They should be from twenty to twenty-four inches apart in the hills, with their tops somewhat inclining outwards; thus allowing of a freer access of light and air; a condition of indispensable importance. An iron crowbar, tapering to a point, technically termed a "hop-pitcher," must be provided for this operation.

Of late years attempts have been made, both in Europe and America, to supersede the ordinary method of growing hops on poles, by the introduction of what may be termed the *trellis system;* and the results, thus far obtained, are, on the whole, encouraging. Something of this kind was tried at Lewisham, near London, England, more than thirty years ago, but the practice did not gain favour, and we have heard but little of it till recently—a fresh impetus having been imparted by some American planters. We inspected a small hop garden of about three acres during the picking last year, belonging to Mr. Conover, of Springfield, county of Peel, that was cultivated on this principle, with very satisfactory results. A short, stout pole, of about eight feet long, was placed in the centre of each hill, around which twined three bines, which, when they reached the top, were conducted by strings or thongs made of the inner bark of basswood. In this way all the poles were connected, and beautiful festoons of hops formed, sufficiently high to allow a horse attached to a cultivator to pass through the alleys, which are formed in the square plant, at right angles. If this plan should on more extensive trial be found advantageous, as at present there are strong reasons for believing it will, a great saving in one chief item of hop culture, that of poles, will at once be gained; a consideration of great moment in countries where suitable wood for poles is not readily obtainable. Another advantage of this system is, that the plant is not near so much liable to injury from rough winds, and there is no necessity for cutting the bines at the time of picking, thereby obviating the injury so often consequent on "bleeding," or the escape of sap from the stock after the bine is cut. The loss of this sap, so common at the commencement of picking, is well known to weaken the plant the following year. It will probably be found, however, from further experience, that the trellis culture is not equally suited to every variety of hop, and further experiments will doubtless afford further and more reliable information on this interesting and really important branch of our subject. In gardens having no natural shelter from northerly and westerly winds, we would strongly recommend the planting thickly of some coarse variety of hops in a row, attached to strong poles twenty feet and upwards long, on the outside of the ground, thus encouraging a vigorous growth by liberal culture and manure, and receiving ample protection from the disastrous effects of wind storms.

TYING.—This is the next operation, and should be commenced as soon as the young shoots are long enough to reach the poles; the natural habit of the growth of the bine being from left to right, or the apparent course of the sun. Two bines, at least, should be tied to each pole; this number in general is better than three, but the planter in this, as in many other particulars, should be guided by the variety he cultivates, the size of poles, the condition of the soil, and other circumstances, which local knowledge and personal experience can alone accurately determine. Women usually perform this work. Old yarn, or any soft elastic material, (dried rushes are commonly used in England), will answer the purpose, great care being taken not to tie the bine too tight,—thereby impeding its growth. The first rank shoots should be pulled up; they produce a rough, hollow bine, generally less fruitful, and shoots of smaller but healthier growth are to be preferred. This operation of tying requires the exercise of care and judgment, and attention must be given to it till the bine gets beyond ordinary reach, after which, if necessary, a high stool or ladder must be employed. Two or three young shoots should be left in each hill, for a short time after the requisite number of bines have been attached to the poles, affording the means of supplying any vacancies that may arise from injury or other causes. If in some hills, as will sometimes be found the case, the bine seems either too strong or too weak for the poles that are placed, the latter can now be readily taken up, and supplied by others of a more suitable description. It will always pay the planter to keep a vigilant eye to these matters during the early part of the growing season; for hops above all other farm crops require, and will pay for, the most careful attention and liberal treatment. By the beginning of July all the young bines in the hill should be carefully pulled out, and it is well to throw into the same two or three shovelfuls of fine earth from the surrounding soil, thus preventing the growth of weeds, and affording the crown of the plants some degree of protection from summer drought and winter cold.

It is now a common practice with English hop growers to spread over the surface well-rotted barnyard manure in May and June, cultivating it in with the horse-hoe. Experience confirms the advantages of this mode of manuring; but in our hot and dry summers we are of opinion that such practice would not be equally well suited to us, and that our barnyard manure should, as a general rule, be applied either in the fall or spring, and thoroughly incorporated with the soil. Hops should receive good and deep culture up to midsummer, and the ground immediately around the hills should be well loosened once by the hand-hoe; afterwards an occasional slight horse-hoeing will be sufficient, just to loosen the surface and prevent the growth of weeds. This will bring us down to the time of picking; an operation, with drying, packing, &c., which will form the subject for another paper.

Hemp and Flax.

To the Editor of THE CANADA FARMER:

SIR,—Now that farmers have almost everything their own way, except the making of the weather, they no doubt will devote a larger portion of their time to scientific farming. Many have felt the loss from the failure of the wheat crop, and have been taxing their wits to know what was best as a substitute. Some have established cheese factories; others enlarged their stock of cattle and sheep; the cultivation of the grape vine has engaged the attention of others; and flax has been resorted to as another new crop, and so far as it has been tried proved very successful. With regard to this last, it is important to state that when parties may not be within easy distance of a scutch mill, it will be found to pay well to raise the seed alone. In following this plan they only require to sow half the quantity of seed, say fifty pounds to the acre, that it requires when both fibre and seed are the consideration. They may safely look for from eighteen to twenty-four bushels of yield, and at current rates, nearly two dollars per bushel of fifty-six pounds, there is a handsome return. The proper time for sowing, in any case, is at hand, as soon as the land is dry and in order; I would not hesitate to sow any day after the first of May. The Government are offering the imported Riga seed through the hands of Mr. Fleming, Toronto, at the low price of two dollars and a half per bushel, and I would strongly advise farmers to try a portion of it. They will find it will produce a longer and better fibre. Having written a few practical hints lately on this subject, I will not take up more of your valuable space, but simply refer in brief terms to the cultivation of the hemp plant. There is no doubt this, too, can be cultivated to great advantage. Being much of the same nature as flax, it will require something of the same treatment. The land will require deep ploughing, and a good coat of manure. When grown and ready to harvest, it can either be cut or pulled, when the produce will be found to be very remunerative. Parties near Montreal, who have tried it, realised from eighty to one hundred dollars an acre from it; and when the crop is good it will be found to produce a stalk from twelve to sixteen feet long. The machine best calculated for preparing it for market is Ronan's flax scutcher, which can be procured at about $150; it is easily drawn by any motive power, and can be attended by any unskilled labourer. This crop is extensively cultivated in Italy, and seed was imported from that country last year for the purpose of introducing this crop into Canada.

JOHN A. DONALDSON.

TORONTO, May 3, 1866.

Seed Corn.

To produce the best seed corn, select a good piece of ground not less than 40 rods from any other growing corn; plant it 4x4 ft. with the best selection you can get, of such variety as you desire; cultivate well, leave not more than 3 stalks in a hill, and at any time previous to tasseling, or blooming, if there should be any stalks (which there will be—here lies the great secret), indifferent with regard to developing their proper size, form or color, pull them out of the ground. Do this by pulling square out from the nearest stalk to the one drawn; aim to get a perfect uniformity, if it takes half the crop.

Then, as soon as you can get hold of the top of the tassel, pull out about one third of all the tassels in the patch. This ensures a more vigorous growth in those ears, from which you will select seed for the next season.

To select the best seed, choose the longest and most perfect ears, the grain carrying itself well to the cob, its entire length—the "eye" broad, deep and well carried up, the nearer the crown the better.

The grain, or kernel, is fertilized from the flower or pollen of the tassel. If you select a large ear of corn from a field of nubbins or small ears, you will get only what kernels were impregnated from the stalk the ear grew on. Thus, if you plant from a field that has no small ears, or nubbins, all things being equal, you grow all large corn.

My practice is, to select the upper ear, where there is two or more on a stalk, and refuse about one fourth the point of the ear; when preparing to plant, also, for the largest yield I prefer equal parts of two pure varieties.—*Cor. Prairie Farmer.*

☞ The man who takes no pains to make or save manure, will not find farming a very profitable business.

HOW TO GET RID OF WEEDS.—Always put your cigar-case and its contents at the service of your friends.—*Punch.*

LEACHED ASHES.—The *Maine Farmer* knows a farmer who went into the soap-making business some years ago for the purpose of securing the ashes, after having been leached, to apply to his land. He owned a large farm, the soil being chiefly a clayey loam, and any one visiting the farm now, who was acquainted with it before its owner began to apply the ashes, would be astonished at the results they have accomplished. He applied them at the rate of from 150 to 200 bushels per acre, to different crops, and in every conceivable way.

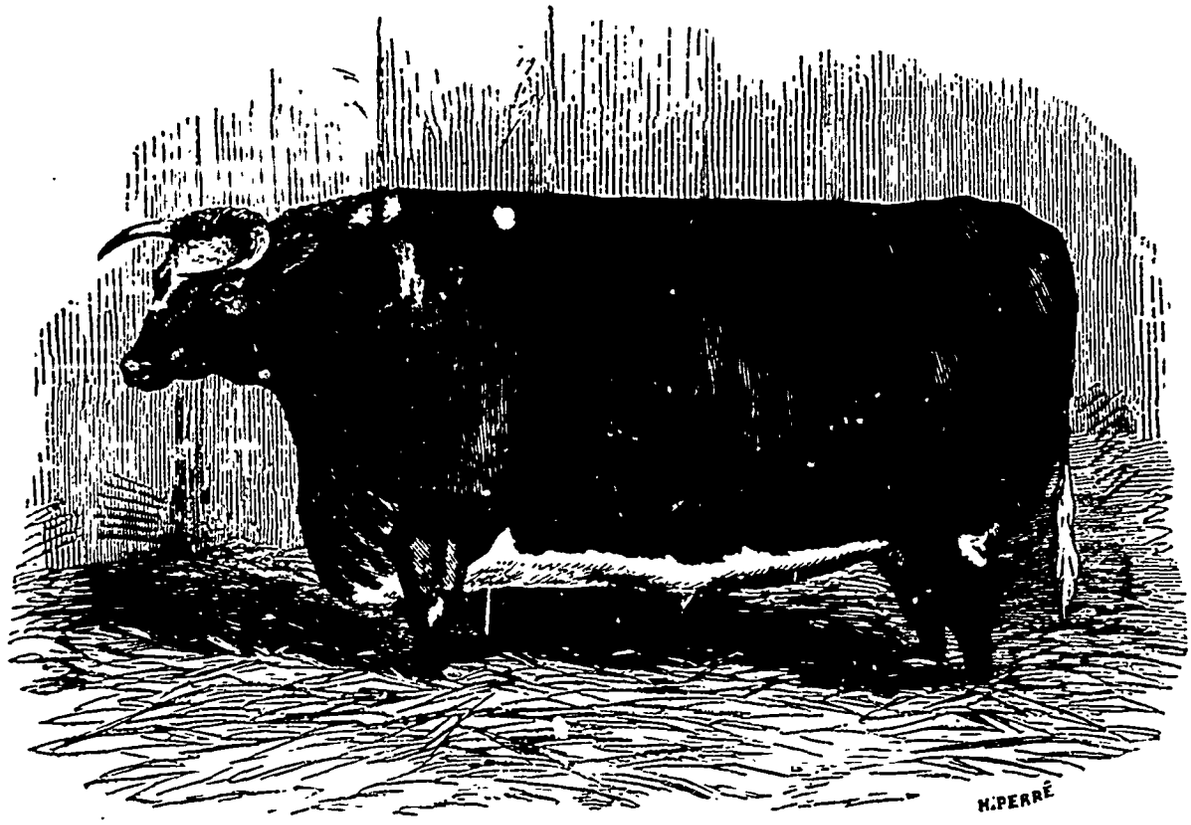
TIME TO CUT BUSHES.—A correspondent of the *N. H. Farmer* says: Repeated trials on as many different pieces of land, and each trial a complete success, has convinced us that December, the time we invariably do this, is the best season, at which time the growth of the year is evidently at an end. A piece of valuable pasture land of ours, overrun with bushes which had been many times cut over by a former owner to no purpose, because cut in the summer season, was by us cut over in December, 1861, and to this time, a period of nearly five years, not a bush has sprouted or started, and the land, though moist, is well stocked down to grass.

Stock Department.

Cross-bred Ox.

THE BEST OX OR STEER IN ANY CLASS AT THE SMITH FIELD CLUB SHOW, 1866

THE accompanying illustration represents a cross-bred ox, the offspring of a pure Short-Horn bull out of a third cross Short-Horn and Scotch polled cow. He was bred by Mr. A. Cowie, of Ellon, Aberdeenshire, who first exhibited him in July, 1863, as a yearling, and obtained for him the first prize at the National Society's Show at Aberdeen. Again in 1864 he obtained the first prize in his class at the Royal Northern Show, at Aberdeen, he then became



"CROSS-BRED OX."

The Property of MR. HARRIS of Forres, Scotland

the property of Mr. Harris, of Forres, who brought him out at the Forres Fat Stock Show, in the Christmas of the same year, when he took the first prize as the best two year old bullock in the yard. In the summer of 1865 he won the first prize in the three year old cross-bred class at the Inverness meeting of the Highland Society; and again the first prize in his class at the Forres Fat Show, with the Highland Society's silver medal as the best ox or steer in the yard. At the Smithfield Club Show, in December, 1866, he took the first prize of £25, as the best cross-bred ox above three years old, and the silver cup of £40, as the best ox or steer in any of the classes. Our chief object in presenting this illustration to our readers, is to encourage Canadian farmers to improve their stock, by showing to what a pitch of excellence it is possible to attain by a few judiciously managed crosses. "Whatever man has done, man can do," and a spirit of emulation in this direction is greatly to be desired, not only among a few stock breeders, but among farmers generally.

LARGE DURHAM.—"C. Brown, of Meadowvale, informs us that he has a Durham bull which was calved on the 10th of November, 1865, and was one year five months and fifteen days old the day he was weighed before several parties, and found to weigh 1,350 lbs.

Judging Horses at Exhibitions.

To the Editor of THE CANADA FARMER:

SIR,—For many years past I have been more or less familiar and closely associated with that most noble and useful animal the horse, and have not unfrequently had my attention drawn to the injustice to which he is subject at our exhibitions; for many times the soundest and most perfect horses are discarded, and those of less merit, with blemished limbs, and in many respects inferior animals, are awarded the prizes. This is done in many instances by judges, or those who occupy that position for the time being, who have very little intimate and practical acquaintance with the horse, and whose favorable verdict is regulated by the general appearance of an animal in good order, with a sleek coat of glossy hair. This state of things has seriously damaged our fairs, and a very large number of the most respectable farmers in Canada have discontinued exhibiting on this very account. Sometimes, too, though it is to be hoped not often, personal considerations of friendship or interest have influenced the decision. Now, it may be asked how is the evil, admitting it to exist, to be remedied? In reply to this enquiry I venture to make the following suggestions. At this season of the year, throughout Canada, there is in nearly every county a show of stallions. Now I would say let every horse come on the ground completely covered. Let the judges also be selected from a distance, and by all means, select horsemen, and no others. Let there be three or five judges, strangers to the horse, and to his owner if possible. Let each judge be handed a little blank book, in which to enter the number of the card on the horse, devoting a page or two if required to each number. Let each judge go alone to a horse and first examine his nigh fore leg and hoof most carefully; if it be perfect in every respect, let a note to that effect be recorded in his book, if any defect be observed, let it be scrupulously noted. Then let the judge proceed to examine in order, the nigh hind leg, the off hind leg, then the off fore leg. If all are perfect, with good shaped feet, sound, not flat nor shaky, of proportionate size, not contracted nor brittle, and altogether presenting the promise of being sufficiently strong to stand our hard stone or plank roads, then let the note to that effect be entered; but if blemished, let a corresponding record be made in the book. After all the judges have thus separately completed the examination of the legs and hoofs of the various horses, let them step together and compare notes. If a majority have found any of the number very deficient in the feet or legs, it would be quite unnecessary to take off the horse's cover for further inspection. It matters little how perfect the animal may be otherwise; with blemished legs and unsound hoofs, the animal should be discarded for breeding purposes. But if the judges find themselves in agreement on any of the number, the legs and feet being all perfect, then proceed to remove the hood, each judge examining for himself alone, and entering in his book the good points and the objectionable ones. After the examination of heads and necks, then again let the judges compare notes; and it may be certainly concluded that the horses having perfect feet, legs, head and neck, are the animals which will be entitled to the prizes. Next let the judges order the animals to be entirely undressed, and they will soon all find themselves to agree on their general appearance. They would not be influenced in favour of any horse on account of the large quantity of flesh which he may carry. Too much is more objectionable than not enough. The only thing that now remains to complete the decision is to see the animals move; and it will readily be perceived that the horses with sound feet and legs, small, well-formed head, full and sparkling eye, extended nostril, fox-like ear, and graceful well-set-on neck, are the premium animals, for these good qualities are never accompanied by an ill-shaped body, unless the defect has been caused by some injury of an external nature In this way the judges will have no difficulty in awarding the prizes to the most perfect animals. They can all be associated together in coming to their last decision on the graceful and easy movement of the animal. This point is very easily decided by judges of horses. I have frequently seen gentlemen of character and respectability acting as

judges at our Provincial as well as county fairs, who could not have told you whether the coffin joint was on the neck, back, or foot, or at the extreme end of the animal's tail; neither could they have told you whether the curb came on the ear or on the hoof. Those gentlemen were not to blame. the fault rested with the committees who selected them. A man may own and use horses for a life-time, and yet be a very bad judge of the animal. On the same principle, a farmer is not always a proper judge of wheat, although he raises it. If it be asked—then who is? I answer the miller, who grinds it, and spends his whole time handling it and examining it, he can tell you all about it. The farmer may form a pretty correct opinion, but the miller can hardly be mistaken. On the same principle, the judge of a horse should know all his points, and where to look for them; and such men you can only find among the horse dealers, the horse breeders, and the horse fanciers.

WM. HARDY.

PARIS, April 15th, 1867.

The Moodlaw Flock.

THE following, which we clip from *The Farmer* (Scottish), will be read with special interest by those to whom the names are familiar, and by all as evidencing what perseverance will accomplish in the improvement of a flock of sheep.

The announcement which has been made of Moodlaw having been let to a new tenant will be received in England by breeders of Cheviot with feelings akin to disappointment. "Brydon, of Moodlaw," has been known for such a length of time as a crack designation among Cheviot men, that the disconnection of the names seems almost like the breaking up of an old, time-honoured institution. We quote the following remarks concerning the sale of the celebrated Moodlaw flock from Dixon's "Field and Fern."

The flock has been in the family for nearly eighty years, and the Cheviot pedigree goes back for fully half that time; but save an occasional grey-leg, no trace of the primitive black-face comes out. Mr. Brydon's uncle showed sheep at Stirling about 1830, and won a tea set for the best Cheviot; and in 1840 Mr. Brydon came to Moodlaw.

"His great object has been to get them shorter and thicker, especially about the knee, or the butcher's grip, wide between the forelegs, with hard white hair on the crown, deep in the girth, well wooled below and on the arms and thighs, with a fine park-ranging neck, light and clifty in the bone, white on the legs, and black on the nose,—a flat crown and too pointed ears are points he has struggled against; and a fine Roman head, with a full and daring eye, is quite his coat of arms. He also prefers the coat rather open, as the closely planted ones are disposed to shed their wool in the spring, when the new and old coats separate. The wool calculation is five fleeces of ewes and hoggs, and three of hill ranging tups to the twenty-four pound stone. If a ewe nurse two lambs, she has one-third less wool, and if she is in the cast she is generally among the shotts. There are 8,000 ewes in the flock, which have generally five crops of lambs, and the cast has gone for years to farmers in the district. The wether lambs are sold in August, and 120 tups are kept each year. Eight sales have been held so far, with about nine scores in each of them, and, as a general rule, the two shears sell best.

"Since Mr. Brydon succeeded to the flock, he has been a steady shower, at the Highland Society, Moffat, Thirlstane, Dangholm, Dumfries, and Thornhill. Old Stirling won eleven prizes. He was a sheep of grand style, and sported a thirteen pound coat as a four shear. Old Palley was also all gaiety and life, with a very special coat, and a head which was thought worthy of stuffing. Roughie was of the Sampson kind, and a very useful sheep, but Sampson himself was "not of an off-hand showy appearance." He was the largest Mr. Brydon ever bred, and weighed nearly nineteen and a half stones of fourteen pound, even when his season had sunk him five or six stones. As a ewe-getter there were none to compare with "The Rigglin," for which Mr. Borthwick of Hopesrigg gave £100. Robson, from whom many of the best ewes are descended, was a horned one, and for staple and quality of wool he was unequalled among the tups, and brought £75 at Beattock. Horned Cheviots are generally more hardy and coarser in the coat, but Robson's was a complete contradiction of the rule. Hornie was sold for fifty-five guineas to Mr. Patterson, Twiglees, and Mr. Elliot got his sire, who, like Old Tom, was more of a ewe-getter. The Captain (ninety-five guineas) by Old Palley, went as a three-shear to Mr. Borthwick; and Mr. Graham, of the Shaw, had the remains of "Heb" in a present when he had been used for five seasons. The old Mawkey ewe thrice shared first prize honours in a pen of five ewes and gimmers, and she had twins every year but two. Out of her twenty-two lambs one of them was Lord Clyde (the winner of eight prizes) by the Duke, and another, Sir Colin, by Heb, who won five prizes. The climax, so far as prices go, was reached, however, at the Moodlaw sale in September 14, 1865, when Mr. Elliot, of Hyndhope, gave £121 for a two-year-old ram; Mr. Plenderleith, Moorfoot, Peeblesshire, £155 for a three-year old ram; and Mr. Archibald, Duddingstone, £115 for a four-year-old ram. The total of rams sold on that occasion was 169, at a general average for all ages, of £14 8s. 3d. Such prices for Cheviot sheep were unprecedented, but they were only a fitting tribute to the high excellence to which the Moodlaw has been brought by Mr. Brydon.

Fast Trotters not the Best Farm Horses.

To the Editor of THE CANADA FARMER:

SIR,—As the time is at hand when stud horses are going on their rounds again, a few words about their trotting qualities may perhaps not be out of season.

To believe that fast trotting denotes necessarily a good horse, is in my humble opinion a great mistake; if anything, I should say the contrary comes nearer the truth. Every well shaped horse, when urged to go fast, is inclined to break into a gallop, and it is those who for some reason or other find it difficult to raise a gallop that make the stuff for the trotters. If you see a horse with a good strong back, long, straight hind-quarters, long muscular thighs, and big hocks, depend upon it, he is not a very fast trotter: it is the want of these qualities that makes them. They have either slack loins, or weak hocks, or short, drooping quarters, etc. etc. I know that, by long and patient training, a thoroughly well shaped horse may get sometimes into the knack of trotting fast, but as a rule they are the least fitted for it. I have had a a good deal to do with people who are considered great authorities in matters of horse flesh, both in England and elsewhere, and I can confidently state that these opinions are shared by most of them. Notwithstanding this, I am not so wedded to my views as not to be open to contradiction, and all I wish to do by this letter is to elicit the opinion of other men who have had experience in the matter, so as to settle the point whether a fast trotter as a stallion, for farming purposes, is desirable or otherwise.

X.

Sheep Ticks.

MESSRS. EDITORS;—Seeing an inquiry in your paper from a "Young Farmer" about sheep ticks, I give you a few suggestions. Some say that the best way is to keep sheep fat, and the ticks will not trouble them. Now, I do not believe ticks have any objection to a fat sheep; but the reason why poor sheep have the most ticks is, the ticks have caused them to be poor. It has been the practice with a large portion of wool-growers to dip their lambs, after sheep shearing, in a decoction of tobacco, which, if made strong, is sure death to the ticks, and sometimes to the young lambs also, and is always attended with more or less injury. Ticks injure sheep most while they are at the barn; therefore let them be destroyed when the sheep first come to the barn.

I have had experience with tobacco smoke, which I have always found effectual, and it never injures the sheep or wool; but the greatest difficulty with me has been to find an instrument adapted to its application. Most of the smoke pipes being attached to a common bellows, are very inconvenient, and will sometimes clog and at others blow fire into the wool. I have been using this winter one of Hutchins's Improved Fumigators, which is convenient in every way, and it never clogs, nor can it possibly blow fire into the wool, and will last a lifetime. It costs me with this instrument to smoke 100 sheep, for tobacco 50c, and for labour 50c more. Now, what will it cost to winter the ticks? How many sheep will die in this State before next June from no other cause than ticks? How many lambs will die from no other cause than their dams failing to furnish them with milk, for the reason that their fountain of life is drawn out by ticks? How many pounds of wool will be lost, by the sheep becoming poor from the effects of ticks? How much loss will there be on the lambs by their being stunted from the effects of ticks? Is it not paying a heavy duty on wool and mutton to those blood-thirsty vermin? This State lost by the ravages of sheep ticks, the past year, in all probability, more than $150,000. Does it pay to destroy them?—*Cor. Maine Farmer.*

A FINE LAMB—WHO CAN BEAT IT?—J. C. Hegaboom, Esq., of Woodside House, East Gwilimbury, has a ewe that raised a ram lamb this season weighing seventeen pounds at four days old, and at thirty days weighed thirty-four pounds. It is of the Leicester breed, and a descendant from the stock of Mr. Miller, of Markham.

PROLIFIC EWES.—Mr. F. Wixson, of Claremont, has sent us the following statement:—"Allow me, through your valuable paper, to give an account of the increase of some of my sheep for the last four years, and especially this year. I have four ewes which have produced in four successive springs thirty-nine lambs, as follows:—In 1864, seven lambs; 1865, eleven lambs; 1866, nine lambs; 1867, twelve lambs. Mr. Ledgett, a neighbor, had three ewes to the same ram this year, from which he had eight lambs; making in all, this year, from seven ewes twenty lambs. We have had a similar production from other ewes. One ewe last year had two lambs, the one 10 lbs., the other 13 lbs. at birth. The ewes and ram were all of the "Hampshire Down" breed, the ram being purchased from Mr. Tye, of Waterloo county, at the Provincial exhibition in Toronto four years ago, at which exhibition he took the second prize."

DISEASED POTATOES—EFFECTS ON CATTLE.—John Haynes, Londonderry, N.H., writes to the *N.H. Mirror and Farmer* concerning the bad effect produced on cattle by feeding them with rotten or partially decayed potatoes. An acquaintance of his fed his cows with them and lost three of the number in a short time. Various opinions, as to the cause of the death of the cows, were expressed, but no one thought of imputing it to the potatoes. A post-mortem examination found the first and second stomachs in a healthy condition, but the third or manifold was discovered to be distended, and one-half or more of its contents perfectly dry and adhering to its walls, the result of inflammation and the cause of death. Subsequently Mr. H. fed his cow a few bushels of diseased potatoes—a peck per day when she was attacked in the same way as were those of his neighbour, when antidotes for poison were administered with success. There can be no doubt that, in both cases, the effects produced were the direct results of feeding diseased potatoes to the cattle. Owners of stock would do well to make note of this.

WHAT CONSTITUTES A FULL-BLOODED ANIMAL?—We have received from a correspondent, signing himself "Ploughboy," the following enquiry, which we insert in the hope of eliciting a reply from some one qualified to express an authoritative opinon on the subject:—"In your next number of the CANADA FARMER you will oblige me by inserting the following question. It is one that appears to me to have been entirely overlooked in our agricultural societies, respecting the blood of cattle. We are told that Canada holds some of the best-blooded short-horned cattle in the world; that I am not going to dispute; for I think it is what every Canadian stock-breeder should be proud of. My question is not whether they are the best cattle for Canada or not; but, assuming that they are, how long are we to cross with them until we arrive at full blood or maturity. Now, the stock master, who shall satisfactorily answer this question, will confer an especial favor not only on me, but on all the ordinary stock-raisers in Canada; and I would suggest that he should designate each cross as he goes along, by such name as is generally known to stock breeders, until he arrive at maturity, beginning with the full-blooded short-horned bull and the pure Canadian cow. For, I must confess, that after a few crosses we appear to be groping in the dark, and do not know where we are, or if ever we shall be able to obtain a place for our stock in the herd book. It is like a witch puzzle to a number of us. I can understand why the issue of a morganatic marriage does not succeed to the crown of the parent; but I really do think it is carrying the thing too far to place the issue of horned cattle on the same level, although some of our great herdsmen would make us believe that it is almost an impossibility to raise an animal deserving the rank of a full-blooded short-horn."

The Dairy.

New Cheese Factories.

Cheese Factories are now springing up in nearly every section of the country so rapidly that it is difficult to keep track of all the new institutions, or to chronicle their rise and progress with impartiality. Indeed, the various accounts of these useful and important establishments crowd upon us so thickly that it becomes quite impossible to give each as much space for notice in this journal as we should otherwise be willing to do; for we regard these enterprises with peculiar favour, not only as affording a fresh and lucrative field for the industry and skill of the farmer, but as encouraging, to a greater degree than heretofore, the keeping a larger amount of stock on our farms, whereby the land is spared the risk of over-cropping, a large quantity of manure is secured wherewith to enrich the soil, and the farmer himself is relieved from much of the hurry and superficial culture consequent on a superabundance of grain fields, a scarcity of labour, and a short season—circumstances which have hitherto been to a great extent the bane of successful farming in Canada.

Among the various establishments of the kind that are being started, our attention has been specially directed, by communications from the parties concerned, to the following:

GUELPH CHEESE FACTORY.

The Guelph *Mercury* contains the following account of a meeting of farmers interested in the Cheese Factory now in course of erection by Mr. George Shortreed, near the School in No 1 Section, Guelph Township, held on Saturday, April 20th, in the school house Mr John Rennie was called to the chair, and Mr. R. S. Brodie was appointed Secretary. In reply to several questions put, Mr. George Shortreed explained the arrangements generally entered into between the farmers who contributed milk and the proprietors of the factories. He preferred to manufacture the cheese on shares charging two cents a lb the party delivering the milk at the factory, and finding a rennet for each cow for the season The cheese when made will be at the disposal of the committee of management, who will have the responsibility of selling it Parties supplying milk to provide boxes for the cheese He considered this plan would be more satisfactory than any other to all parties concerned, and it would divide the risk if any Mr Stirton M P P who was present was then called upon to address the meeting which he did at some length giving information in regard to the mode of operation in cheese factories in the county of Oxford He was glad to find a growing feeling in favor of cheese factories in this section, and expressed his conviction that the project now under consideration would be profitable not only to the person putting up the factory but to all who might be connected with it Mr Geo. Howard of Guelph, was present with a couple of milk cans of twenty five gallons capacity each which are strongly made and will answer the purpose admirably The following gentlemen were then appointed a committee of management Messrs Gideon Hood James Cowan Wm Aitcheson, Wm Hood R S Brodie Thos Anderson, Thos Hood About one hundred cows were promised by the parties present, but more than that may be expected, though they would not absolutely promise them. Quite a number who were not present will also supply milk, and we have little doubt, when the factory is in full operation, the milk of 200 cows will be regularly supplied. Mr. Shortreed is pushing on the work on the factory with all speed. It will be sixty by thirty feet, and will be fitted up with all the latest and best appliances for the manufacture of cheese. A cordial vote of thanks was passed to Mr. Stirton for his trouble in coming to the meeting, and for his interesting address. After a vote of thanks to the chairman and secretary the meeting separated.

PIONEER CHEESE FACTORY NORTH NORWICH. H. FARRINGTON, PROPRIETOR.

A public meeting was held by the patrons of this factory on the 16th of April, to make arrangements for the coming season. The chair was occupied by G. Pettitt, Esq., and Mr D. S. Butterfield was appointed Secretary. Mr. Farrington, at the request of the chairman, addressed the assembly and stated that the object of the meeting was to discuss the cheese factory system, and to make arrangements for the coming season. He then showed in a very lucid and effective manner the importance of the cheese business, and the position of cheese makers throughout the Province, and pointed out many evils at present existing in the delivery of milk at the factories, and also many improvements which he would suggest in order to produce a first class article of cheese. The following resolutions, after some discussion, were then adopted.

That those who furnish milk to the factory shall receive all the cheese, more or less, which the milk produces—that they shall furnish one rennet, or its equivalent, for each cow, and pay the proprietor two cents per pound of cheese for manufacturing.

That the proprietor, Mr. Farrington, keep the whey as offset against the cost of the boxes and the trouble of boxing the cheese.

That the patrons of the factory all use tin milk pails.

That the price of drawing cheese to Ingersoll or Woodstock be fixed at twelve and a half cents per 100 lbs.

That a committee be formed to superintend the sale of cheese made at this factory—said committee to be composed of Messrs. H. Farrington, D. S. Butterfield, Andrew Wilson, William Cohoe, and Michael Ficht; and said committee to have power to deal with delinquents.

That a copy of the proceedings of this meeting be furnished to the *Ingersoll Chronicle* and The Canada Farmer, for publication.

ANCASTER CHEESE FACTORY.

We have also received a circular from Messrs. Jones and Armytage, of Ancaster, announcing their intention to establish a cheese factory on the premises known as the Cold Spring Brewery, and fixing the rate for manufacturing at two cents a pound. From the circular alluded to we give the following extract:

"With regard to the profit of cheese over butter, it is more than double in favour of the former, as any one may calculate for himself, when we tell him that we will guarantee to make one pound of cheese from every gallon of milk, allowing ten pounds to the gallon. Now, the present price of cheese is from fourteen to fifteen cents per pound, wholesale, but putting it down at a very low rate, say ten cents, and deducting two cents for making, leaves eight cents per gallon for milk. Now perhaps some of the farmers wives can calculate how much milk it takes to make butter, and we think they will say it takes about four gallons of good milk, worth thirty-two cents, to make a pound of butter worth fifteen cents, to say nothing of the trouble of making. Then, again, the time that we make cheese is the worst time in the whole year for making butter, as the milk in the middle of summer is not nearly so rich as in spring and fall, and you have lots of time before and after cheese season to make your year's supply of butter, and the Sunday's milk will keep you in fresh butter. Another advantage is that it will tend to raise and keep up the price of butter.

"Having proved, we think satisfactorily, that cheese pays better than butter, we will now reckon what ten cows will produce in six months, a number which almost any farmer can keep. We will put everything down at the lowest rate, and allow that each cow only gives three gallons a day, (many cows give more than that at a milking,)

10 cows
3 gallons per day each.

30
8 cents per gallon

$2 40 per day
30 days,

$72 00 per month.
6 months,

$432 00 for six months,

Or over forty dollars per cow. Now, will some farmer tell us how much land it would take to pasture ten cows six months, and what crop he could raise on the same quantity of land at the same expense, that would yield over $400, and that would not exhaust the land more Then the cows ought to make butter for other three or four months, which would help to pay for their keep through the winter."

To all these and kindred enterprises we heartily wish success.

Veterinary Department.

The Causes and Cure of Colic in Horses.

A correspondent from Wooler inquires "the best and simplest receipe for colic in horses," which is stated to be of frequent occurrence amongst farm horses in his district at this season of the year. The frequent occurrence of this disorder is a matter of greater and more general interest than its treatment, inasmuch as prevention is obviously more important than cure. The prevalance of colic evidently points to some errors in the management of the horses. If these can be discovered and rationally guarded against, there will be little need for the recipes and doctoring. No horse proprietor troubled with colic in his stables should rest contented until he has thoroughly investigated every particular regarding the feeding and management of his animals, and brought to light the blunder or shortcoming that interferes with their health and usefulness. He must see that their hours of labour are not unreasonably long. There is no more fruitful cause of colic in any animal than long fasts followed by hearty meals. The stomach, with the system in general, is exhausted by the protracted abstinence, rendered perhaps more trying by the hard labour which accompanies it, and food, which is then apt to be eaten greedily and hurriedly, is liable to be imperfectly digested, and thus prove a source of irritation. Large quantities of cold water swallowed by horses, especially when tired and hungry, often induce colic. The remedy here is to allow the animals water more frequently and at shorter intervals, when they will actually be found to drink considerably less than if watered only two or three times daily. Indeed the rational system consists in allowing horses employed in all ordinary work to have a moderate supply of water always before them. A trough, capable of holding about a gallon, is fixed into the manger; from a convenient cistern by a small service pipe water trickles into the trough as it is emptied, but so slowly that perhaps a quarter of an hour elapses before the empty trough is again replenished. With the supply thus arranged, no horse can have too much water at any one time, but with his meals, as is surely most natural, he will have enough properly to moisten his dry food, and thus prevent its being swallowed in a hard and dry state, in which it is evidently apt to cause intestinal derangement. Too many roots are a prolific cause of gripes, especially in potato growing districts. They are prone to ferment, and in wintry weather such watery food is cold and often frozen, and ought only to be used sparingly, given cooked or cut down finely and mixed with dry food. Potatoes, mangolds, and even Swedes, are less apt to cause derangement of the bowels either of horses or other animals when they have lain for twenty-four hours finely cut or pulped. The salutary change which they thus undergo probably depends on their losing water and becoming less prone to ferment. From its indigestible nature, bean straw is apt to disagree with horses, especially whilst they are unaccustomed to it. Indeed all food to which horses have been unused should at first be given cautiously. In conclusion, we may remark, that whilst draught horses are living almost exclusively on dry food, as is so generally the case during the winter months, they should have at least once a week a large bran mash, to which an ounce of common salt is a healthful addition, and in which it is expedient once a fortnight to dissolve also half an ounce of nitre.

So much for prevention, but our Wooler correspondent will not perhaps be satisfied without some notice of the required "recipe." It must be premised that colic consists in indigestion, accompanied by spasms, and usually by flatulence, hence the evident aim of all rational treatment must be to discover, and if possible remove the cause of the mischief. Often some unsuitable or indigestible food lodges in the canal, setting up irritation. If it can be moved onwards by the natural action of the bowels, the spasms and flatulence soon abate. Hence the natural and generally successful treatment of ordinary cases of colic consists in administering a gentle dose of purgative medicine. Nothing answers better than three or four drachms of aloes rubbed down, and given in a pint of warm water or gruel. In this fluid state the medicine acts much more promptly and effectively than when given in a ball To counteract the spasms, to allay flatulence, and to expedite the action of the purge, it is desirable to unite with it an ounce of sulphuric ether and half an ounce of liquor ammoniæ. These operate in the horse much in the same way as a teaspoonful of brandy relieves the analogous complaint in the human subject.

But "the small artillery of physic," as they have been aptly termed, must not in such cases be neglec-

ted. Soap and water clysters should be given every half-hour to hasten the evacuation of the bowels; the belly should be diligently hand-rubbed, and a well-littered loose box provided where the suffering beast may have the luxury of safely rolling about. Some of the old-fashioned practitioners were wont to order their colicky patients to be kept constantly moving; and if the animal is not seriously griped, a few minutes' walk, or even a trot, may help to expedite the operation of the medicine; but in all bad cases the enforced moving of the horse is positive cruelty. Under similarly trying circumstances we should not ourselves like to be dragged or goaded into moving about.

When colic occurs, as it is apt to do, in long-backed washy horses, subjected to hard, fast work, badly fed, or exposed to bad localities, it is apt to be accompanied or followed by scouring, and purgatives should in such cases be given warily. Under these conditions the ether and ammonia may be administered, without either oil or aloes, in a pint of cold gruel, and the natural action of the bowels promoted by frequent soap and water clysters.

When the colicky symptoms are protracted beyond two or three hours, or the pain is great, twelve or fifteen drops of Fleming's tincture of aconite, or two drachms of the pharmacopœia tincture of aconite should be united with an ounce of chloroform and given in a pint of cold water; if the bowels are sufficiently open an ounce of tar of laudanum with a little more ether, may afterwards be tried. Tobacco smoke clysters may be substituted for those of the soap and water; the belly should be well stuped for an hour or two with very hot water, and then covered with mustard paste well rubbed in. When the pulse continues steadily to rise, the patient is feverish, and the pain continues with little intermission, inflammation of the bowels may be suspected, and in such cases stimulants should be withheld.

For several days after an attack of colic, the horse should be sparingly fed on soft digestible food; his corn, in half the usual amount, should be given bruised and soaked, and his work should only be of the lightest possible description. If the bowels are not freely opened, a small dose of aloes may likewise prove serviceable.—*North British Agriculturist.*

DIFFICULT PARTURITION IN COWS.—A subscriber makes the following statement and enquiry:—"In this, as well as in the neighboring Townships, a great many cows have died this spring under the following singular circumstances. When the time arrives that the cows should calve, there is no vent in the womb to allow the calf to pass, only a small vent about the size of the neck of a common quart bottle, surrounded with a strong gristle. In some cases the vent has been torn open with the fingers, in some it has been cut, while in others it has been forced open with a wooden pin, but in every instance the cows have died. Now, can you or some of your correspondents inform me through THE CANADA FARMER if the obstruction is a special disease of the womb, or the effects of some other disease? The cows to all appearance are in perfect health up to the time of calving Do you know of any treatment that would be more likely to save the cow's life than that I have described? Any information on the above subject will much oblige many others besides the writer."

ANS.—It is not an uncommon occurrence in cows that the os uteri, or opening into the womb, is not dilated at the commencement of calving; and injury is often done by attempting to force the opening. Force should never be used unless the animal is in great pain, and then only by a competent and practised hand, for the opening will nearly always become sufficiently dilated in a short time, and parturition will follow without any difficulty. In some instances it may be found beneficial to inject the womb with a little tepid water. Violent interference with the process of parturition, by inexperienced and unskilled operators, is in almost all cases a dangerous and barbarous proceeding.

The Apiary.

Medium Hives vs. large Hives, for the production of surplus Honey.

To the Editor of THE CANADA FARMER:

SIR,—It is thought by some that the object of bee-keeping should determine the size of the hive; that is, if the object be to increase swarms, small hives should be used, but if to obtain surplus honey large hives should be used. This opinion is supported by certain German apiarians, as may be seen from a quotation from the *American Bee Journal*, made by "Briar" in the CANADA FARMER, of March 15. German authority upon many points in apiarian science is of the highest standard, yet still with them, as a people, there is a great amount of superstition, of which it is hard to rid them. It is owing to this, I fancy, that some of them still advocate large hives for the production of surplus honey. American bee-keepers have long since found that it is strong *stocks*—large swarms, and not large hives, that produce large amounts of surplus honey. It is a mistaken notion that a large barn of a hive will contain a correspondingly large number of bees. If such hives were examined after they became filled with combs, the breeding space would be found no larger than in hives of much smaller dimensions. But it may appear to some that there would be more room for the bees, therefore they would not swarm, but increase in numbers until the colony becomes very numerous. But it should be understood that *room* to a bee is a place to work in—a place to store honey, which is no more to be found in a large hive, once filled, than in a medium one, hence in either case they will swarm unless more space is given to them where they can store honey. It is also found that swarms cast from large hives are generally no larger than those cast from a medium hive, which is good evidence that the colony is no larger. What advantage, then, have the same number of bees in a large hive in producing surplus honey? They may have more honey in the hive, but such honey is not marketable; and while they were placing it in the body of the hive, they might have put it in boxes suitable for market, had the hive been smaller. For illustration let us suppose that A and B are neighbors, and both commence bee-keeping at the same time this coming spring, their object being the production of honey. A buys a swarm and puts it into a medium sized hive, containing say 2,000 inches; B buys a swarm and puts it into a large hive containing 5,000 inches. In neither hive is the queen limited for breeding space. Now what will be the results in two or more years, allowing that their bees do well? In ten to fifteen days after the swarms are put into the hives, A's swarm has filled the body of the hive, and commenced to fill a box which will hold 20 lbs. B's swarm has not yet filled the body of the hive half full; however, like A's swarm, it has built sufficient comb for breeding purposes, and commenced to store surplus honey in the body of the hive, where they have room for storing 100 lbs. In ten days A's swarm has filled the box, and it is removed and a second box put on, which they at once commence to fill. B's swarm, of course, has stored a like amount, 20 lbs., but it is in the body of the hive; ten days more, and the honey harvest is over. A's swarm has filled the second box, which is removed, making altogether 40 lbs surplus honey, which at 25 cents amounts to $10.00. B's swarm has deposited the same, but as it is necessary that the body of the hive be filled, it is not available. At the end of the first year, A has received 40 lbs of honey, or $10. B has realized nothing. The stocks are now put into winter quarters under the following conditions. A's stock has a store of honey for winter use, say 40 lbs. B's stock has a like amount, and 40 lbs. extra, not required, and empty space in the hive sufficient to hold 60 lbs. more. During the winter 20 lbs each is consumed. Spring opens with a good honey harvest, and the results will be as follows. A's stock will fill a box of 20 lbs. and cast a swarm which will fill another hive, and make 40 lbs more of surplus honey. B's stock will fill the hive, but having had sufficient room to work, will not swarm. At the end of the second year A will have received 100 lbs. surplus honey, worth $25, and will have two stocks of bees. B will have but one stock of bees, and no surplus honey. True, his hive will contain about 100 lbs. of honey, which if in a movable comb hive might be removed, but it would be unfit for market. It may, however, be supposed by some that as B's stock has not swarmed it must contain a very large quantity of bees, and having an abundance of honey in the hive, will be prepared the third year to produce more honey, by far, than both of A's stocks. Such, however, is not the case. If the stocks be examined in the spring of the third year, it will be found that B's large hive will contain but few if any more bees than either of A's hives. The reason is this: a queen cannot raise her colony above a certain number, varying from sixty to eighty thousand, according to the prolificness of the queen. But allowing that B's stock is somewhat larger, and produces 25 lbs. of honey the third year, and casts a swarm which produces 40 lbs. of honey; A's stocks will each produce 20 lbs. and cast a swarm, which swarms will produce 40 lbs. each, making the results of the third year stand thus: A, 120 lbs of honey and two swarms. B, 60 lbs. of honey and one swarm. The results for the three years would be, that A receives 220 lbs of surplus honey, worth $55, and three swarms of bees. B receives 60 lbs. of honey, worth $15, and one swarm of bees; making the profit of a medium hive over a large one in three years amount to 160 lbs. of honey or $40, and two swarms of bees. If any person doubts the correctness of the above calculation, let him try the experiment and he will then be convinced of its truthfulness.

J. H. THOMAS.

How to Introduce Italian Queen Bees.

To the Editor of THE CANADA FARMER:

SIR,—I have just received No. 9 of the *Rural American*, and I find an article by the Editor, under the above heading, in which he evidently shows that he does not understand the subject, for he goes on to say that there are many Italian queens sold at the present time by men who make a business of rearing them; that they are sent to purchasers by express, in very small wire cages, supplied with honey to feed on; and that the introduction of such a queen to a family of common bees produces a hybrid bee, half Italian and half native, but that exact relationship can only be maintained for one year; after which the cross assumes a different degree one way or the other, for the subsequent breeding will be by the hybrid queen, the original one having, as is customary, gone off with a first swarm. Now, there are many parties intending to introduce Italian queens during the coming season, who by reading the article referred to, and not fully understanding the subject themselves, may come to the conclusion to abandon their intention from the fear of getting, instead of a pure stock of Italians, only a hybrid stock; and as many bee keepers in Canada do not understand how it is that introducing an Italian queen to a stock of common bees will in a few months make it a pure stock of Italians, I will give a few facts in regard to the matter that may be interesting to such persons, and perhaps prevent them forming wrong conclusions when reading articles like the one under the above heading in the *Rural*. In the first place, those intending to introduce Italian queens should purchase queens that are warranted to have met with Italian drones. Then let it be understood that if you introduce such a queen to a stock of common bees, she will produce *pure Italians only*, (and not half Italians and half common, as stated in the article in the *Rural*); and the reason why the common stock with the Italian queen soon becomes all Italians, is because your bees are constantly being destroyed in various ways, and dying off with old age, and the young Italians are filling their places; and before you are aware of it you have a nice pure stock of Italians, without a common bee among them; and when your Italian queen leaves the hive with a swarm, it is to build up another pure stock; for every egg that she lays during her life will, with proper treatment, produce a pure bee; and the young queen that is raised to fill the place of the one that has gone with the swarm will be pure also; for she will be raised from an egg of the old queen that has gone with the swarm. If, however, she meets with a common drone, then her brood will be hybrid, or half Italians and half common bees; but if she meets with a pure drone, then her breed will be pure for life.

H. M. THOMAS.

BROOKLIN, C. W., May 7th, 1867.

Bee-Keeping Prospects.

So far everything bids fair for a good bee season the present year. The weather remaining cold fruit blossoms have not put forth until the season is so late that we shall not likely have much more cold weather; hence, breeding that has already commenced in good earnest will likely continue without interruption until white clover appears, and swarms be cast early. Old hives should be scalded and well cleaned, new hives made or purchased at once, and no time lost in preparing for early swarms, especially from such stocks as have been wintered in-doors and otherwise properly attended to.

☞ Messrs. Charles Dawbarn & Co., 121 King Street, Toronto, are agents for J. H. Thomas's First Prize Moveable-Comb Hives for Toronto.

☞ Postage stamps may be sent in payment for the "Canadian Bee-Keeper's Guide," either to this office or to the author.

Correspondence

White Willow yet again.

To the Editor of The Canada Farmer :

Sir,—Your correspondent of April 15th, vol. 4, page 120, appears to be in a regular fix about the white willow, but acknowledges that the 600 cuttings "nearly all sprouted" and grew rapidly, that their appearance was "encouraging," that his "expectations rose accordingly," and that the next season they "grew spontaneously" also, but most "*ridiculously so;*" but it appears that he expected to see, what nature never designed the white willow to be, a hedge, and admits that he can make a fence of it with careful training. It is well he can make such a frank acknowledgment. Can it be possible that he thinks it too much trouble for him to lend a helping hand in assisting nature, who has done so much towards gratifying his own wish. All that is necessary is to place a small stake by the side of those unruly leading limbs that don't grow in the perpendicular position, and tie a band around the leading unruly limb and the stake, to keep it in the position desired, which he can do by cutting off some of those limbs that are "directed to every point of the compass," and making a band of them. I would also refer him to "experience with the white willow," in vol. iii, Canada Farmer, No. 21, page 323. Perhaps, after reading that over carefully, he will see the truth of the maxim, that, as the twig is inclined so it will grow. Let me assure him that if he will do but a small part towards assisting nature he will have a good serviceable fence, (but no hedge), that he will take some pride in viewing or showing to his friends. I send you herewith my plan for making a white willow fence. I have some white willow now over ten feet high, and measuring over two and a half inches through, planted in June, 1864. I don't trouble myself about the side shoots, as they produce leaves, which I look upon as the mouths of the willow to draw or receive nourishment from the atmosphere. Such shoots, I expect, will die off, the same as all other kinds of shoots on timber trees.

I hope you will pardon my troubling you, but as the communication of your correspondent will be apt to mislead some, I thought it best to reply. I do not know where he got his 600 cuttings. For my own part, I invariably send directions how to manage a fence, when I send off any cuttings. I now send cuttings in the full length of the first year's growth, which is from four and a half to over six feet high, such as I recommend in the enclosed printed paper.

JOHN CALCOTT.

Lambeth P. O., C. W.

The following are the printed directions referred to in the above communication:—

"There is another plan by which you could set out a fence, and I think a better plan in the end, but it would take one year longer on the first start, but after that time you can extend your fencing very rapidly. For instance, instead of planting your cuttings where you wish to have a fence, plant them on a square patch of land; let them grow up one year; then early in the following spring cut them off close to the ground, and cut them up into ten-inch lengths, and set out on another patch of land; so then you will begin to have a permanent nursery to grow large sets on. To set out your fence the next year, cut off these nursery plants close to the ground very early in the spring, and set them in a straight line, one foot apart, one foot deep, perfectly upright, where you wish to have your fence. Do not cut off the top of the shoot, but plant the full length in a straight line. Rub off the buds from the surface of the ground four or five feet high, or according as you wish to form the top of the fence, so as to keep the trunk of the tree free of sprouts. You will then have a good fence much quicker and better formed than by any other plan."

Extraordinary Yield of Turnips.

Messrs. C. & A. Sharpe have handed us the following letter, giving particulars of an extraordinary crop of Swede turnips, grown in the County of Bruce, from seed bought at their establishment last spring :—

Messrs. C. & A. Sharpe,
Seedsmen, Guelph.

Gentlemen—It affords me much pleasure to furnish you with the following account of an instance of the remarkable success of your deservedly popular variety of Swedish Turnip Seed known as "Sharpe's Improved." Mr. John Stirton, long a resident of this County, and now a leading farmer of the township of Saugeen, in the County of Bruce, sowed a field, of some four or five acres in extent, with the above named variety of seed, purchased in your establishment in Guelph, and reaped the enormous yield of 1,792 bushels per acre. The soil was that generally known among farmers as river flat—very rich—previous crop spring wheat, ploughed fall and spring and well cultivated. Thirty loads of barnyard manure were applied to the acre. The seed was sown from 12th to 20th of June.

In order that a thorough and fair test might be made of the quantity per acre, Mr Stirton procured the services of two leading farmers of the neighbourhood—one of whom has held the responsible position of Assessor of the Township for several years past—and they selected a square rod or perch of land in several parts of the field, taking particular care that such would be a fair average of the crop. After dressing the turnips grown on such plots, the yield was found to be 672 lbs. per rod, or as above stated, 1,792 bushels per acre. I may add, in conclusion, that knowing the individuals who furnished me with the above particulars as being men of strict integrity of character, I have no hesitation in vouching for the truthfulness of the same.

Yours respectfully,
D. STIRTON.

Puslinch, April 15, 1867.

Salt as Manure.

To the Editor of The Canada Farmer:

Sir,—In my former communication I stated that I would transmit you a notice of some trials I made with salt as a manure.

In the spring of 1865, I applied it to eighteen drills, two and a half acres long—planted with potatoes. The manure was put in the drills along with the seed. In three of the drills with the seed I put salt. I top-dressed fifteen after the drills were covered—at the rate of about sixteen to eighteen bushels to the acre. I observed that it kept the ground moist all summer. I made no accurate measurement of the produce of the drills as compared with those adjacent. The whole crop was good. I cannot say the salted drills were much in excess of the unsalted.

Barley was sown in the field the following spring—then the value of the salt became very apparent. The crop was very much heavier, both in straw and grain, but the most marked thing about it was its fine light colour—presenting a striking contrast to the rest of the field, which was dark, caused of course by the prevalent wet weather. I made no separate measurement. The barley, when in the bin, was streaked with the fine-coloured produce of the salted drills. When injudiciously applied it may do much harm. The three drills of potatoes in which I put the salt with the seed, evidenced it sufficiently, as it killed almost every set, whereas not one was hurt of those top-dressed.

I also applied it to one-sixth acre of corn, which was heavier than that not so treated along side of it. Barley followed, as in the case of the potatoes, with the same marked result. I also applied it to a patch of oats when about two inches above ground, and in the same field to mangolds, with the same satisfactory result.

I further applied it in my garden, to plum trees, &c., and for the purpose of killing weeds on a piece of gravel road. In large quantities it is as effectual to kill, as in small quantities to cure.

I may also state that a friend of mine, a distinguished agriculturist, on the Island of Montreal, informed me that he applied it at the rate of about six bushels to the acre on spring wheat, leaving a part of the field untreated; so marked was the effect that the Society's Inspector of Farm Crops, when walking over the field, stopped at the very furrow where the salted part terminated, and asked my friend the cause of the difference.

I believe that the general use of salt, properly applied, would be an immense benefit to the agriculturist. I shall not pretend to say that it would prevent the ravages of insects, but it is not unreasonable to predicate that it might greatly help. It is certainly beneficial in the case of slugs and wireworm; undoubtedly it will increase the crop and enhance its value.

With regard to the potato, all accounts agree that it originally came from the borders of the Pacific. A saline atmosphere may therefore be essential to its continued healthy condition. If so, in our inland position, the application of salt would seem to be an obvious necessity.

If there was as much energy put forth in developing the material resources of the country as there is in simply exchanging wares and commodities, it would give us a far more hopeful future. In the one case the country is to some extent—in the articles of foreign luxuries—oppressed, and in some degree corrupted; in the other it would receive only a healthy life.

J. R. E.

Hochelaga, April 26th, 1867.

Bee Questions.

J. C. sends us the following queries :—

1st. Are bees exempt from seizure for their owners' debt?

2nd. What is the best book on bees, treating on their natural laws, management, &c? What price? Where can it be got?

3rd. Can a book not too expensive, on the animals and birds of Canada, be got? Where? Its name and price?

Ans.—1st. Stocks of bees, to the number of fifteen, are exempt from seizure except for the payment of their purchase money, as seen by Act of Parliament, Vic. chap. viii. Sec. 2.

2nd. For a new beginner the "Canadian Bee Keepers' Guide" cannot be surpassed; but for more extensive information, Langstroth's or Quinby's works may be depended on. Quinby is the more practical. The price of Quinby's is $1 25, of Longstroth's from $1 25 to $1 75; both may be procured in Toronto.

3rd. There is not yet any book published on the Canadian Fauna or Flora.

Trees Barked by Mice.—A correspondent, writing from Huron county, enquires if there is any way of saving trees that have been barked by mice. We find a plan for this purpose recommended in several of our exchanges, and although we have no personal experience of the operation, we think it worth a trial, and give the directions accordingly. The plan recommended, and which various writers say they have adopted with complete success, is to insert into the tree, above and below the barked portion, fresh scions of a similar tree. They should be inserted about an inch apart, and should completely encircle the trunk, if the barked portion extends so far. The incisions for the insertions of scions and the denuded portion of the trunk should be covered with grafting wax or some similar protection. The object of this operation is both to supply fresh sap, to sustain the vitality of the part, and also by the growth of the scions at the base to surround the girdled portion with a fresh coating of new wood. It is not necessary, we are told, that it should be performed very early in the spring—it will even answer after the buds have begun to swell—so that it may not be too late for our correspondent to make the experiment even now. His communication reached us too late for an earlier reply.

Alsike Clover.—"H.M.T." enquires—"Does Alsike clover bear its seed in the first blossom, or must it be cut once, like our common clover?"

Ans.—Seed of the Alsike clover is procured from the first cutting. If the plant be strong and the season early, it may be eaten off by cattle in moderation till the beginning of June, and afterwards left for seed, which in a good soil and favourable weather would mature before the commencement of autumnal frosts. Care should be taken that the land is free from weeds. Alsike is yearly extending in culture; it is much less liable to be thrown out by frost than the ordinary clover, which has a tap or fusiform root, and it will yield on good soils, with proper culture, from two to four bushels of seed per acre.

Unfair Shearing for Exhibition.—We have received a letter from a correspondent signing himself "a Lover of Justice," animadverting in very strong terms against the communication from an "Exhibitor" published recently on the subject of the rejected sheep at the Provincial Exhibition. We think that "a Lover of Justice" has quite mistaken the tenor of "Exhibitor's" remarks; we believe that each of the writers is equally opposed to unfair shearing, and that the latter would no more than the former advocate any facilities for the reprehensible practice. The first writer expressed his opinion respecting the extreme difficulty of deciding, in September, whether or not a sheep had been fairly clipped in April, and complained of the wholesale exclusion that was made at the exhibition even of sheep that had been in every respect fairly clipped. The subject is one of great importance and no small difficulty. Our readers will see by advertisement published in our columns, as well as by the report of the last meeting of the Board of Agriculture in Toronto, that the new regulation fixes the time of shearing after the 25th of April. The Board have no doubt given the subject their best consideration, and will strive to make such provisions as will secure a fair competition for all parties, and give encouragement to this most important branch of stock-raising.

Shell Marl.—A correspondent at Bristol (Pontiac) sends us the following communication, accompanied by a specimen of shell marl:—"I send you a specimen of what I consider to be shell marl. It effervesces readily with vinegar, is full of the comminuted remains of shells, some of them perfect, of the species *Limnæa* and *Physa*. I am informed there is a considerable deposit of it in the adjoining Township of Clarendon, where it is at times overflowed by the Ottawa river, at this point 233 feet above the sea level. There is no use made of the substance. To what good purpose, if any, can it be applied?"

Ans.—The specimen that accompanied your note is undoubtedly shell marl, which is a recent geological formation found as a carbonaceous deposit at the bottom of many of our lakes, and also around the shores where the waters have formerly stood. This substance consists principally of carbonate of lime, with occasional traces of phosphate. It is readily pulverised, and when incorporated with some soils, especially stiff clays, forms a useful fertilizer, though by no means of equal value with quick lime. It is also sometimes used for witewashing and similar purposes. We understand that considerable quantities were at one time exported into the United States.

Extra Entry Fees for Exhibition.—James Findlay, of Pilkington, thinks it unfair that the wealthy members of agricultural societies should be able to make so many more entries for exhibition than their poorer neighbours for the same amount of subscription; and suggests that each member should be allowed the privilege of a limited number of entries, and should pay a small fee, say twenty-five cents, for all above that number. He thinks also that extra fees should be required for carriage horses and hackneys, which in his opinion belong more to the turf and the road than to agriculture.

Note by Ed. C. F.—Our correspondent should remember that the privilege of competing for prizes at exhibitions is but a small part of the advantage he derives from his subscription to the Agricultural Society, and that every encouragement should be given to parties having stock or other articles worth showing to send them for exhibition. A very considerable expense is often incurred by exhibitors in sending and providing for the care of their property, and we cannot think it would answer any good purpose to put an additional tax on these parties. With regard to the class of horses alluded to, though they may not be so much required as other sorts for agricultural purposes, yet it is the business of the farmer to breed such horses, and no one else has equal facilities for doing so profitably.

Drill or Hand Sowing.—A correspondent asks:—"Do you recommend the *grain seed drill* for spring grains, such as wheat, barley, oats, &c.?" We are sorry that the above enquiry did not reach us till our number for the 1st May was stereotyped. We fear that any reply now may be too late to be of service. We do certainly prefer the drill for sowing nearly every kind of grain. We knew a manufacturing firm in the west, who were willing to take as the payment for an excellent and costly seed drill (we forget the exact price) which they made, the difference in one season on forty acres of wheat put in with their drill over forty acres hand-sown on the same, or any adjoining farm, and this at a time when wheat was not worth in that locality more than sixty cents a bushel.

Rotation of Crops.—"John Smith," of York county, referring to the order of rotation submitted to us recently by "M.O.Cole," points out that both barley and oats are omitted from the series, and suggests that a better course, especially fitted for the lands in York Township, would be the following:—First year, roots and hoed crops, followed in succession by barley, hay, hay or pasture, pasture, peas, fall wheat, rye or spring wheat, and lastly oats. The ground to be manured for the root crop thoroughly; gypsum and liquid manure to be applied to the third crop. If bone dust, guano, &c., be applied for the roots, part of the barn yard manure may be applied for the seventh crop. With regard to the exact course to be pursued, so much depends on local circumstances, such as nature of the soil, needs of the farm, markets, &c., that if sound general principles are followed, the details of the course must be determined by each individual farmer.

Information Wanted About Cheese Factories.—"A constant reader" writes to us from Darlington as follows:—"I find that considerable interest is beginning to be felt about cheese-making throughout the country. I myself feel inclined to commence this spring, if I could obtain the necessary information respecting the best kind of vats, curd cutters, &c., and directions as to the required degree of heat at the time of putting in the rennet. Can you, or any of your readers, inform me where a good treatise on cheese-making can be procured? I think a short article on the subject would be of great interest to your readers.

Note by Ed. C. F. We would refer our correspondent, as we have done others, to articles in former numbers of this journal, and to parties who have already been practically engaged in the business, for the required information. We recommend a visit to some factory in actual operation. Messrs Noxon, of Ingersoll, and Mr. L. F. Bungay, of Norwichville, can supply vats, curd mills and other factory requisites. See their advertisements in this and former numbers of the Canada Farmer.

The Canada Farmer.

TORONTO, UPPER CANADA, MAY 15, 1867.

The Season.

During the past fortnight the weather has continued unusually chilly, and in consequence of the previous prevalence of rain there is no doubt that spring farm operations are somewhat behind the average in former years. Still, there have been intervals of favorable weather, and in looking round the country and conversing with farmers, we are pleased to find considerable seed has been sown, and the work is not, after all, so backward as might have been expected. It is wonderful what a good will and a little management will effect in making amends for untoward circumstances, and it is gratifying to observe that a cheerful spirit of hope in regard to the coming season seems to prevail among the farmers generally.

There are, however, some important lessons which our present and past experience should teach us, the most important of which is the desirableness of so arranging the business of the farm as to leave as little unavoidable work for the spring as practicable. With this end in view, as well as to secure some other important advantages in resting and enriching the land by making provision for a larger quantity of stock than has commonly been raised, it seems that much might be gained by having a greater proportion of the land in pasture and meadow. These do not entail any labour during the spring of the year, and in fact demand less labour throughout the entire season than grain crops, while their profits will compare favourably with any other portion of the farm.

In connection with the appropriation of a considerable extent of the land to such purposes, arises the necessity of raising a corresponding amount of root crops for the winter support of the increased amount of stock. This kind of crop is highly advantageous to the land, and the sowing and harvesting both come on during comparatively leisure periods of the season.

Another very important matter pressed on our attention by the circumstances of the present season, is the great advantage of under-draining, whereby the land becomes so much sooner ready for working, and suffers much less than undrained fields from cold and wet. This has been so often pointed out, and has been made so manifest during the past few weeks especially, that it is unnecessary to dwell on the matter more particularly, yet it is well to take note of every additional argument and inducement in favour of this important preparation of the soil, and to press the subject again and again on the attention of all engaged in agricultural pursuits.

There is yet another point to which our liability to late springs and short seasons should lead us to give careful heed: the advantage, namely, of raising winter crops as much as possible. The repeated failures in winter wheat have induced a large number of farmers to abandon this crop altogether. Yet this grain is a staple of too great importance to relinquish except under absolute compulsion, and there is much in the history of older countries, and in the teachings of modern agricultural science, to lead us to hope that greater success may in future reward the endeavour of the farmer to raise at least a fair proportion of this pre-eminently valuable cereal. Underdraining, suitable shelter, and thorough culture may yet remove some of the causes that have hitherto rendered this crop so often unproductive. It must also be remembered that wheat is not the only winter crop. There are others that might with advantage be added to the resources of Canadian farmers.

Henry's Double-Walled Bee Hive.

Since our last issue we have had an opportunity of examining this hive. It is constructed with a view of guarding against cold, damp, and atmospheric changes. A two-fold expedient is resorted to for this purpose. There is a hollow space of dead air between two walls, and the inner wall is of flag or straw, fastened down with strips of wood. The only novelty about this hive is the inside lining of flag or straw, the hollow-wall principle being already in use in Thomas's Double Boarded Hive. We consider straw an excellent protection against cold and damp, but should prefer to have it outside, for more reasons than one. Bees, during their long winter imprisonment, will discharge their fæces on the inner walls of a hive. A wooden wall can easily be cleaned, while a straw or flag wall must get foul, and unless it be frequently renewed, will become offensive. In outward appearance this hive is exactly like that of which we gave two illustrations in our issue of April 15, 1866.

"The Canadian Farmer's Song."—We would call attention to this choice piece of poetry, which appears in another column. It was written for The Canada Farmer by Rev. E. H. Dewart, of this city, and will appear in a volume of original poems, entitled "Songs of Life," about to be published by that gentleman. Mr. Dewart is a true poet, not unknown to fame already, and we have no doubt his forthcoming volume will add to his well-won laurels.

United States Duty on Peas.—A telegram was received on Saturday from Oswego, by one of our leading produce dealers, which stated that the United States Government had sent an order making the duty on peas thirty per cent. The duty on this grain since the repeal of the Reciprocity Treaty has been thirty per cent. if intended for seed, and ten per cent. if for consumption. It is now apparently to be thirty per cent. on all—a specimen of legislative wisdom eminently Japanese.

Importation of Cattle from England.

THE following copy of a report of a committee of the Honourable the Executive Council, approved by his Excellency the Administrator of the Government, in Council, on the thirtieth April last, has been transmitted to the Board of Agriculture in this city, with permission to give publicity to the same:

"The committee have had under consideration two communications from the Hon. David Christie, President of the Board of Agriculture, Upper Canada, requesting to be informed whether any relaxation will take place in the regulations respecting the importation of cattle, &c., into this province by sea during the approaching season.

"The Hon. the President of the Executive Council states, that though concurring in the opinion expressed by Mr. Christie respecting the virtual disappearance of the cattle plague in England, he cannot advise that the prohibition be removed at present, but recommends that, inasmuch as the question is one of much importance to the agricultural interests of the province, a notice be issued by the Bureau of Agriculture to the effect that persons desirous of importing cattle, or any of the prohibited animals or articles from England, are required to make application to that department for the necessary permission, and that each case will be considered on its own merits.

"The restriction on the importation of horses, he remarks, has already been removed by the general order in council of third November, 1866, published in the Canada *Gazette*.

"The committee advise that the above recommendation be approved and acted on."

THE CHILDREN'S HOUR.—This is a monthly magazine for "the little ones at home," edited by the celebrated T. S. Arthur, and published by him at 809 and 811 Chesnut street, Philadelphia, at $1 25 A.m.cy per annum. It is printed on the finest paper, beautifully illustrated, and filled with choice reading. Beside the gifted editor, such authoresses as Virginia F. Townsend, Phœbe Cary, Kate Sutherland, and Mary Leonard, write for The Children's Hour.

THE SUNDAY SCHOOL DIAL.—This little monthly, conducted by the editor of the CANADA FARMER, is designed to supply suitable Sunday reading for the little folks. It was enlarged and improved with the January number. Each issue contains at least two illustrations and a piece of choice music. It is the only undenominational child's religious paper published in Canada. Only fifteen cents per annum for a single copy: 11 copies, $1 50. Orders to be addressed to Mr. A. Christie, box 468 P. O., Toronto.

THE MINIATURE FRUIT GARDEN.—This little work, by the celebrated English nurseryman and pomologist, Thomas Rivers, of Sawbridgeworth, treats of the culture of pyramidal and bush fruit trees, and shows, how a very small garden may be made to produce a choice and varied assortment of apples, pears, plums, &c. The principles of root-pruning, pinching-in-training, &c., are explained in a very simple practical manner, and the whole subject is treated with an enthusiasm which can hardly fail to rouse interest in the reader, however little he may know about gardens and orchards. This work has been reprinted by Orange, Judd & Co., of New-York, from the *thirteenth* English edition, and may be had from W. C. Chewett & Co., of this city, for seventy-five cents.

MILLER'S ANALYTICAL AND PRACTICAL GRAMMAR OF THE ENGLISH LANGUAGE.—This work, on the basis of Bullions' well-known grammar, has been prepared by Mr. T. G. Chesnut, Principal of the Toronto Training School, for the publisher, Mr Adam Miller, of this city. Commencing with the design of merely correcting the inaccuracies and supplying the defects of Bullions' work, the editor and author has eliminated, altered, and added, until, to use his own homely illustration in the preface, the original is almost as completely renewed as were the miser's stockings. Examination questions, followed by thorough practical selections, are placed at proper intervals throughout the book, a general exposition of the principles of English composition is given, there is a valuable section on the structure of words, the subject of analysis is very fully treated, and on the whole it would seem to be a very complete manual of English grammar, well suited to the needs of the schools of Canada.

THE AMERICAN JOURNAL OF HORTICULTURE.—This new monthly, commenced in January last, is worthy of unstinted commendation. Its mechanical execution is elegant, its range of subjects comprehensive, its staff of writers experienced and able, and its tone sprightly and vigorous. Each number that we have seen has been an improvement upon its predecessor, the articles have become increasingly concise and practical, and every effort apparently is being made to render it a leading authority on the class of subjects that come within its province. It quite eclipses all the other horticultural periodicals published in the United States, being twice the size of either "*The Horticulturist*" or "*Gardener's Monthly*," and far superior to either in quality of paper and general appearance. We predict for it a wide circulation, and have much pleasure in recommending it to those of our readers who have a taste for horticultural pursuits, and a love of the beautiful in nature and art. It is published by J. E. Tilton & Co., Boston, at $3 Am. cy. per annum.

THE AMERICAN FARMER'S HORSE BOOK.—We have received for review a copy of this new publication, which is a thick octavo volume, and contains a general history of the horse, with a full and concise account of his anatomical structure; but is chiefly devoted to the consideration of the various diseases to which he is subject, and the methods of treatment. This department occupies more than half the book; the remainder of the volume is taken up with the various important subjects of food and general treatment, breeding, &c., marks of age and abuses, breaking and training, fractures, shoeing, vices and unsoundness, &c. The work contains much valuable information in an attractive and popular form; and will, no doubt, be found a useful addition to the farmer's library. At the same time, we cannot think it has any claims to supersede other standard veterinary works already before the public; and we would caution the unprofessional reader against using some of the stronger remedies recommended in the treatment of the more serious diseases. For example, we doubt the success of the treatment of *glanders* by *tobacco* in any hands, and more especially question the propriety of the employment of this powerful narcotic by unprofessional and inexperienced persons. The same caution is doubtless more or less necessary in the use of all medical works by the unlearned and unskilled.

The general agent for the sale of this work in Toronto is Mr. R. Carswell, 45 King Street East. The price is $3 50.

THE AMERICAN NATURALIST.—We hail with very great pleasure the appearance of this welcome addition to the periodical literature of this continent. Most prolific as this has now become, and crowded almost to excess in some departments, there was still needed a good serial devoted to the pleasing study of natural history, of the character now offered to the public in this attractive monthly magazine. The editors are Messrs. A. S. Packard, E. S. Morse, H. Hyatt, and W. Putman; and among the list of special contributors are the names of the most eminent naturalists and men of science in the country. There is everything in the promise of the numbers already issued to guarantee a first class publication. The literary portion of the work is ably conducted, the illustrations are beautifully executed and numerous, and, no unimportant item, paper and printing are of a superior quality. As a specimen of the subjects treated, we may mention that the number for April contains admirable articles on the Moss Animals, or fresh water Polyzoa, with a plate; the Fertilization of Flowering Plants; Insects and their Allies, illustrated; the American Silk-worm, illustrated, the Land Snails of New England, illustrated; besides shorter notices under the head of Reviews, Natural History Miscellany, Natural History Calendar, and Proceedings of Scientific Societies. There is appended also a glossary for the number, an addition which will be found very useful to the general reader. Altogether, we are happy to be able to award this beautiful periodical no stinted praise, and cordially recommend it to all students of Natural History. Communications and remittances are directed to be addressed to the Essex Institute, Salem, Mass. The price is $3. (Am. cur.) per annum.

Agricultural Intelligence.

The Spring Show of the West Brant Agricultural Society.

To the Editor of THE CANADA FARMER:

THIS exhibition was held on the Society's grounds in Brantford, on Thursday, April 11th, and was, in point of character, and number of exhibitors, and attendance, a complete success. The quantity and quality of the stock was all that could be desired; the amount of grain and roots was limited, and the show of farming implements seemed to have been among the "lost arts." Much of what might be considered a failure was owing to the almost impassable state of the roads. As it was, the interest manifested brought together upwards of 1,000 of the "hard-fisted, bone and sinew" of our county. The weather was exceedingly fine, and it made a gala day for Brantford. Many of the leading agricultural implement manufacturers were on the ground, looking to their interests. The Hon. David Christie and his venerable father gave their influence by attending. There were upwards of a hundred head of horned stock offered for sale or exchange, and of these, the larger portion was in excellent condition for beef. Many new milch cows, also some good grades and pure bloods were for sale. Among the leading exhibitors were Mr Wm. Smith, of Paris, who showed fourteen head of very fine fat cattle; Thos. Sanderson, eight ditto; Geo. Peatman, three ditto; Abraham Jennings, three ditto; Alex. Nellis, three ditto; Alanson Silverthorn four ditto; James Hunter, four ditto; Thos. Grantham one superior grade heifer, together with his fine Durham bull, the first Duke of Mount Pleasant, four years old. These are but a few of the many exhibitors who had stock for sale. The entries of stallions for agricultural purposes were six. The first prize was awarded to Jas. Cleaver, Burford; the second to James Brown, North Dumfries, and the third to S. W. Howell, South Dumfries. The best roadster or carriage stallion, first prize, Robert Wilson, Burford; second prize, A. W. Whitehead, Brantford; third prize, Arch. McDonald, Brantford. Of these latter there were thirteen entries. The judges of horses were Messrs. Joseph Johnson, Cainsville—Lot 8, Tisdale, Burford; Alex. H. Nellis, Brantford. A number of teams were offered, also saddle and buggy horses, brood mares, and fifteen yearlings and two-year-old colts. Mr. Thomas Grantham had a load of very fine spring wheat of the Fife variety; there were also barley, oats, peas, &c., of excellent quality. The only drawback was the lack of buyers; these were exceedingly scarce. But few animals changed hands on the day of the show; prices ruled low, only four and a half cents being asked for the choicest lots; but a few days afterwards all the beef animals exhibited found buyers at four and a half, four and three quarters, and five cents, live weight, one having sold as high as seven cents. Had buyers been on hand, these sales would have taken place on the grounds. As it is, the effects of the show have been felt and acknowledged by the exhibitors; general satisfaction is expressed with the result, and the committee of management have been requested to hold another show of the kind immediately after harvest, or early in the fall, and they have consented to do so. It is to be hoped that buyers and all others interested will be prepared to act accordingly. Due notice will be given through the columns of THE CANADA FARMER, as well as the local papers. There seems to be a strong desire in this society to prosecute this affair until a regular monthly show is firmly established in Brantford. A liberal spirit manifested by the County and Town Council would enable them to accomplish this very soon; and if the merchants, mechanics and hotel keepers would put forth a helping hand, and co-operate with the farmers, they would soon build up this institution, which would work to the benefit of all. The interests of all classes are bound up in the welfare of the agricultural community, and the motto of the country should be, "united we stand divided we fall."

T. G.

Agricultural Notes of Lennox and Addington.

To the Editor of THE CANADA FARMER:

SIR,—Having been over considerable portions of the counties of Lennox and Addington, I forward you a few remarks on the present state of the crops and the agricultural operations generally.

In consequence of the cold weather and recent heavy rains, the work of the farm is in a very incomplete and backward state. On the drier and earlier soils some progress was made in sowing Spring grain fortnight ago, but the heavy rains since the 1st inst. have completely stopped these operations everywhere, the low clay lands were partially inundated, and it will require a week or ten days of fine weather before they can be brought into a fit state for sowing. Considerable ploughing in some places yet remains to be done. It is questionable whether much of the seed already sown would not be better in the bags than in the soil. Cold and wet seriously affect the condition of the seed as regards germination and the future development of the plant. Yesterday the skies looked more propitious, and to-day the prospects for warmer and drier weather are more promising. All may come right yet, if Providence favour us with genial weather for the future.

There is comparatively little winter wheat now cultivated in this district, but all that I have seen and heard of has a promising appearance; little or no winter (or rather spring) killing, as the plants were sufficiently protected by snow. Rye looks strong, and much is cultivated in these parts. Clover, too, the same. Cattle have wintered better than usual, the crop of hay having been abundant last year. In fact, this was the case with crops generally in this district, which suffered severely from the droughts of preceding years. I accordingly find the farmers more cheerful and prosperous. Considering the cold and wet weather, the lambing season is better than could have been anticipated. I hear of little mortality either among ewes or lambs. In this cold, late and wet season, how striking is the difference between land that is naturally dry or artificially made so, and that in an opposite condition. I have been much pleased with my peregrinations in this district so far; some particulars I hope to communicate hereafter.

I may just observe that the prospect of a good exhibition at Kingston next September is encouraging. Nothing will be wanting by the Corporation of the city in the way of ample preparation, and no doubt but aid will be rendered by the former united counties municipalities.

I may just remark that I felt much satisfaction and pleasure in going over the Penitentiary and Lunatic Asylum, at the admirable manner in which these important institutions are managed. In both perfect cleanliness and order were everywhere manifest. In going through the wards of the Asylum with the Superintendent, Dr. Litchfield, evidences of the kind care and efficient treatment of the unfortunate patients were in many ways strikingly obvious. The management of these institutions is a credit to our country.

GEO BUCKLAND.

NAPANEE, May 8, 1867.

LARGE YIELD.—Walter Stewart, of Harwich, produced this season, from 150 trees, the extraordinary quantity of four hundred and fifty pounds of maple sugar, exclusive of syrup not taken into account.—*Mount Forest Examiner.*

VALUE OF FARMERS CLUBS.—It is an established fact that since the farmers club was established in Leominster, Mass. the average yield of corn per acre has been increased from fifty bushels to near sixty bushels. Many other products have been augmented nearly the same ratio. This is but a single instance of the practical value of farmers' clubs.—*Ex.*

CHANGE OF OWNERS.—We learn that the thoroughbred blood horse "Promised Land" has been purchased by a party of gentlemen in Woodstock, and is stated for the season to the North Riding of Oxford Agricultural Society. "Promised Land" is an imported horse, four years old, and has taken the diploma, two years in succession, at the Provincial exhibition, for the best thorough-bred horse of any age on the ground.

THE FARMERS' AGRICULTURE CLUB, GLENVALE, TOWNSHIP KINGSTON.—A correspondent informs us that this club has been in operation over two years, and with the view of improving the stock in the district has purchased a bull, boar, and ram, and anticipate satisfactory results as soon as the young cattle have grown up. In pigs they have some fine animals of the improved Berkshire breed; and also in sheep there has been a great improvement, the ram being a pure Leicester; and the club are sanguine that, by constant crossings with good breeds, they will be able by and by to show some fine animals.

SAD AND FATAL ACCIDENT.—We regret to hear of a melancholy and fatal accident which befel a promising young man, Charles Ellis, son of Mr. Andrew Ellis, of London township, and brother of Lieut. Ellis, of this city. It appears that on Thursday afternoon deceased was engaged with a cultivator and team of horses, on his farther's farm. Rain coming on, he took shelter under an adjoining tree, leaving the horses standing in harness. In a few minutes afterwards the animals became restive, when deceased ran up, and endeavored to pacify them; they, however, started off, dragging the unfortunate man several hundred yards along the ground, during which one of the teeth of the machine entered his abdomen, making a frightful wound, and sadly cutting him in other parts of the body. He was at once removed home, and the assistance of Drs. Brown and Nellis called in; their skill failed, however, to restore him; he lingered until Saturday morning, when he expired.—*London Prototype.*

MORE CATTLE WANTED.—The quantity of live stock taken from Canada into the United States during 1865, and the early part of 1866, was very large. Horses, cattle, sheep, and pigs, all were in request. Not content with what Canadian drovers did, numerous Americans came over into the Province and bought largely in every section of the western peninsula. For some time, however, this trade fell off. Everything became quiet in the droving line. Stock was scarce, prices high, and the inevitable Yankee ceased to find it profitable, and so stopped his visits. We have just learned from Upper Canada, however, that signs are manifest that traffic is about to begin again. A number of American dealers arrived in one of the best farming sections, and were buying almost everything in the shape of milch cows upon which they could lay their hands. These were wanted mainly for the dairies of New York State, where, it would appear, Canadian cows are highly esteemed. The buyers seemed to have plenty of gold; but from the scarcity of stock, purchases were not made so rapidly as in former times.—*Trade Review.*

SUPPLY OF COOKED BEEF FROM THE COLONIES, IN THE BRITISH MARKET.—Considerable anxiety has begun to be felt in England at the prospect of a deficient supply of animal food for the increasing population, and a Parliamentary commission has been appointed to enquire into and report upon the subject. The *Daily News* has the following notice of a new source of supply:—

"The Food Committee of the society of Arts has done good service by calling attention to a new importation of boiled beef from Australia. Messrs. M'Call, of 137 Houndsditch, have on sale a first consignment of 60,000 lbs. of Australian beef, and have made arrangements for taking a similar quantity every month. The meat is the best Australian beef, not salted, but carefully stewed and packed in tins hermetically sealed. It has none of the common objectionable appearances or flavours of preserved meat; and, being ready cooked, is exceedingly cheap at the retail price of 7d the pound without bone. This is not more than 6d a pound with bone, and, if it be true that one company alone in Australia could send us annually the beef of ten thousand fat oxen at this price, some of us may yet live to see beef coming down in price in the general markets of this country."

Entomology.

Fighting the Curculio.

IN the *Genesee Farmer* for 1853, p. 125, may be found the following decidedly original mode of heading off the "Little Turk," from the pen of a Canadian correspondent:

It would have done you good had you seen my Jeffersons, Washingtons, Huling's Superbs, Greengages, Columbias, Golden Drops, Apricots and Nectarines last year, all bending under a tremendous load of the finest fruits ever beheld in the neighbourhood of Fort Dalhousie, saved as follows:—Placed two or three well-made windmills in the head of each tree, with a clapper attached to each, which struck upon a piece of steel, and when the wind blew kept up a terrible jiggling noise; one and a half yards of flag tied up so as to float nicely in the air, as close to the tree as possible without touching it; and lastly, when dinner was over each day, I would catch up a sheet made for the purpose, and say, "Come, boys, hold the sheet," and I would jar the trees and kill all that fell upon it.

This reminds one of the old receipt for making good rich soup out of flint stones, which runs as follows:—Take three or four large flint stones; wash them very nice and clean, and let them simmer without boiling in two gallons of clear water for four hours, till the water has extracted nearly all the richness from them. Lastly, add three pounds of fresh beef, a few handfuls of sliced carrots and turnips, and a spoonful or two of sweet herbs, pepper and salt, and boil the whole for two hours longer. It would do you good to taste this soup and see how rich and palatable it is, and all made out of such cheap and common ingredients as flint stones.

I take it that the "windmills" and "flags" were of no more use towards heading off the Curculio, than the flint stones were towards making the rich soup. Without the "jarring" process, the Curculio recipe would be as ineffectual as the Flint soup recipe would be without the beef and trimmings. But the fools are not all dead yet; and when one does die, he always leaves a large family behind him.—*Practical Entomologist.*

Doctoring Fruit Trees Again.

THE following article is from the *Industrial Gazette*, Louisville, Kentucky, of December 15, 1866. There is no Saratoga county in Kentucky, and consequently the "fact worth knowing" probably hails from Saratoga county in New York.

A gentleman of Rochester was lately in Saratoga county, and was there shown an apple tree in fine healthy condition, which had been ill, subjected to treatment with calomel, and thoroughly cured. This tree was afflicted with insects, which were destroying it and rendering it unproductive. A hole was bored into the body of the tree nearly through the sap, and two grains of calomel inserted. As soon as this calomel was taken up by the sap, the vermin on the tree died, and it began to bear fruit and has done so for three years, to the entire satisfaction of the owner. Sulphur may be mixed with the calomel and produce a good effect. This is a fact worth knowing.

It is much to be regretted that the author of the above did not see fit to inform us what particular kind of "insects" were infesting the sick apple tree. It is possible that Calomel may be good against Barklice, and bad against Plant-lice, effective against Borers and useless against Canker-worms, death upon Caterpillars and life and health to the Apple-worms that bore into the cores of our apples. Or must we believe that, like certain quack medicines for the use of the Human Species, Calomel will cure every ill that Apple nature is subject to? There cannot be the least doubt, however, of what the article asserts, namely, that "*as soon as the Calomel was taken up by the sap*, the vermin on the tree died." For it is chemically impossible that the sap ever should "take up" calomel, seeing that sap can only take up such substances as are soluble in water, and calomel, as every child knows, will not dissolve in water. The writer might as well try to make us believe that sap can "take up" sand or gravel, as "take up calomel." One thing is just as possible as the other, and the same remark applies to the sulphur, which is recommended to be mixed up with the calomel.

I lately heard of a lady who was cured of a violent headache, by her husband presenting her with a new bonnet. As soon as the bonnet was put on her head, the headache left her, and never returned for three or four years afterwards. This is just as good proof that bonnets cure headaches, as the above quoted case from New York is that calomel cures sick apple-trees. I strongly suspect that, in both instances, there would be certain unexpected facts developed on a rigid cross-examination of the witnesses.—*Ibid.*

Want of Success in Tree-Planting.

This is much complained of, and there are various ways of accounting for it. Tree-planting is too often done in so careless and slovenly a manner, that it were idle to hope for success. To thrust a tree hastily into a hole that is too small for the root, and ram the dirt down with the boot or a piece of timber, is no way to do. A roomy and mellow bed should be prepared for the tree,—it should be transplanted with as much root as possible, and care should be taken to spread out the fibres and bring them into contact with the soil. Sometimes a tree is too deeply planted, and at other times not deeply enough. Many trees are stunted, if not killed outright, by neglect of proper after culture. For example, a young orchard is planted, and the land sowed to grain, as much of a yield being expected as though there were no trees in the ground at all. Nothing should be grown in a young orchard that will crowd up to the trees and monopolize the entire nourishment stored in the soil. A root crop is the best to raise in such a place, and a space should be left around each tree unplanted. Some people keep ploughing and sowing in the orchard, scraping close to the trees, injuring the bark with the whipple tree and the roots with the plough, and then wonder the trees do so badly. We know of an orchard subjected to this treatment which looks just as might be expected, the trees wearing signs of distress, and too plainly showing what a hard time they have of it. Again, an orchard is planted in a poor piece of ground without manure, and the trees are literally starved to death. Or, perhaps, after the trees have begun to flourish, they are neglected in the early spring, and fall a prey to the tent caterpillar. Nothing is easier than the extermination of this pest, yet many refuse to take the trouble of destroying that which, small though it be, can work terrible havoc among fruit trees.

Among the causes of failure, these must not be forgotten—buying trees of irresponsible pedlers, and unreliable parties generally. Unsuitable sorts, unhealthy trees, and even dead trees, are sometimes palmed off upon the unwary, by those whose only object is to make a little money, no matter at whose cost. Our advice to all and sundry is to buy only first class trees, to deal with responsible nurserymen, and to go upon the maxim that whatever is worth doing at all is worth doing well. A tree is not planted for a month or a season, but for a life-time and for generations to come. By all means, therefore, let it be done in a thorough, pains-taking, and workmanlike manner.

Cultivation of the Strawberry.

The following paper on the cultivation of the strawberry is from the pen of Mr Wright, gardener to the Hon. A. L. Melville, of Branston

"The soil best suited for the strawberry may be described as strong, rich, and deep. Therefore trenching the ground to a depth of 20 to 24 inches, and making it good from the top to the bottom, is a necessity to all who wish to excel in its cultivation. The first step towards realizing quick returns in strawberry culture, is, undoubtedly, to secure early runners—and here some attention is requisite, for there are few beds of this fruit that do not contain a root here and there, which, though robust in foliage, produces no fruit: and as those roots generally emit runners sooner than their more fruitful neighbours, there is some danger in perpetuating a kind which will most probably preserve the barren character of the parent. This is a point which I conceive is sometimes overlooked. I remember once on a time having six plants of that very excellent strawberry, La Constante, sent to me. Two out of six were barren. I secured all the runners I could from them, carefully keeping those from the barren plants separate and after three years' trial, those from the barren plants produced no fruit, while those from the fruitful ones never failed to yield abundant crops. I mention this case as illustrative of what I would convey, though it is by no means a solitary instance nor is it confined to any particular variety. If, then in the fruiting season, any plants are found of this character, dig them up, there and then: they can only be regarded as cumberers of the ground—robbers. In order to secure early plants it is good practice, when the plants begin to put forth their runners, to spread half an inch of nice, kind, fresh soil between the rows. This will induce them to root much sooner than they would do in the natural soil, especially if a flat stone is placed on the runners, close to the embryo plant, just of sufficient weight to keep it pressed to the soil. A small peg will of course effect this, but I prefer a stone, for even on the hottest day a stone which is placed flat and close to the ground, when moved, will be found to have so effectually arrested evaporation as to be *quite moist underneath. This* moisture is important as accelerating the rooting process. Let the young plants get well rooted before separating them from the parents. There is nothing gained by taking them off too soon. They should be in fine condition by the end of July. If the soil in which they are intended to fruit is of a light nature, tread it firmly: if it is heavy, it will only require to be slightly trodden. It is, however, easier to err in having the soil too light than too firm. Take the plants up carefully, with balls of earth attached, securing every possible bit of fibre, plant in rows fifteen inches from row to row, and twelve inches apart in the row. This distance applies to good sound land; in light soil they may be planted closer, say twelve inches apart every way. *When planted, water well and repeatedly* until they take hold of the soil. When established, an occasional soaking of manure water will be of great benefit to them. Pick off all runners as they appear, run the hoe through the soil frequently to extirpate weeds, prevent evaporation, and admit air. This treatment will secure fine bold crowns by the autumn, which will produce an abundant crop of fruit the first season.

"When they have completed their season's growth, and show signs of rest, give them their winter's dressing, by covering the soil with two or three inches of good manure; this will enrich the soil, and protect the roots and crowns from the effects of severe frosts. With the exception of removing the decayed leaves from the plants when they commence to grow in the spring, no attention will be required till the blossoming period. About this time means must be adopted to keep the fruit clean. It is common to use for this purpose short grass; this is not good, neither is chaff, especially if heavy showers of rain are frequent, as it beats up and adheres to the ripe fruit; clean straw or stable litter is much preferable. I have seen used for this purpose fresh tan, spent hops, trimmings from the basket manufactory, &c.; local circumstances will, however, generally determine the point. Where the fruit is swelling off, one or two good waterings with manure water will greatly increase it in size, and improve it in colour; this must be no slight sprinkling affair, but an effectual soaking *poured on boldly, and in sufficient quantity to reach* every root; one ounce of guano to a gallon of water is safe as to strength, and will never fail to benefit the plants. Care must be taken that it is not poured on the fruit or foliage, as it is decidedly injurious; neither is it judicious to water after the fruit has fairly commenced colouring. I am purposely particular in noticing these little points of detail, as they are too often overlooked; little things, instead of being despised, are, in many instances, the finishing touches to the successful completion of the particular work to which they apply. After the fruit is all gathered, take out entirely every alternate row, which will leave them two and a half feet distance for the second season's fruit and one foot in the rows. *Clear away all runners, but on no account cut away* any full grown leaves, they have an important function to perform in the elaboration of food produced by the roots, and in absorbing nourishment from the atmosphere. The after management is precisely similar to that described for young plants. After the second crop of fruit is gathered, take out of the rows every alternate plant, which will leave them two-and-a-half by two feet; this will give them additional room, and enable them to attain their full size for the third year. Again heavily manure in the autumn, and after they have produced their third crop dig them up altogether, for though they will bear for a longer period, it is seldom they produce heavily after the third crop has been taken.

"In the autumn on which I entered my present situation I found a plan adopted here which is certainly worth recording, as it produced the finest crop of strawberries the first year I ever saw. It was suggested, I believe, by my employer. It consists in planting the rows two feet apart, and at every two feet in the row, instead of planting one plant, three are planted in a triangle of four or five inches apart. They gave a splendid crop the first season, and had all the appearance of a plantation two or three years old. After the crop was gathered in this case I found that the great increase of crowns rendered it necessary that some should be removed entirely, or they would have been crowded and immature. When this thinning is judiciously done this plan is certainly worthy of adoption."—*Bell's Weekly Messenger*

Origin of Plants.

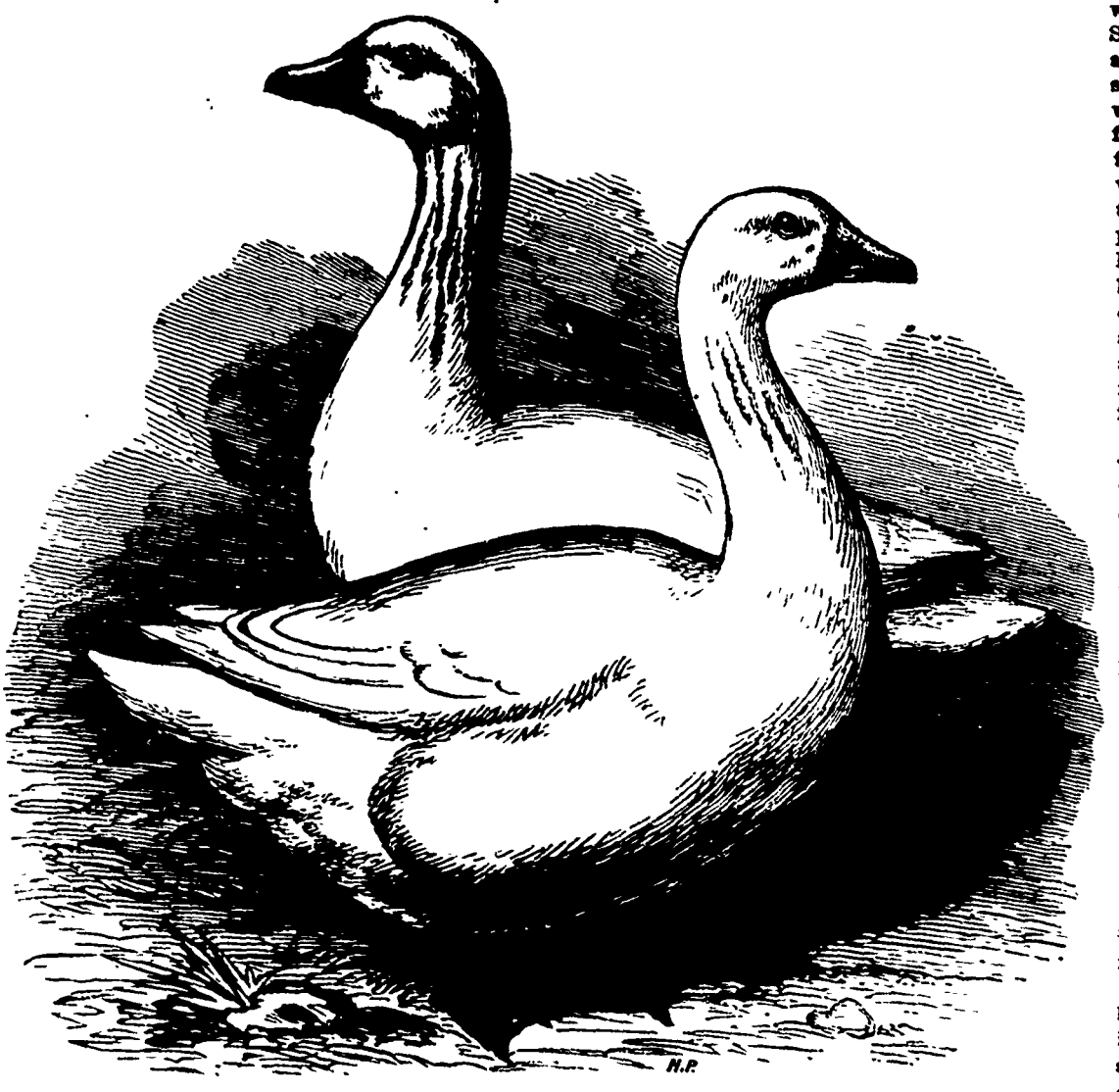
Celery originated in Germany.
The chestnut came from Italy.
The onion originated in Egypt.
Tobacco is a native of Virginia.
The nettle is a native of Europe.
The citron is a native of Greece.
The pine is a native of America.
The poppy originated in the East.
Oats originated in North Africa.
Rye originally came from Siberia.
Parsley was first known in Sardinia.
The pear and apple are from Europe.
Spinach was first cultivated in Arabia.
The sunflower was brought from Peru.
The mulberry originated in Persia.
The gourd is probably an Eastern plant.
The walnut and peach came from Persia.
The horse chestnut is a native of Thibet.
The quince came from the Island of Crete.
The cucumber came from the East Indies.
The radish is a native of China and Japan.
Peas are supposed to be of Egyptian origin.
Garden beans came from the East Indies.
Garden cress is from Egypt and the East.
Horse radish was brought from the South of Europe
Hemp is a native of Europe and America.
The parsnip is supposed to be a native of Arabia
The potato is a well known native of Peru and Mexico.
The currant and gooseberry came from Southern Europe.
Buckwheat came originally from Siberia and Tartary.
Millet was first known in India and Abyssinia.
Writers of undeniable respectability state that the cereals, and others of those edible productions, grow spontaneously in that portion of Tartary east of the Belur Tag, and north of the Himalaya mountains. —*Ex.*

Remedy for Rose Aphis An exchange gives the following directions for the treatment of the destructive little creature.—As for the rose aphis, weak tobacco water is a good remedy and a decoction of quassia (one ounce of chips to a quart of water) still better. Mr. Cranston has found the following succeed in the destruction of aphides: "To one pound of tobacco and two pounds of soft soap add six quarts of boiling water; let this stand a short time, then strain through a piece of coarse canvas; to the filtered liquor add nine or ten gallons of water, and with this diluted fluid syringe the plants infested, or otherwise dip the branches into it, wetting the whole of the foliage; if necessary repeat the operation two or three times, always syringing the plants over afterwards with clean water." This, like every other remedy, should be applied in time. Even if the remedy be successfully applied, it is of very little use if only brought to bear when the plants are covered with vermin and *weakened by them. With vermin as with weeds,* it is a great saving to attack them when young and tender, then you prevent their ravages as well as take their lives. But, notwithstanding the soundness of this policy, comparatively few amateurs pursue it, generally waiting till their plants are "eaten up" with vermin before they notice it; whereas the careful plant-grower is always on the look-out for the smallest colony, and applies his remedy upon seeing two or three, well knowing that these are sufficient to populate the globe in a few months if feeding ground be provided.

Poultry Yard.

The First Prize Geese at the Recent Exhibition of the Canada West Poultry Association.

We present herewith a very nice engraving of the pair of Bremen geese which were awarded the first prize at the Poultry Show lately held in this city. They are the property of the editor of this journal, so that modesty forbids our saying much in their praise. The picture is a faithful representation of them, and they may safely be left to speak for themselves.



A word, however, as to the variety of which they are a sample. All judges of poultry award the place of pre-eminence, among geese, to the Bremen or Embden breed. They are pure white, of the largest size, and originated in Holland. It is not uncommon for them to be confounded with the Toulouse goose. The latter is, however, a grey goose. From its pure swan-like whiteness of plumage, the Bremen goose is preferable to the Toulouse both feathers and flesh being of more value in the market, and the bird being more showy and handsome. A well fed pair of Bremen geese will weigh upwards of fifty pounds. This variety is quite as hardy as the common goose, though so much its superior in size and appearance

The Golden Spangled Hamburgh.

A PAPER READ BEFORE THE CANADA WEST POULTRY ASSOCIATION BY A. M'LEAN HOWARD, ESQ.

The subject for discussion is the particular points and excellencies of the Golden Spangled Hamburgh Fowl, and I now offer a few notes on the subject which may not be uninteresting to intending breeders.

As to their origin; I think they can claim to be as decidedly an English fowl as the Dorking, seeing that specimens have been among the occupants of the poultry yards of the monasteries in England as early as the beginning of the fourteenth century; for a description of a cock bird in their possession by Chaucer, the English poet of that period, is evidently meant for the Golden Spangled Hamburgh.

We next come to the name. The Rev. E. S. Dixon, Rector of Intwood, and the author of a work on Poultry, published in 1848, gets the credit, of having classified the different varieties of Hamburghs as they stand at present, "though they have been known by a great many local names, such as Golden Pheasants, Golden Mooney, Copper Moss, and Red Caps," which classification has since been adopted by the Birmingham committee, and generally throughout the kingdom, though I may remark that many good judges consider the name to belong to a breed of crested fowls imported from Holland for the last two hundred years.

The Golden Pheasants and the Golden Mooneys appear to be very distinct varieties of the Golden Spangled Hamburghs. I have bred both for the last twelve years, and can bear testimony to the accuracy of the remarks made by Mr. Teeby, a celebrated authority on the subject. The new Poultry Book, by Tegetmier, thus quotes his description of the Golden Mooneys:—"they are rather small birds, with neat heads, tight rose combs, small deaf ears, which are not pendent, but quite close to the face, and which are seldom pure white; the plumage of the Mooney Hen is exceedingly close and glossy, the ground colour being a clear rich golden bay, each of the body feathers having a large round rich green black moon or spangle on the end; the neck should be striped with rich green black. The forepart of the breast of the cock is often rich green black, but lower down and on the sides the ground is beautifully clear golden bay, with very large distinct round rich moons, without the least mossing or lacing."

The Golden Pheasant fowls are heavier birds than the Golden Mooneys, with larger and looser rose combs, and large pendent deaf ears, which are generally pure white; the plumage is not so close and glossy as that of the Mooneys; the bay ground colour is often slightly mossed with brown; the black spangle on the end of the body feathers are crescentic, and not circular; the neck is striped with black, tail feathers black; on the breast of the cock the black spots on the ends of the feathers generally run up the edges, somewhat like a bad, ill-defined lacing, and give the breast a very streaky appearance. As it is impossible to cross the two varieties without spoiling the beauty of the marking seen in the true Golden Mooney, it is very important that breeders should be particular in the birds they introduce into their yards.

There is another point which has given rise to a great deal of discussion. I allude to the bird's tail, a most important appendage. The fanciers of Yorkshire, where they have been bred very extensively, give the preference to the hen-tailed cocks, or birds with tails like the Sebright bantams, as breeding better spangled birds; while the Southern fancy contend for the flowing tail, with the sickle feathers. For my own part, I consider all hen-tailed cock-birds whether game or otherwise, to be an abomination, and I hope no Canadian will take a fancy to them.

Such in detail are the colour and feathering of the Golden Spangled Hamburghs; but we cannot pass it by without expressing our admiration of the brilliancy of the plumage, which in good specimens of the hens attains a depth of tone seldom surpassed by any other variety. It has been said that the only comparison which does them justice is the bloom of a thorough bred bay horse, in racing condition.

Like all the Hamburghs, the comb in both sexes should be a well developed rose, set firmly on the head, and not hung over to one side, piked behind; ear lobes should be a clear French white, and well defined; the legs should be a slatey blue.

They are what may be called perpetual layers, of good sized white-shelled eggs, and being non-incubators, require other hens to hatch their eggs. I have found the best hens for that purpose to be game.

The male birds should weigh from 4½ to 5½ lbs.; the hens from 4 to 5½ lbs. They, like all the rest of the Hamburghs, are fond of their liberty, and thrive best where they can have a grass lawn to range over. Their chickens are easy to rear, and from the well developed breast and small bone, are excellent for the table. Good specimens are very rare in this country; in fact, I have never heard of any but those I have bred myself. I procured some specimens once or twice from the other side, but they were so very inferior that, rather than let them spoil my birds, I cut their heads off.

Altogether, I do not know a more desirable breed for the farmer or amateur, on account of their extreme beauty when well bred, their excellent laying properties and fine flesh.

The Household.

Sardines.

HOW THEY ARE CAUGHT AND HOW PREPARED

A CORRESPONDENT of the *London Times*, in an article on the French fisheries, has the following:

The great French sardine fishery is conducted in a way that is quite remarkable for the extravagance it involves. The sprat fisheries on the British coast—indeed all the net fisheries of our coast—are carried on in the most primitive way, and with very great success. The French sardine fishery is conducted in a way altogether different from ours; it presents this anomaly—namely, that the French have made it a bait fishery, requiring the annual expenditure of an enormous sum of money for a substance with which to entice the fish, this substance being the roe of the cod a figurative whale to catch a sprat. On the shores of the North Sea fisheries have been established solely for the purpose of providing the eggs of the codfish as bait for the sardine catchers of Concarneau.

This roe, which is prepared, costs fifty francs per barrel; each boat employed in the sardine fishery will use about fifteen barrels every season, and as there are about 3,000 sardine boats on the coast of Brittany, the money paid for bait cannot be much under £100,000 per annum. The number of codfish which must be killed, or at least are killed, for the purpose of obtaining this ground bait, is therefore enormous, and if the fishery exhibitions now open in France achieve nothing more than the teaching of the men of Concarneau to catch their sardines as the British fishermen catch their sprats, they will indeed be a great success.

The capture and cure of the sardine is a great business in France, and especially at Concarneau, where as many as thirteen thousand men aid in the fishery.

It is an interesting sight to witness the arrival of the boats, and to see the rush to the curing establishments of the men, women and children interested in the sales.

As soon as the boats arrive, the fish are put in train for the cure by being gutted, beheaded, sorted into sizes, and washed in sea water, chiefly by women, who can earn from twelve to twenty francs a week at the curing establishments.

The cure is begun by drying the fish on nets or willows, generally in the open air, but sometimes from stress of weather it must be done under cover. After being dried they are ready for the process of the pan, which is kept over a furnace, and is filled with boiling oil. Into the cauldron the fish are plunged two rows deep, arranged on wire gratings. In this pan of oil (the very finest olive oil) they remain for a brief period, till, in the judgment of the cook, they are done sufficiently. They are placed to drip, the drippings of oil being, of course, carefully collected, after which they are packed by women and girls into the nice little clean boxes in which they are sold. Again they are allowed to drip by the boxes being sloped; then each box, by means of a tap, is filled carefully up to its lid with pure olive oil, when it is ready for the next process, which is the soldering on of the lids, or, as may be called, the hermetical sealing up of the box—a most particular part of the process, at which the men can earn very large wages, with this drawback—that they have to buy all the fish that are spoiled.

After the soldering has been accomplished, the boxes have to be boiled in a steam chest. Those that do not bulge out after the boiling are condemned as "dead," for when the process is thoroughly gone through, the perfection of the cure is known by the bulging out of the boxes, which are of various sizes according to the purpose for which they are designed. There are boxes of six pounds weight, and two pounds weight, as also half and quarter boxes, with from twenty-four to twelve fish in them, acording to size. Little kegs are also filled with sardines cured as anchovies.

The finishing process of the sardine cure is to stamp the boxes and affix the thin brass labels which are always found upon them. There are little incidental industries connected with the cure which may be noticed. The *debris* is sold for agricultural purposes, as is the case at home here, where the curers get a few pounds annually for their offal, though a large quantity of oil is exuded from the sprat during the process of the cure, and on the total fishery this oil is of considerable value. The "dead" fish, as we have said, are sold to the men, but the success of the cure is usually so great that the "dead" form but a very small percentage of the total number of boxes submitted to the test.

TO PREPARE BEE'S WAX.—To obtain wax, boil the combs in a strong muslin bag, in a sauce-pan, with water enough to keep it from burning; and whilst boiling, continue to press the bag with a wooden slice or spoon, to extract the whole, as you skim off the wax. Drop the wax into cold water, where it will swim on the surface. The wax thus obtained will still want refining, to effect which place it in a clean sauce-pan, and melt it over a slow fire. Then pour off the clean wax into proper vessels, and let it cool. To whiten it, make it in thin cakes, and expose it to the sun.—*N. Y. Coachmaker's Magazine.*

HOW TO KEEP HAMS THROUGH SUMMER.—After your hams have taken salt hang them up and smoke them well, then take them down and dip them in boiling water for a few seconds; that will kill all the eggs of insects, if there should be any on them; then roll them in dry ashes while wet and hang them up again; smoke them more if you choose. I know this to be a good way to keep them, for I have tried it for two or three years; it is cheaper than canvassing, and a great deal better. This will do also for shoulders and sides; also, those that do their bacon in this way will never have any bugs or skippers on their meat. —*Cor. Rural World.*

HOW TO FIX THE CLOCK.—When the clock stops, don't take it to the repair shop till you have tried as follows: Take off the pointers and the face; take off the pendulum and its wire. Remove the ratchet from the *tick* wheel and the clock will run down with great velocity. Let it go. The increased speed wears away the gum and dust from the pinions—the clock cleans itself. If you have any pure sperm oil, put the least bit on the axles. Put the machine together, and nine times in ten it will run just as well as if it had been taken to the shop. In fact this is the way most shopmen clean clocks. If instead of a pendulum the clock has a watch escapement, this latter can be taken out in an instant without taking the works apart, and the result is the same. It takes about twenty minutes to so clean a brass clock, and saves a dollar.—*Cor. Co. Gent.*

Poetry.

The Canadian Farmer's Song.

BY E. H DEWART.

I.

Let the cities proud boast long and loud
Of their palaces fair and grand;
In the country wide, spread on every side,
Are the works of our Father's hand.
Can the stifling air of the city compare
With the pure and fragrant breeze,
That so merrily plays, as it sings its lays,
Through the rustling forest trees?

II.

Though our fate may seem, to some idler's dream,
A toilsome and weary lot,
Yet peace and health are the priceless wealth
That are found in the settler's cot.
We are freemen good—not a slave ever stood
On our loved Canadian soil—
No tyrant's power can withhold for an hour
The fruits of our honest toil.

III.

Though a life of toil has the Son of the soil
Yet calm and sweet is his rest;
Fresh he wakes from h[illegible]ams, ere the Day King's beams
Have shone on the blue bird's nest
He drinks of the rills that gush from the hills,
And the soil he tills is his own;
And as happy and free as a king is he—
Who bows but to God alone.

IV.

Though to Britain as due love loyal and true—
Where the bones of our fathers rest—
Yet the forest land, with its rivers grand,
Is the land that we love the best.
Here our sons in pride grow up side by side,
The joy of our peaceful hours,
And our daughters are fair as the wild flower rare
That bloom in the forest bowers.

V.

When the welcome Spring comes on golden wing
In the sugar-bush blithe and free
We gather with care the life blood rare,
That flows from the maple tree.
And we plough and sow in hope, for we know,
If we waste the beautiful Spring,
Our regret will be vain, when in Winter's reign
Canst fatten fowl on the wing.

VI.

When the Autumn yield is the fruits of the field
A reward for our toil is given,
We thankfully take her gifts, which bespeak
The love of our Father in heaven.
When the wintry blast goes howling past,
Spreading sorrow and want on its way,
By the bright maple fire, safe from rude Winter's ire,
We sit at the close of the day.
And our songs of praise we joyfully raise,
High over stern Nature's strife,
As to Heaven ascends thanks for homes and friends,
And the joys of a Farmer's life.

Miscellaneous.

Shetland Stockings and Those Who Knit Them.

There is perhaps no community that gives such indications of industry among the female population as Shetland. The knitting-needles and the worsted are continually in their hands, and seem to form part and parcel of the woman herself. If you take a walk toward Tingwall, you will meet or pass dozens of women going for or returning with peats from the hill, all busy knitting—one a stocking, another a stout shawl or cravat. The finer articles—scarfs, vails; and lace shawls, which are often exquisitely fine—cannot be worked in this off-hand way, and are reserved for leisure hours at home. The "keyshie"—a straw basket, like a large inverted bee-hive—may be full or empty, but you never fail to find the fingers busy. This carrying of peats is almost a daily task, and you often see a woman with strongly marked features and large frame, who, from constant exposure to the sunshine and shower, and rendered gaunt and wiry by hard work, recalls Sir Walter Scott's description of "Norna of Fitful Head." The poor classes generally wear no shoes, but "rivins, a kind of sandal made of untanned cowhide, or sometimes seal-skin, with the hair outside, and lashed to the foot with thongs. All the wool of the pure Shetland sheep is fine, but the finest grows under the neck, and is never shorn off, but "rooed"—that is, gently pulled. It is said that an ounce of wool can be spun into upwards of 1,000 yards of three-plie thread. Stockings can be knitted of such fineness as to be easily drawn through a finger-ring. The annual proceeds of the industry are said to be not less than £10,000. It is quite common for a servant, when making an engagement, to stipulate that she shall "have her hands to herself," meaning that all she can make by knitting is to go into her own pocket. The industry of the women is to be accounted for by the fact that by their knitting they supply themselves with dress, but especially with tea, of which they are intemperately fond. It is a perfectly ascertained fact, that the value of tea annually consumed in Shetland far exceeds the whole land rental—about £30,000. Very large quantities of eggs are sent South, bringing in, it is said, some thousands of pounds annually, a great portion of which finds its way into the teapot.—*Louisville Industrial and Commercial Gazette.*

Protection Wanted.

(*From the "Round Table*)."

"Protect me," is the imploring cry of a comfortable, well-fed, well-clad personage, whom, at first sight, one would hardly take for a beggar. "Protect me! I own but 10,000 acres of land in the world. It is my all. It is full of coal, but the Englishmen and the Nova Scotians have got coal, too, and offer to sell it cheaper than the price I want. Shut out this foreign coal and protect me, an American labourer." He looks even less like a labourer than like a beggar.

"What makes coal so dear, when the weather is so dreadful cold! God help us poor!" comes from between the chattering teeth of a toil-worn, care-worn, shivering woman, as she measures with stingy eye a scanty fresh supply of fuel to her waning fire. No cry from her to Government for protection. No protection to her from the greed of the strong, the cunning, the avaricious. "Work for yourself. Work or starve. Self-help. Every one for himself. If Government gave bread or clothes or fuel to the poor, it would demoralize them. Take better care of the pennies you earn. Lay them up in summer for a wintry day." Such are the answers she would get if she asked for protection—if she turned beggar. No chance for her to put in a replication. The voices of the coal owners are mighty to drown hers. If she could be heard, she would say, "How can I lay up my pennies when the strong arm of Government takes them from me, day by day, as fast as I earn them, and hands them over to my rich neighbours! On every spool of thread I buy Government takes from me a penny or two to pay over to the Woonsocket Factory company, so that they make dear thread and big dividends. On every garment I wear, it takes pennies and shillings from me wherewith to fill the purses of the rich men who make cloth and stockings and shawls, and who cannot be content with less than 50 or 100 per cent. increase of their wealth every year to pay them for making dear clothes for the American labourer. When I buy a stove or a pair of scissors, I must pay some of my hard-earned pennies to support the wealthy ironmaker of Pennsylvania. I get no

protection to my labour, and I ask none. Let us both alone—me and the manufacturer. As you let me work my humble way along as best I can, leave him to do the same. Give him no part of my earnings, and I am content with my little share of this world's goods." If it demoralizes society for Government to give to the poor food, and clothing, and fuel, is it not equally demoralizing for Government to give to the rich and strong? And when it gives to the rich by taking from the comforts of the poor, is it not demoralizing society at both ends?

"Mother, do give me another blanket, I am so cold," begs a shivering child, of a winter's night, on our northern frontier. "I have no more, child; blankets are so dear and all sorts of clothes are so dear. John, what makes woollen things so much dearer than they used to be?"

"I don't know; but they say it's all done to protect us poor folks. A tonguey man told us the other night that the Government must protect us from the blanket-makers in England and other foreign countries."

"Yes, but John, over in Canada they have nothing but English blankets, and you can buy two blankets there for what one costs here. The English blanket-makers don't seem to be so hard upon poor folk, after all."

"Well, I can't tell the story exactly; but the torguey man made it all out clear. I think he said, to, that wool wouldn't grow on our sheep unless they was purtected.

"Why, John, you don't mean that they kiver our American sheep with blankets to make their wool grow, and that's the reason blankets are so scarce and dear?'

"Well, I don't know about that; but he made out that the sheep must be purtected to git the wool, and then the men who made the wool into blankets must be purtected; else we'd have to use the cheap foreign blankets, and then he said we'd be worse off."

"John, don't you think the tonguey man was pulling some wool over your eyes? If I could get two blankets instead of one to keep the children warm, the sheep could do well enough with their natural kivering. It seems to me that we poor folk, what don't have any natural kiver of wool growing on our backs, want purtection more than the sheep."

"Well, that's just what Deacon Welloff says; he says these high prices purtect us as well as the sheep; and you know the deacon subscribes a good deal of money for the poor."

"That's all true, John; but then the deacon don't seem to get any poorer for all that he gives away; and the deacon has got a good many sheep of his own; and whatever is good for his sheep must be good for the deacon's own pocket; and they do say that he owns part of a big blanket factory down in Rhode Island; and so, maybe, the deacon wrongs us poor folk out of $10 and then gives us back $1 of it in charity; maybe, if the poor had cheap blankets and cheap clothes, they wouldn't want any charity. You can't make me believe we're any better off for having only one blanket, when, if they was cheaper, we might have two."

The parable of Dives and Lazarus might be useful reading for those who are getting fat dividends from coal mines and factories.

WHEN TO CUT OAK BARK. Oak bark contains more tannin when cut in Spring, by four and a half times, than when cut in winter; it is also more plentiful in young trees than in old ones. About 40,000 tons of oak bark are said to be imported into England annually from the Netherlands, Germany, and ports in the Mediterranean. The quantity of English oak bark used we have no means of ascertaining. Our own tanners pay very little attention to the period when oak or hemlock is cut. We believe that as a rule, however, this work is done at the season when the bark will easely peel, which would be in June, or about that time. Sir H Davy says that 8¼ pounds of oak bark are equal to 2¼ pounds of galls, 3 pounds of sumac, 7¼ pounds of bark of Leicester willow, 11 pounds of the bark of Spanish chestnut, 18 pounds of elm bark, and 21 pounds of common willow bark. For a very long time oak bark only was used in England for tanning. Hemlock does not grow there. As the oak was being gradually consumed, (the case with the hemlock with us) other substances were introduced: heath, myrtle-leaves, wild laurel leaves, birch tree bark, and even oak-sawdust. The principles of tanning have not been correctly understood until since the year 1800, in consequence of the researches of Davy and others.—*Hide and Leather Interest.*

A GOOD STOMACH REQUIRED!—It is related that the clerk of a rural church in England recently made the following announcement to the congregation:—"You are desired to attend a meeting in the vestry, at four o'clock, to consider on the means of heating the church and digesting other matters."

Markets.

Toronto Markets.

"CANADA FARMER" Office, May 13, 1867.

THE market for flour has again advanced, and the tendency both for it and wheat is still upwards, closing very firm, with but little offering. On the week we quote an advance of from 75c to $1 per bbl. on superfine flour, and about 50c to 75c on extra. There has been an active enquiry for oats from the United States; in fact, all grains are in request at continually advancing prices.

Flour—In light supply, and active request for superfine. Sales made early in the week at from $8 25 to $8 30, closing firm and active to-day at from $8 50 to $9. Coarse flour is much wanted, and extreme prices are paid. The market is bare, and lots would sell well. Demand principally for the provinces and lower ports. Extra is also more enquired for, and sales have been made at $9 70. Superior sold during the week at $10.

Wheat—Fall wheat very scarce and active at an advance of 10c since last week. Prices range from $2 15 to $2 25. Spring wheat is very firm and fully 10c higher. Round lots are held at from $1 95 to $2.

Peas—Have been dull and drooping, and close fully 1c to 2c lower. Sales have been made at from 77c to 78c.

Barley—Has improved and is in demand. Under light receipts prices are fully 3c higher. Sales reported at 65c to arrive, and at 67c.

Oats—Opened dull and drooping, sales were since made at 44c, 45c, 46c, and 46½c for cargoes f. o. b. at points east. Market closes active, holders on spot asking 50c.

Rye—Sympathizing in the general activity, has improved. A sale is quoted of a lot at equal to $1 08, f. o. b.

Pork—Mess held at $19, Prime Mess at from $14 50 to $14 75. No prime in the market.

Cut Meats—Bacon in salt, 8c; smoked do 9c. Hams in salt, city cured, 9½c; smoked, 11c; smoked rolls, 11c.

Butter—Store-packed no sales; market very dull. Store-packed held at from 9c to 10c; choice for local use, at from 13c to 14c.

Lard—City, 9½c to 10c; country do. 8c to 8½c.

Eggs—In plentiful supply, selling at from 9½c to 10c in shipping lots; from farmers' baskets, 11½c.

Hay and Straw—Hay scarce; as high as $21 was paid during the week for a few loads. The current price now is from $15 to $19. Straw selling at from $7 to $9 50.

Hamilton Markets.—During the day a tolerable business was done in the provision markets, although not as large as if the roads were better and the weather finer in the earlier part of the day. The following are the quotations:—*Flour*—From white wheat $9 60 to $10; red winter, $8 75 to $9; spring, $8 75 to $9; middlings, $7 50 to $8. *Oatmeal*, $5 to $6. *Cornmeal*, $1 75 to $2 50. *Bran*, 75c to 87½c. *Coarse shorts*, 90 to $1, fine do., $1 to $1 25. *Chop feed*, $1 25 per 100 lbs. *Eggs*—fresh from farmers' waggons, $12½c to 15c per dozen. *Butter*—the transactions in butter for the week have not been very heavy, and prices have not changed since our last report; tub 9c to 11c per lb, rolls, 10c to 12c per lb; fancy rolls from farmers' waggons, 18c per lb. Lard selling at 11c to 12c per lb.

London Markets, May 7.—*Fall Wheat*, $1 90 to $2 07, *Spring Wheat*, $1 85 to $1 90 *Barley*, 62c to 63c. *Peas*, 75c. *Oats*, 50c to 55c. *Corn*, 70c. *Rye*, 65c to 70c. *Seeds*—clover, $7 50 per 60 lbs., timothy, $2 75 to $3 per 48 lbs. *Wool*, 28c per lb *Butter*—Prime dairy-packed, 13c, No 2 9c. to 10c per lb. fresh, in rolls, by the basket, 15c to 16c per lb *Eggs*, 9c to 10c per dozen.

Guelph Markets, May 7.—*Fall Wheat* per bushel $1 90 to $2 *Spring Wheat* do $1 85 to $1 95 *Oats* 40c to 41c *Peas* do, 60c to 65c *Barley* do 55c to 60c *Wool* per lb. 34c *Eggs*, per dozen, 8c. *Butter* per lb, 12c to 15c

Galt Markets.—*Fall Wheat*, per bushel, $1 75 to $1 90, *Amber Wheat*, per bushel, $1 70 to $1 80, *Spring* do per bushel, $1 65 to $1 75 *Barley*, 45c to 55c per bush. *Oats*, 36c to 41c per bush *Butter*, per lb, 11c to 12½c. *Eggs*, per doz. 10c to 12½c.

Belleville Markets.—*Fall Wheat*, none, *Spring Wheat*, small deliveries at $1 70 to $1 80. *Rye*—Quick demand at 90c. *Barley*, 50c to 55c. *Corn*, 70c. *Peas*, 70c to 72c. *Flour*, retail, $8 00 to $8 50 *Oats*, 40c to 45c *Butter*, 15c to 17c.

New York Markets, May 11.—*Wheat*—1c to 2c better; sales, 21,000 bushels at $2 32 to $2 35 for No. 2 Milwaukee, $3 00 for white California. *Rye*—firmer, sales 3,500 bushels at $1 70 to $1 73. *Barley*, quiet. *Corn*—Receipts, 64,573 bushels, 1c to 2c lower. Sales 46,000 bush. at $1 33 to $1 34 for old mixed Western delivered, $1 18 for new mixed Western, $1 31 for choice Southern yellow. *Oats*—Receipts, 300 bush., market is 1c firmer, sales, 21,000 bushels at 87c to 88c for Western, 90c to 91c for State.

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