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The Field.

Smothering Out the Thistle.

To the Editor of THE CANADA FARMER :

Sir—Having glanced in a former communication, under the head of "How to Exterminate the Thistle," at some of the ineffectual methods hitherto recommended and practised, permit me now to say a few words on a plan which appears to me perfectly consistent with physiological principles, and which I have found eminently successful.

The thistle will always yield most readily to the following treatment: Grow it in the shade, where it will be compelled to elongate, (but deprived of the power to elaborate) and so exhaust the root of its store. But first, let us glance at the farmer's ordinary routine of operations, and see how unerring and successful he has been, and still is, in propagating this bold, undaunted, and dangerous invader; then by reversing this routine, see if it cannot be expelled. The farmer's usual practice is to put in his winter wheat on fallow ground, and, as aforesaid, no better preparation could possibly be made for the propagation of the thistle by seed. The next misfortune follows as a rule, almost without exception; Timothy is sown with clover, or Timothy alone, and this ensures only once mowing, generally about the middle of July, just when the thistle is matured; and although the seed may not be fully ripe when cut, they ripen afterwards, in the same manner as we see in grain after being cut. In such heads, I have seen in the spring young plants issuing forth as thick as you may see young clover from a seed-head. After the mowing of this crop of Timothy, the thistle again puts forth another healthy crop of leaves, which now can luxuriate in the unobstructed rays of the sun and air, and so continue to the beginning of November, leaving the root stronger in stored-up matter than in the spring. Now, can this be altered? Yes. Sow clover for the time without Timothy, and strain a point to mow it twice, and you will assuredly succeed. Now take two thistles in the following positions, and pause a little on the extreme difference. Look first at the thistle the leaves of which, say, are six inches long, growing in unobstructed sunshine and air; see what a bright, glossy green it assumes, how fierce its prickles look, most acutely suggestive of the annoyance of treading on it with naked feet, or pulling it up with our hands.

Now turn to a feeble specimen, overwhelmed in a heavy crop of clover, with a bunch of pale and sickly-looking leaves at the top, but none at the bottom; draw them through your hand, and they will not hurt you. Light and shade make all the difference. Out of the one growing exposed, and it will soon push forth more leaves, which may be repeated perhaps ten times (as the steam-plough writer has

said), and the reason is this: as soon as the leaves put forth, they begin to organize and throw back to the root as much as it has cost for their production; but cut off the light and air, and the case is reversed. The thistle grown in the clover, has from the first been growing in the shade, and trying to keep pace with the clover to reach the light, producing thus its attenuated form, because its growth is not nearly so rapid as that of the clover, and growing in this condition, it has extracted its whole substance from the root, without making any returns, and consequently, the root has lost just so much of its substance. In the second crop, there will be the same disparity of growth between clover and thistle, only the latter will be much more feeble, so that when the second cutting takes place, the thistle is fairly subdued, but not quite destroyed. To complete the destruction, plough the lay down in the beginning of October; by this time what little power is left in the root will be exerted in the reproduction of some feeble leaves, for so long as there is active sap in the plant it must have lungs to breathe (during the growing season) or it will surely die; and by ploughing them down, no leaves are left as working agents to elaborate or digest food, to be stored in the root to produce the plant for next year. With this treatment the thistle is doomed, no matter of how long standing, or how numerous. The following has been my method of managing the clover crop. In the fall of the first year, do not feed it off after the middle of September, and if it be not strong, not at all. After the ground is frozen sufficiently hard to bear the cart or wagon, a dressing of half-rotten manure must be applied. Scatter it evenly from the wagon. This is to ensure two things—to prevent frost-lifting in the spring, and to ensure two crops; the first to be cut as soon as it is in full bloom—not a brown head must be seen. When the crop is removed, apply a dressing of plaster without loss of time. The first crop will (as a rule) be always ready from the twenty-first to the thirtieth of June; the latter, two months after. The last might be a little more matured. Now, it does not follow that the lay must be ploughed down after the first, or the second crop; but so long as it remains, it must have a slight dressing of manure in the fall for protection, and the second crop is certain. In regard to the process of making or curing the crop, the following hints may be useful. If the weather be fine, it will need but once turning. Never put it in cock; for by so doing the leaves will drop from the stalk when spread abroad again to dry. In showery weather it is much more likely to suffer than Timothy; for when once wet, after being withered, it will take twice as long to dry; consequently, a little more prudence is necessary. Never put it in a barn, or other building, but always in a stack. Twenty acres of clover will (on the average) yield thirty tons, and thirty tons make one good sized stack, twenty-eight feet long, by sixteen wide. If this stack were to be

thatched, it could not be safely done for ten days or a fortnight, by reason of its sweating; but when correctly done, clover thus secured makes the very best of hay, and always commands fifteen or twenty shillings per ton more than other hay in the English markets. "Thatching at this time of year!" the farmer may say. "I have not time." Be it so; then get some good lumber boards, fourteen feet long, and they will last a number of years with care, and are more easily removed as the stack is being consumed; and let no farmer think it a hardship to have one stack of old hay to commence the winter with. Hay put in stacks is considered in its prime at one year old. Now, suppose this clover-growing system only to effect the destruction of the thistle, then surely it is worth something; for, supposing the farmer had to consume the whole of it on his farm at the present time, I contend the hay would be worth to him at least five dollars per ton, which for the two crops, say, three tons, would bring in fifteen dollars per acre; then allowing him for cultivating the extreme sum of fourteen dollars per acre, he would clear one dollar, instead of losing ten for fallowing. There are thousands of farms that would be much benefited if this system were adopted. Sell the crop in the form of mutton, wool, beef, butter and cheese; milch cows ask for no better food, with an alternate feed of mangold and carrots. Sheep will fatten freely in winter on the same, with a few turnips. Horses (if not worked too hard) need nothing more, save a few roots of that generous yielding crop, the Belgian carrot. Then, in spring or fall, the farmer has got at hand what ought to give him as much pleasure to behold as dollar hills, namely, a comely heap of manure; with this, he must not begrudge the sum required to buy a liberal quantity of bone dust, an outlay necessary for the preparation of his root crops. Then his farm will grow, or become more fertile, instead of deserving the bad character "run out." One word more about the clover stack. Scarcely one season could pass before this hay would rival any other in the market; then no other crop would pay the farmer better. It should not be loaded up like loose straw, but cut out (with a good hay knife) in parallelograms, 3½x2 ft., each piece weighing about forty or fifty pounds, which will make a snug load by laying two in breadth. They need not have bands, but two stout ropes to unload with; while one is being deposited the other might be fixing ready to be hauled up.

The twenty acres of clover lay, ploughed down, must absolutely be followed by a root-crop; say five acres of potatoes, five acres of turnips, three of mangold, and two of carrots; and to give the jaded ground a fair chance to recuperate, crop it with the same roots the second year, only shift their position; the farmer will then have plenty of food, to feed plenty of stock during winter. As a rule, permit me to say, never manure for any grain, or potatoes; reserve

all for other roots and grasses. The next thing to consider is, how to manage thistles growing about stumps and fences. They must be cut with a spud close to the ground at the end of June, and again at the beginning of September, and be careful not to leave any leaves to ripen, and these also will then disappear. This work might be let by little contracts to juvenile members of the family; or this felling, to neighbors' children, and this too without depriving them of schooling. Any boy or girl, ten years and upwards, can be taught the use of a spud in five minutes.

The above (may I call it a system) put into rigid practice will prove the true panacea for the evil in question, and other perennials will fare no better. No more appeals to the moon by the magician or enchanter; let her move silently in her orbit, without blaming or praising her, as having any lot or part in the matter, save only, when the farmer has taken his repose after tea, he may sally forth and (it may be half a dozen in family) all with spuds in hand, for half an hour, and attack some secret patch of the thistles under the enchanting light of the much abused moon.

In the spring, when the clover lay is quite dry, make a harrow of brush, or bushes, like an equilateral triangle, and with one horse harrow twice, and cross-ways. This will crumble to pieces any remaining lumps, and leave the surface renewed, for which the clover will express itself grateful, after the first warm shower.

PUBLICOLA.

Contrivances in Rural Economy.

BAG-HOLDERS.

FARMERS who handle much grain and who cart off many hundred bushels annually, would find it a matter both of convenience and economy, to provide a simple stand to hold each bag while it is filled with the scoop shovel—instead of the more frequent practice of taking the time of a man or boy to do this work. These bag-holders are made in various ways.

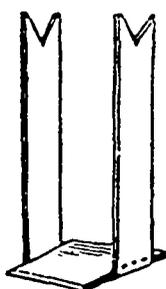


FIG. 1.



FIG. 2.

One mode is to drive a few sharp nails into the top of a light barrel open at both ends; hitch the top of the bag on these nails while it hangs within the barrel resting on the floor, with its mouth open ready for filling. When filled, it is tied and the barrel lifted off. A better way is to provide a board about a foot wide and eighteen inches long (fig. 1), which serves as a base, and on which the bag stands. Uprights or



FIG. 3.

standards with sharp points at the top hold the bag open until it is filled. These uprights are variously constructed. One mode is to take a piece of two inch plank for the bottom, and bore two holes, or one at each corner on the same side, and insert upright or forked sticks firmly into these holes, as shown in fig. 2. Another mode is to nail thin boards on the

opposite sides of the plank base, sawing a fork in the top of each, so as to form sharp points for holding the mouth of the bag. If these boards are so nailed on to the base that they shall spread a little towards the top, and being thin enough to have some spring to them, they may be slightly bent inward when the bag is attached, and springing out again will hold it the more firmly. One of the best, firmest and most convenient supports, admitting the ready removal of the filled bag, is represented in fig. 3. It has a board bottom, on two corners of which, upright boards are nailed as shown in the cut, connected and braced by a horizontal board at the top. Through this board are driven nails, projecting upwards, and to which the bag is attached. This support is light, and the uprights being braced, are not easily broken off. By first measuring the height of a full bag, the right dimensions may be obtained.

SNOW-PLOUGH.

The deep snow throughout the country the past winter, made a great deal of hard labour in shoveling by hand. A simple snow-plough may be made by any farmer in an hour or two, and will open paths by means of a single horse, with ease and rapidity. The height of a plough may vary with the depth of the snow, which being very uncertain, it should be sufficient. A foot will answer for nearly all cases.

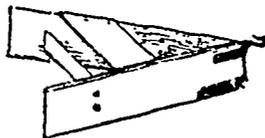


FIG. 4.

Take two pieces of plank or thick board, a foot wide and about five feet long, more or less, dress off one end of each in a wedge form on one side, so that when these two dressed faces are placed together, the two pieces will diverge like a letter > (fig. 4.) A width of three feet behind will be usually sufficient, and a board may be placed within, extending across so as to form a brace by nailing. Sometimes a joint is made at the forward end, and cross pieces of different lengths keyed in, to make the plough wider or narrower as may be desired. A hook is attached to the forward end for the whiffletree, and a box seat placed on the top for the driver. By increasing or diminishing the distance between the hook and whiffletree, the forward end will run high or low as the nature of the snow may require. The driver has only to keep the horse in the right place, slightly guiding the plough by throwing his weight left or right. This plough may be used around the house, to front gate, to barns and other out-buildings, along village streets and elsewhere. A finishing touch may be given to these paths by hand when desirable.

FASTENING OPEN BARN-DOORS.

Good barns are always supplied with fastenings to hold the doors while shut; but very few owners ever think of securing them while open, and as a consequence, strong winds often blow them about, slamming them against the walls or other obstructions, injuring or splitting them, and sometimes breaking them down from their hinges. Different modes are adopted for securing them while open. Doors which are merely fastened by a hook and staple, are easily

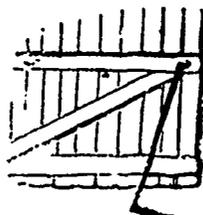


FIG. 5.

fastened open by inserting another staple at the place where the edge of the door strikes, to receive the hook and hold it fast. Another mode, (described in the *American Agriculturist*), is to prop the door

open by means of a stick provided for the purpose, an inch or more in diameter and three or four feet long, (fig. 6,) which is fastened to the outer edge of the door by an eye and staple, the other end resting horizontally in a hook when not in use. This end has a sharp iron point, to prevent it from slipping on the ground or ice. When the door is opened, the stick is placed in the position of a prop by a single movement of the hand; and when again shut, it is lifted and laid in the hook. A third mode, which may be adopted where a common latch is used on the door, is to place a second catch at the outer edge of the door, which may receive and hold the latch while the door is open. This is better or easier to manage than either of the others, the latch being self-fastening in both positions.—*Illustrated Annual Register of Rural Affairs.*

A New Food.

To the Editor of THE CANADA FARMER.

SIR—I send, for publication in your journal, an account taken from *Bell's Weekly Messenger* of the 11th February, 1867, of a new food plant, the *Sorghum Tartaricum*, and in addition, reports respecting some flour and bread made from the seed of the plant, in London, Ontario.

"The interest excited on the subject of Mr. Hullett's letter must have very much surpassed his expectations, as within a week of its appearance no fewer than 20,000 applications were made to him for seed. Some time must necessarily elapse before such a vast number of applications can be answered, but we are authorized to say that every person who has written will receive, before the end of March, at least three or four seeds, the largest number that under the circumstances Mr. Hullett will be able to send."

The following is a portion of Mr. Hullett's letter:—

"The Chinese Sugar Grass should be sown very *thinly indeed*, at the end of March, having been previously soaked in lukewarm water for some hours. It grows slowly at first, but very rapidly afterwards, and attains the height of from eight to twelve feet. Its appearance is very graceful, having a straight, tall stalk, marked at intervals with knots or nodes, and from these spring the long, spreading leaves.

"The seed grows in great bunches upon the eight or ten separate stems which form a tuft at the top of the plant. The crop is ripe about the beginning of September, and must then be gathered by hand from the stalks, before it is cut; the leaves are next to be carefully stripped off, and dried for fodder, being far superior to the best hay; and lastly, the stems or canes are cut into lengths, and either used for making wine or sugar, a very large quantity of either being easily made from them.

"The seed is separated from the husk by any ordinary threshing apparatus, and may be ground in the same manner as wheat, but there is no bran, so the whole is flour. The bread made from this grain tastes like a plain cake, being richer than wheaten bread, and more palatable.

"For fattening cattle it should be cut green, and is said to possess marvellous fattening powers; I had so small a quantity that I could not tell whether this was true or no; but I know that all animals prefer this rich, sugary fodder to anything else.

"I had the seed from a friend who is a missionary in Western China, of which place it is a native; but it is now much cultivated in America, and I would refer any one wishing for details, to a work on 'Sorgho Grasses,' by H. Olcott, published at New York, by Moore & Co., which contains a mass of information on the subject.

(Signed,) "J. HULLETT.

"CLARENCE LODGE, Cosham House."

The first of the following extracts is a letter from Mr. J. D. Saunby, of the North Branch Mills, to the editor of the *Free Press*. The second is a letter of my own on the subject to the same journal.

FLOUR FROM SORGHUM.—"Major Bruce brought some seed of the *Sorghum Tartaricum* to our mills the other day. I was doubtful if flour could be made from it or not, but as the Major was anxious to have me grind it, I was resolved to give it a fair trial, and the result was as follows, viz.:—From 21 lbs. of seed, 10 lbs. of flour, 4 lbs. shorts, and the remainder in husky bran, something like buckwheat bran. The abundance of bran may be attributed to the fact that at least one-third of the seed had not matured; owing, I think, to late sowing. Had the seed been fully developed, the return of flour per bushel might be estimated at the rate of at least 30 lbs. per bushel, thus giving 1,800 lbs. of flour per acre, at the rate of sixty bushels of seed.

"As to the true value of the flour made from the plant, that is yet to be ascertained when made into bread. If a grist of four or five bushels were ground, I feel sure that the flour might be made much whiter than that in Major Bruce's possession."

In reference to the foregoing letter I wrote as follows:—

"Having eaten of some bread made from the flour of this plant, I would pronounce it as very palatable, being similar in flavor and color to that made from rye. Doubts may arise with regard to the wholesomeness of the bread, and perhaps it might be suggested that a committee of competent persons—assisted by several medical gentlemen—be invited to meet and test its value, and should its qualities be found to agree with Professor Hallett's published remarks, a report of it could be made to the Hon. Mr. Carling, the Minister of Agriculture. This plant is allied to the Millet (*holcus sorghum*), and stands first in value in its genus, and if cut green, as fodder for milch cows and other cattle, it would be found more valuable than if used in any other way, since from every plant cut, from four to six shoots spring up, forming an abundant second crop. It is doubtful if sugar can be made from the matured stalks, because there is but little sap left in them at this stage, and as ascertained forms shortly after the plants are cut, it would not crystallize in boiling.

"Captain Huggess sent about half a pint of seed to me last spring, with directions to plant once in May, and twice in June. That planted on the 30th of May vegetated freely; that sown on the 4th and 8th of June failed. From the 15th to the 20th of May is the time to plant, in order to insure ripe seed. From sixty to seventy bushels per acre would be a fair return. The dry leaves are an excellent hay. I should be glad to afford any information in my power, respecting the culture of the plant either for seed or fodder."

Deeming the subject of the new product one of great importance, I have sent the foregoing account, and shall be glad to see the information widely diffused through your journal among our agricultural population.

H. BRUCE.

LONDON, Dec. 30, 1867.

NOTE BY ED. C. F.—Since the foregoing was put in type we have received from Major Bruce, samples of the flour, shorts and bran from this particular variety of *Sorghum* seed, as well as a loaf of bread made from the flour. The flour is of a darker shade than superfine wheat flour, but not darker than much that is ground from spring wheat. The bran is somewhat rougher and coarser than buckwheat bran. The bread was submitted to critical discussion at our table, was preferred by some to wheaten bread, and was generally voted quite capable of becoming a useful and palatable article of food.

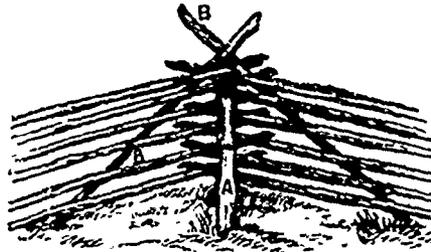
Packing Snow upon Wheat.

LAST winter we suggested the experiment of packing snow upon winter wheat by rolling it down with a common hand roller; but it was rather late in the season to be of any practical use at the time. This hint was taken from reading an account of an accidental experiment of the kind. A man having occasion to haul wood, one winter, across his neighbour's field of winter wheat, he engaged to pay him whatever damage it might do to the wheat, presuming that more or less damage would accrue. The road was staked out, so that it could be accurately distinguished at harvest time. But there was no need of stakes, for all through the season the wheat upon the track was a whole head and shoulders above any other part of the field, and the yield of grain was proportionally larger.

The difference was so marked that it seemed impossible that it should have been the result of the little manure dropped upon the track as the teams were passing, and the cause of the difference was regarded as a mystery. It is well known that snow well packed will resist the spring thaws and remain on the ground much longer than snow left as it falls, and that it is early bare ground in the spring that injures the wheat. Hence the suggestion to take opportunities when the snow is soft enough to pack well and roll it down on fields of winter wheat. It is certain that it will cause the snow to remain on the ground longer and hold the soil more firmly in its place and protect the roots of the grain from some of the early frozings and thawings, which are supposed to be the chief cause of winter killing.—*Wisconsin Farmer*.

Brace for Lock Rail Fence.

In many localities rails are extensively used for fencing, and as they are now built, are quite apt to be prostrated by every heavy wind, the rails broken, stock let into fields of valuable grain, time spent, and patience exhausted in rebuilding them. With these points in mind, I would call the attention of farmers to an improvement that nearly overcomes the above difficulty. There are a multitude of ways of laying up a worm fence. Those meeting with most favor by farmers, are staked and ridged, staked and wired, staked and capped, locked and ridged, and staked and locked and ridged. All these fences are expensive, and are deranged every year by the heaving



of the frost and other causes. Many farmers say, (also many authors,) that a lock and rail fence is not the thing, being too easily blown down, too cheap and too easily made to be of lasting service. I would present to such persons a plan by which a lock and rail fence can be made strong, and to withstand the wind even better than a staked and ridged fence. It consists in placing on the inside leeward corner, a piece of rail underneath the third rail from the top, and setting bracing as shown in the engraving. A is the brace; B, B, locks, which, as well as the rails, are laid up in the ordinary manner, always bracing the fence on the side opposite that from which the heaviest wind blows. A fence made in this manner has stood three years without repairing, while a staked, locked and ridged fence by the side of it, and in a less exposed situation, has been blown down a number of times; thus demonstrating the superiority of this fence, when built as shown and described.—*Cor. in Country Gent.*

Ploughing down Turnips.

To the Editor of THE CANADA FARMER:

SIR,—I beg to send a few observations on the latter part of the article of your correspondent "Vectis," which appeared in your issue of the 2nd Dec., in which he advocates ploughing down turnips as a preparation for wheat.

The cost of growing an acre of turnips in a yeoman-like manner is about \$20. The expense of producing a heavy crop of wheat, harvesting, threshing, and taking to market, is about \$11 per acre. Add rent of land for two years, \$6—making a total of \$37.

Say that "Vectis" gets forty bushels of merchantable wheat, and sells at \$1, he will have little profit at the end of the 2nd year. But his crop would not be forty bushels; probably not four.

"It has been found by experience that more than one-half of a fair crop of turnips, consumed on the ground by sheep, leaves more manure than is proper for the ground to receive at one time for the succeeding grain crop." (Stephens and Norton's "Farmer's Guide," page 189.)

It is considered that a green crop, ploughed down, produces three times as much effect as it would have done had it been fed off. I therefore think that I am justified in saying that the wheat would probably be lodged by the weather and ruined by rust.

But a field of turnips may be fed off on the ground even in Canada.

Sow Aberdeen yellows early in June. Early in September pull a part and store them in small pits distributed about the field, leaving as many in the ground as the stock are likely to eat before the hard frost: when winter comes feed out from the pits during fine weather, scattering the turnips widely.

The rotation I attempt is—turnips, wheat, hay, pasture, oats, peas.

L.C.B.

GUELPH, Dec. 27, 1867.

Profitable Farming.

JOHN JOHNSON'S remarkable success as a farmer might be attributed to his underdraining, and to the large quantity of plaster he used for many years on clover. But this would only be a partial statement of the truth. His success is owing, first, to the man himself—to his rare good judgment, combined with indomitable energy, persevering industry, close observation, and prompt, intelligent action. Second, to underdraining. Third, to the free use of plaster on clover. Fourth, to consuming all the clover, straw and corn on the farm. He has raised 3,000 bushels of corn in a year, but none has ever been exported from the farm except some which he gave to be sent to Ireland at the time of the famine. He never sold a bushel. It has all been fed out with the clover, straw, stalks, etc., raised on the farm. In addition to this, he has bought large quantities of oil-cake to feed sheep and cattle, and this has added greatly to the quality of the manure heap. Fifth, he bestowed great care on his summer fallows. They were not allowed to grow up to weeds, but were repeatedly ploughed and harrowed, and rolled and cultivated, until the stiffest clay was reduced almost to as fine a tilth as an English turnip field. Such thorough tillage is itself more than equivalent to a heavy dressing of our common manure.

Underdraining enabled him to work his land thoroughly and in good season. This thorough tillage set free the latent plant-food in the soil. The clover took it up and organized it into food for sheep. The sheep extracted the fat from the clover hay, and left the nitrogen and mineral matter in the manure heap. So of the corn, straw and stalks. They all found their way back to the land, with oil-cake in addition. It is easy to understand why his land is vastly more productive than when it first came into his possession. Underdraining, good culture, and good manure will make any land rich.—*American Agriculturist*.

Land Occupied by Fences.

THE materials and labor required to build and keep fences in repair are among the heavy items of farm expense. The cost of the land on which they stand is another item, on which J. Harris, of Rochester, discourses as follows in the *American Agriculturist*:

How much land does an old-fashioned fence occupy? I have always thought it took up a good deal of land, but never had the curiosity to measure. But this summer we have been building a stone wall along the whole west side of the farm, and after it was completed, and the old fence removed, I was surprised at the quantity of land we had gained. The ground, of course, might have been ploughed closer to the fence, but taking the case as it actually was, the old rail fence, with stones, weeds, rubbish, &c., occupied a strip of land one rod wide. A field, thirty-one rods long and thirty-one rods wide, contains about six acres. If surrounded by such a fence, it would occupy a little over three-quarters of an acre of land. A farm of 160 acres so fenced would have twenty acres of land taken up in this worse than useless manner. Not only is the use of the land lost, but it is, in the majority of cases, a nursery of weeds, and, in ploughing, much time is lost in turning, and the headlands and corners are seldom properly cultivated.

Salt as a Manure.

To the Editor of THE CANADA FARMER:

SIR,—I suppose some of my brother farmers are looking to see what has become of my salted wheat. I have it all yet, and a very fine sample it is, much better than the part that received no salt. I have eighty-five bushels from three acres salted, and sixty-one bushels from three acres not salted. The land was about the same in both cases. This leaves twenty-four bushels to pay for three barrels of salt, which cost \$1 25 per barrel. I knew when I was cutting the salted wheat it would turn out best; the sheaves were much heavier. Next year I will try salt on mangel wurtzel, and if I can get it for \$1 25 per barrel, I will apply one barrel to the acre on all the wheat I have, and would say to those who doubt its effects—try one barrel on one acre of wheat next spring, and be convinced.

JAS. K. TODD.

Kilsyth, Co. Grey, Dec. 5, 1867.

Stock Department.

Stock Feeding in Canada.

To the Editor of THE CANADA FARMER:

SIR,—No doubt our annual four months of snow and frost, during which all vegetation ceases, form a great drawback to the wintering of a large quantity of stock.

I cannot but think that, by a different system of management than that generally adopted—by a greater economy and diversity of food—our stock may be kept in good order, and profitably fattened during the winter. And here let me enter my protest against the shameful waste and great cruelty of allowing stock of any description to run exposed to a straw stack, even if it be placed in the warmest and most sheltered situation.

Warmth, cover, and regular feeding, are universally allowed the three essentials to the health of all animals.

Now, in giving my ideas on this subject, I would say that our farming resources are not yet sufficiently ripe to enable us generally to feed stock in the same superior style as is practised in England; but the methods of housing and feeding that I propose are within reach of the humblest of our farmers.

We should aim to make both meat and manure of our stock in winter. Every farmer has his own peculiar ideas on the subject of stock feeding—fluctuating between the extremes of folly and wisdom. Every straw stack should, by means of rails or other protection, be guarded, the stock having at no time free access. All young cattle—such as we call rough stock (generally they are very rough)—running at large in the barn yard, should be accommodated with a warm open shed, in which to seek shelter from the pitiless winds and blinding storms.

They should be fed in those sheds, in racks, to which their straw, either long or cut, may be conveyed at feeding times. If sheds are not already made, the CANADA FARMER, October 1st, 1867, gives a handy method of extemporising them by means of rails and straw; and rough racks may also be made with ease.

In such shelter, the animal can lie down in comfort and chew its cud, with a full belly and warm dry loins.

That which they would throw down in tearing to pieces and undermining a stack, may be carried to these sheds, and will form a comfortable bed besides making very superior manure. It is an allowed axiom, that immediately a young animal ceases to grow it also ceases to be profitable; and can we expect an animal to thrive when, standing with its fore legs on the side of a stack, it is vainly trying to reach its necessary food in a howling wind, with a sleet storm or cold rain trickling down its back and loins, striking a chill home to its vitals?

Turnips are, when given in moderate proportions, great economizers of straw, and very fertile agents in the manure pile.

If, however, cattle be overdosed with roots, they become too dainty to look at straw; but if given, say a bushel basket of cut roots between four head, twice a day, they will eat dry straw heartily. Let our object be to keep the belly full, and be sure we shall keep the cold out.

Milk cows, fattening heifers and calves, should be confined at night and in rough weather, and be liberally fed.

To milk cows, a mixture of chopped hay and straw (two parts straw to one part of hay), with about twenty lbs. chopped roots (mangolds are the best) should be fed three times a day. All milking animals require free access to water; therefore cows should be allowed to run out in the yard for a few hours, more or less, according to the weather.

Calves should be fed on the best of sweet hay and a few turnips.

I have beefed cattle very successfully on chopped hay and straw, half and half, and about a bushel of turnips pieces per day; with also from four to five lbs. of chopped meal at every feed. The grain is a very essential point in making tender and solid beef.

Sheep will do well, both ewes in lamb and others, on sweet pea straw and turnips. After lambing I give my sheep good clover hay and roots, with a little chopped oats. Last year, from my small flock of thirteen ewes, I raised twenty-two lambs, under this treatment.

But, Sir, the grand secret is *regularity*, both in the time of feeding and in the quantity. One or two meals missed, do more harm than can be retrieved by a week's feeding. One cold sleet storm takes many pounds of flesh off an animal.

"An animal well wintered is half summered," is as true as the reverse axiom. Some of your readers may say: "This is too much trouble to take with our roughstock." Try it. See your milk cows making their five, six and seven lbs. of butter per week; the butchers vying with one another for the purchase of your beef; your young cattle doubling their fall weight; your ewes surrounded by healthy lambs, and your sheds full of excellent manure; and if you then say it is too much trouble, you had better sell out lock, stock and barrel, and turn your hands to something else.

OLD COUNTRYMAN.

Paris, Ont., 16th Dec., 1867.

How to Produce the Sexes at will.

A CORRESPONDENT has obligingly sent us the following communication, being the substance of an article in the *Philadelphia Medical and Surgical Report*:

Many plans have been suggested, and perhaps some of them have not received the attention they merit. Some physiologists have supposed that one ovary produces males, and the other females. A more plausible theory is that of M. Thury, professor in the Academy of Geneva. He observed that the queen-bee lays female eggs at first, and male eggs afterwards; that with hens the first laid eggs give female, the last, male product; that young bulls, who meet the female at the first signs of heat, generate heifers more frequently than old bulls, who are exhausted and do service later; that mares, shown the stallion late in their period, drop horse colts rather than fillies. He formulated, therefore, this law for stock raisers: "If you wish to produce females, give the male at the first signs of heat; if you wish males, give him at the end of the heat."

We have before us the certificate of a Swiss stock grower, son of the President of the Swiss Agricultural Society, Canton de Vaud, signed in February of the present year, 1867, which says, speaking of the accuracy of this law:

"In the first place, on twenty-two successive occasions, I desired to have heifers. My cows were of Schwitz breed, and my bull a pure Durham. I succeeded in these cases. Having bought a pure Durham cow, it was very important for me to have a new bull, to supersede the one I had bought at a great expense, without leaving to chance the production of a male. So I followed, accordingly, the direction of Professor Thury, and the success has proved once more the truth of the law. I have obtained from my Durham bull, six more bulls (Schwitz-Durham cross) for field work; and, having chosen cows of the same color and height, I obtained perfect matches of oxen. My herd amounted to forty cows of every age.

"In short, I have made in all twenty-nine experiments after the new method, and in every one I succeeded in the production of what I was looking for—male or female. I had not one single failure. All the experiments have been made by myself, without any other person's intervention; consequently, I do declare that I consider as real, and certainly perfect, the method of Professor Thury."

In August, 1863, M. Thury submitted his plan to the Academy of Science at Paris. It was tried on the recommendation of that body, on the Emperor's farms, with, it is alleged, the most unvarying success.

Management of Horses.

In the management of a horse, one should never get in a passion; but what is undertaken, or required of a horse, he should be made to do; yet nothing unreasonable, or what he does not know how, and is unable to do, should be required of him. When you have taught a horse that you are his friend and master, you have laid the foundation of complete success in his management.

If you are afraid of a horse, do not go near him, and have nothing to do with him personally, till you make him fear you. A horse knows when his driver is afraid of him, and he will have his own way accordingly; but no horse should be expected to do what has never been taught him to do. You might as well require a child to solve a question in algebra, who had never learned to count beyond ten, as to demand of a horse to do what no one has ever taught him how to do.

For instance, a young horse that has never been "set" in a gully, with a load before, is whipped by his owner, or driver, because he does not draw the load out. The animal is willing to do what he can, but he does not know how to draw out the load. He tries, and finds that it does not move, not knowing that a *steadier* and *stronger* pull would do it, and when the lash comes down upon him, and he hears the yells (that is the right word too often) of his driver, he is frightened, and jumps and rears, through fear, rather than ugliness, or baulkiness. No better way could possibly be devised to make a horse baulky, than to beat him under such circumstances. You might as well attempt to make a horse move a three story building, and draw it off, as to get out of a slough, with a heavy load, when the animal has never been taught, by degrees, to draw a load out of such places.

It is true, that it is bad policy to unhitch a horse from a load, under such circumstances; but it is far worse to beat him an hour, and then have to do it. Our way of teaching colts is as follows:—We put on light loads, after they are well broke to a harness, and go into bad places, where it requires hard pulling by degrees; and the animal learns how to draw the load out. He reasons as a man does thus:—"I've been here before and got out, and I can do it again," and out he goes. We add to the load one or two hundred pounds, and go through the same process, then wait a day or two and try him again, taking care that we require nothing to be done that he has not done before, except with a little lighter load. This is teaching a horse to have confidence in himself, which is the basis of all good draught horses.

A truckman of Boston got into a deep snow bank, last winter, with a load of two tons. He was "set." Did he bawl, or yell at, and beat his horses? Not at all; "Charley," said he, addressing one of his horses, "we are in a bad fix here, and I want you to do your best." And when he gave the word go, they did go, exerting themselves to the utmost, and the truck went on to its destination. These horses were rational animals, and knew what it was to be encouraged; and so it should be in all cases. A gentleman who witnessed the truckman's operation, stopped him, and handed him \$5. "Take that," said he; "it is the first time that I have seen a truckman treat his horses, under such circumstances, in a proper manner."—*Rural American*.

How to Treat Baulky Horses.

If you have baulky horses, it is your own fault, and not the horses', for if they do not pull true, there is some cause for it, and if you will remove the cause, the effect will cease. When your horse baulks he is excited, and does not know what you want him to do. When he gets a little excited, stop him five or ten minutes; let him become calm; go to the baulky horse, pat him, and speak gently to him; and as soon as he is over his excitement, he will, in nine cases out of ten, pull at the word. Whipping and slashing and swearing only make the matter worse. After you have gentled him awhile, and his excitement has cooled down, take him by the bit; turn him each way, a few minutes, as far as you can; pull out the tongue; gentle him a little; unrein him; then step before the baulky horse, and let the other start first; then you can take them anywhere you wish. A baulky horse is always high spirited and starts quick; half the pull is out before the other starts; by standing before him the other starts first. By close application to this rule, you can make any baulky horse pull. If a horse has been badly spoiled, you should hitch him to the empty wagon, and pull it around a while on level ground; then put on a little load, and increase it gradually, careening as before, and in a short time you can have a good work horse.—*American Farmer*.

Cattle Tie.

A CORRESPONDENT of the *Co. Genl.* gives a design for a cheap, effective and simple cattle tie, which may be readily understood with the help of the annexed cut. It is preferable to stanchions, as being more humane; while it is always out of the cattle's way, so that they cannot possibly get it fastened any-



where, so as to break it; is easily put on and off. The leather of which the straps are made should be made wet and stretched before using; should they become a little too long, correct the evil by simply twisting one after the other has been put on the horn. Many are at a loss how to fasten their cattle securely and yet humanely. Perhaps the above may furnish a useful suggestion to such.

Cost of Raising Stock.

At a meeting of the Herkimer Co., N.Y., farmers, not long since, the question was discussed of the expense of raising calves to the age of two years. The general opinion was expressed that the cost for the first two years was about \$50. The following is a detailed estimate:

Value of calf if slaughtered for hide or tanned.....	\$ 1 50
Seven quarts of milk per day for a month, estimating cheese at 16 cts.....	7 20
One hundred pounds of meal fed during summer.....	2 00
Whey fed during summer.....	1 00
Pasturage first season.....	2 00
Wintering first winter, hay at \$12 per ton.....	10 00
Pasturage second summer.....	8 00
Hay second winter.....	18 00
Total.....	\$49 70

WATER-PROOF HARNESS BLACKING.—A correspondent of *The Field*, gives the following recipe for harness blacking, which he has used for several years, and recommends as excellent: Beeswax (shred fine), 8 oz., turpentine sufficient to cover it; let them stand till the wax is dissolved (three or four days); ivory black 4 oz., olive oil (I use neat-foot oil) 2 oz., Prussian blue 2 oz. Rub the ivory black and Prussian blue well together to a fine powder in a mortar; then add the oil, and gradually the other ingredients, and thoroughly mix them. If it gets hard by keep, soften with turpentine. I have only one brush used—one end for the blacking, the other for polishing.

"WHAT FINE DONKEYS!"—Miss Burdett Counts, among other benevolent undertakings, has done much to improve the breed and usefulness of the Donkey. It has been demonstrated that care and kind treatment effect a great change in this much abused and despised creature. Other ladies of rank and wealth are espousing the cause of the oppressed donkey. Hon. Miss Russell often takes a morning drive through the village of Chenies with a pair of donkeys for her team. Hon. Miss Grosvenor may be seen driving in her carriage, with donkeys "four-in-hand," round Rickmansworth. These noble ladies are often rewarded for their painstaking by hearing spectators exclaim:—"What fine donkeys!"

ONE HANDFUL OF HAY is a small matter; one handful a day for six months makes a pretty large bundle; twenty handfuls a day for six months make quite a stack; if each handful weighs a pound, the stack will equal 3,650 pounds, or more than 1½ tons—worth about \$22, at \$12 a ton, or \$36 50 to \$20 a ton. How many farmers, keeping twenty animals, allow each to waste a handful or a pound of hay a day for want of a little attention to the feeding arrangements! A few straws at a time, dropped here and there, and trampled under the feet, will soon make a handful, and we have seen above what the handfuls amount to. This is a small matter, says one, but upon just such small matters depends a man's success or failure. One

man attends to them, and at the end of twenty or thirty years has a competence for old age; another neglects them, and is always behindhand—he lives and dies, short in the pocket, and short in comfort. A handful of hay is a large matter, as shown above. Suppose an animal in a warm stable to require 15 pounds of hay a day to supply the waste and growth of the body, and keep up the heat. A small crack to let in a stream of cold air will necessitate at least another pound of hay per day to furnish the extra internal heat required. Even the difference between a cold and warm shed will often increase the consumption of hay by two or three pounds a day. A single wind-break or screen of evergreens or straw, or a tight fence, may save two pounds a day on each animal thus sheltered. "A word to the wise is sufficient."—*American Agriculturist.*

The Dairy.

How to Make Good Butter.

Mr. Todd, of the *New York Tribune*, delivered the following sharp and pointed address upon butter-making at the meeting of the New York Agricultural Society held recently. He said:

"Butter is not that ring-streaked, speckled, spotted, and grizzled material that is transported to the New York butter markets in vessels that resemble an elegant willow pail more than a neat butter tub, but it consists of the fragrance of green grass, the aroma of the clover fields, the exquisite nectar of new mown hay, collected in glowing globules; like sparkling dew-drops on the petals of May roses, by fairy hands that are never soiled by dirt and offensive odours; and the delicious essence is imparted in an atmosphere as sweet and pure as ether, wrapped in a napkin as clear as the unsullied snow-drift. Dirt, foul odours, infected air, pestilential earth, and butter, are perfect antagonisms. Soap grease, shoe grease, waggon-wheel grease, which we see in such vast quantities in the markets in butter firkins, approximate about as nearly to butter as old mother countryman's pie crust shortening, which was extracted from the suet of skunks. This is the negative and affirmative of butter. Now, then, the next consideration is what to do and what not to do to make delicious butter. Negatively, do not allow Fat nor Dick nor any one else to do the milking after grooming the horses, dusting the piggery, or kneading the compost heap, without first giving his hands a thorough ablution in soapsuds. Then set the milk in an apartment as neat and sweet as a bee-hive; and, if possible, let the cooling breezes from the green hills pass in at one window, over the milk, and out at another window. As soon as a thick cream has risen, remove it, with as little milk as practicable; and the sooner the cream is churned the better the butter will be. Never allow the cream to rise in temperature above 64° Fahrenheit. If it can be kept at 60° the butter will be all the better for it. After churning, instead of throwing the golden colored globules into a dirty wash-tub with the fire shovel, and allowing Bridget to mount on it with her pattering trotters to tread out the butter-milk as a donkey tempests clay at a brick kiln, remove the butter with a clean ladle into a clean butter tray or worker, never touching it with the bare hands. Then with the sharp edge of the ladle make deep gashes all through the butter, and the butter-milk will flow into the gashes thus made; and when the gorge is closed the liquid will flow away. After butter-milk has once been liberated by gashing the butter, it is not practicable to confine either water or butter-milk again in the butter. Neatness and the proper temperature are fundamental requisites in making a choice quality of butter."

How to have Good Milkers.

No matter what breed of cows you have, something is necessary to reach the highest success of raising milkers. And can farmers ever expect to raise good stock from cows to which, for the purpose of making the milkers, they have been in the habit of using any runt of a bull they could pick up.

It's a great thing to have good blood; whether it be in Ayrshire, Jersey, or short-horn grades, but apart from this important advantage, the course of

treatment in raising a milker is somewhat different from that in raising a beef animal or animal for labor. The calf should be well fed and petted while young. Well fed to produce a rapid growth, so as to enable the heifer to come in early; petted to make her gentle and fond of the presence of her keepers. Fondling helps to create a quiet disposition, so important in a dairy cow, and this education must begin when young.

For a milker, we would have the heifer come in at two years old, and if she has been well kept, so as to have attained a good size, she is then old enough to become a cow. She will give more milk for coming in early. It forms the habit of giving milk, and the habit, you know, is a sort of second nature. An older bull is better. We use too many young bulls. A three or four year old is far better as a stock getter than a yearling, and many prefer a five or six year old to any other. After the heifer comes in let her be fed regularly. Clover is preferable to all others for stall feed. A little oatmeal induces a large flow. Indian meal is rather fattening. In bad weather give her a clean airy stall.

A cow newly come in should not drink cold water in cold weather; but moderately warm slop. Calves intended for raising should be taken from the cow within a few days, and they will be less liable to suck when old. Feed them first with new milk for a time, then skim milk, then sour milk, taking care that all the changes are gradual by adding only a portion at first, and gradually a little meal.

Calves well fed and taken care of, with a quart or two of meal daily in winter, will be double the size at two years they would have attained by common treatment.

Heifers thus treated may come in at two years old, and will be better than neglected animals at three, and one year of feeding saved.

Heifers dried up too early for calving will often run dry in after years; therefore be very careful to milk closely the first year until about six weeks before calving.

Hearty eaters are desirable for cows, and they may usually be selected while calves. A dainty calf will likely be a dainty cow.

Heifers should become accustomed to be freely handled before calving and drawing their teats.

They will not then be so difficult to milk. Begin gradually, and be careful not to startle them.

In milking cows, divide the time as nearly as practicable between morning and evening, especially at the time of early grass, that the udder may not suffer.

Persons who milk should keep their nails cut short; animals are sometimes hurt with sharp nails, and are unjustly charged with restlessness.

To determine which cows are best for keeping, try their milk separately, and weigh their butter—for sometimes a cow may give much milk and little butter, and vice versa.—*Coleman's Rural World.*

Mr. X. A. Willard is experimenting on the use of bone meal as an article of diet for his cows, to counteract abortion, which has become a very prevalent evil among the dairy herds in Herkimer and Oneida counties, N. Y.

KEEP THE COWS IN HEART.—The editor of the *Practical Farmer*, Philadelphia, alluding to farm stock, especially milch cows, timely and truthfully remarks that "uninterrupted thrift at all seasons with all domestic animals should be the motto; and this depends on constant care and oversight," combined with a practical understanding of what is proper to be given to keep the animals in good heart. With cows giving milk this oversight and care is of prime importance, as without it they will fall away in flesh; the flow of milk will diminish, and the profits expected to result from keeping them, fail of realization.

THREE-MINUTE CHURNS.—A correspondent of the *Wisconsin Farmer*, who milks about twenty cows, gives his experience with patent churns. He says:—There are a number of different patents going through the country that will churn butter, or rather grease, in three minutes. I had one in my cellar this summer that I tried three times. It brought the butter each time in less than three minutes, but the butter would not have sold for more than ten cents per pound, when the same churned with the old dash churn, that required thirty or forty minutes churning, would sell readily for thirty cents. So if any of your readers should want a churn, I should advise them not to buy a three-minute one.

Veterinary Department.

Choking in Cattle.

During the autumn and winter months, we are frequently consulted on cases of choking in cattle. At this season, it is commonly produced from feeding on turnips, potatoes, carrots, &c., or it is sometimes produced by an apple becoming lodged in the œsophagus or gullet. It may also be produced by an accumulation of chopped hay or straw. The obstruction may become lodged in any part of the gullet, but it is most apt to be retained in the cervical portion. I cause it is narrower there than the part that is within the thoracic cavity.

Generally, choking is easily detected, as the symptoms are of a very alarming nature. There is usually active suffocation, and if the animal attempts to drink water, it is unable to swallow, and part of the fluid will be returned through the nostrils. There is also a spasmodic action of the muscles of the larynx, and of the muscles of the neck, as well as an increased flow of saliva from the mouth, and this is usually greatest when the obstruction is in the cervical portion. Examination from the outside will frequently detect the obstruction. If the rumen becomes tympanitic, it is distended with gas, and is a most serious complication. In the treatment of choking, the obstacle may often be dislodged by manipulation from the outside, by keeping the head protruded, and pressing gently on the gullet; also give small quantities of oil, either linseed or sweet oil, this tends to lubricate the parts, and the animal, in its attempts to swallow, does frequently remove the offending body. When it is near the upper part of the gullet, it may be removed by means of the hand passed to the back of the tongue, and in doing so it is necessary to use an instrument to keep the mouth open. When the rumen becomes alarmingly distended, it may be necessary to puncture it. The proper place for puncturing the rumen is equi-distant between the last rib and the haunch bone of the left side. An accident occasionally incidental to choking is laceration of the walls of the gullet. This may either be produced from the obstruction, or from the abuse of instruments in attempting to force a passage. Frequently a whip stock, or sometimes a walking stick, is thrust down the poor animal's gullet, and the attempted cure proves worse than the disease. In some cases it is necessary to use the probang, which is a perfectly safe remedy, in competent hands.

Diarrhœa among Dairy Cows.

To the Editor of THE CANADA FARMER:

Sir,—You will much oblige by giving me information as to the cause of a disease which my cows are affected with, and also a remedy for same. I have fifty cows, which I stabled about the first of November, most of them in good condition. I fed them regularly Swede turnips, three times a day, about half a bushel per day to each cow. One-half of the cows I fed with hay, the remainder with oat straw. I allow them to go out of the stable once a day, when they get a plentiful supply of water from the creek. They all appeared to do well for a time, until some of them took the scours, which reduces them to complete weakness, and it appears to be running through the whole of my cows. My turnips were grown on old land, manured with barnyard manure. I also applied one barrel of plaster to three acres of the roots. The turnips I first fed were taken from the field and secured in a brick root-house; those I am now feeding I take from a pit. While I fed the turnips from the root-house the cattle did not appear the least affected. My cattle are housed in the same way, in a good, warm, comfortable stable.

I have three cattle which I am fattening. I feed them regularly from the same feed and turnips, say about one and one-half bushels per day, but I do not allow them any water. They have not been in the least affected.

By your giving me any advice as to the cause or remedy for same, you will much oblige.

RICHARD MANNING,
Exeter Cheese Factory.

Ans.—We are of opinion that the diarrhœa or scouring is the result of feeding largely on turnips, and at the same time allowing large quantities of water. It is also possible that the turnips in the pit were partly frozen, and in that state they would prove injurious and give rise to the symptoms described.

We would recommend to change the food for a short time, and give a few doses of the carbonate of soda combined with powdered gentian, say two drachms of each, morning and night, given in a pint of oatmeal gruel. If the weakness increases, give to each cow one quart of warm ale daily, and mix with it two drachms each of powdered gentian and ginger. We also think it would be advisable to feed a good deal on cooked food, as boiled turnips mixed with bran and chaff, and also to allow a regular supply of well kept hay. If the diarrhœa does not stop when the food is changed, but increases, then more powerful astringents must be used, such as powdered opium, one scruple, to be given twice a day in a pint of starch gruel, until the scouring ceases.

Injuries and Diseases of the Lips.

THE lips in all animals are liable to be torn on nails and hooks, or on projecting teeth. In horses they are sometimes injured from falling against rough stones; whilst from the cruel and senseless use of the twitch sloughs occasionally separate from the upper lip. The lips when torn or cut are with difficulty secured with sutures, for they are acutely sensitive, and besides, enjoy much freedom of movement. The animal must, however, be kept as quiet as possible until the severed surfaces are brought together with a needle and fine silver wire. In very troublesome cases, it may be well to cast and secure the horse. It is a mistake to prune away, as is sometimes done, loose portions of skin, for unless very seriously injured, when brought into opposition with the living texture union speedily occurs, and thus blemishing is prevented, or at least greatly lessened. The lips are occasionally the seat of warts, and in grey and white horses of melanotic tumours. When superficial and interfering with the prehension of the food, these swellings may be removed. Farcy buds sometimes appear on the lips.

From the eating of hard grasses or clover, as for example, from well ripened strong ryegrass, coarse trifolium or old vetches, the lips, especially of sheep, are sometimes irritated and inflamed; the mucous membrane is abraded, troublesome cracks and occasionally ulcers appear. Young cattle suffer in a similar way when foddered on coarse barley straw. In like manner sheep often have sore lips and mouths when compelled to cut their own roots. In some localities the roots, even when cut and given in troughs, if eaten, as they sometimes are, when smeared with mud, are apt to irritate the lips, particularly of young sheep. Turpentine, strong ammonia, and other such caustic substances, when given incautiously, irritate and inflame the lips.

In febrile complaints the lips sympathise with the rest of the digestive tract, and become dry; whilst in inflammation of the bowels and low fevers they are covered with dingy scales. The eruptions of simple and epizootic aphthæ, and of cattle plague, are often noticeable within the lips, as well as in the mouth. Ulcers sometimes appear within the lips, usually resulting from derangement of the digestive organs.

The treatment in most of these cases consists in the removal of any causes of irritation; in feeding the animals so long as the lips are tender upon soft food easy of prehension; in washing the irritable surfaces with some simple astringent lotion, such as Goulard's extract diluted with six or eight parts of water, or a weak solution of alum or of borax.

From injury of the brain or spinal chord the lips are occasionally paralyzed, hanging pendulous as in old age, or being drawn to one side.—North British Agriculturist.

SWELLING OF THE SUBMAXILLARY GLANDS.—"R.M.," Canfield, wishes to know whether we or any of our correspondents "can inform him if there is any cure for Oosels in cattle, and if so, what it is. Perhaps," he writes, "I have not got the right name of the disease, but this is what I am informed it is. I have a yearling bull that is affected, having a lump on each side of his throat about the size of a duck's egg, and which I am informed will continue to grow until they choke him. I hope you will be able to inform me through your valuable journal the name of the disease, and means of cure, if any."

Ans.—We are unable to make out the disease you refer to, but are of opinion your bull is affected with an enlargement of the glands in the submaxillary region. The hair should be cut off the enlarged parts, and a blistering ointment applied, made up of biniodide of mercury one part, to eight parts of lard. A small quantity to be well rubbed in once a week, and a day or two afterwards dress with lard. Continue this treatment for several weeks.

WARBLES ON THE BACKS OF CATTLE.—"An Amateur Farmer" writes from Riviere du Loup, Quebec, as follows:

"Will you, or some of your correspondents, give, through the columns of the CANADA FARMER, a cure (or kill) for maggots on the backs of cattle? Also, a good method for marking sheep?"

Ans.—The larvae causing the warbles on the backs of cattle are best got rid of by puncturing the warble with a strong needle, and then squeezing with the finger and thumb, when the larva shoots out with much force. The parts should be dressed immediately afterwards with oil of tar.

Various methods have been described for marking sheep in previous numbers of this journal. If any farmer will record his experience, for the benefit of our correspondent and others, we shall be glad to publish the communication.

Poultry Yard.

Standard of Excellence in Exhibition Poultry.

POLISH.

GENERAL SHAPE—COCK.

Crest—Composed of feathers similar in texture to the hackle, very large, round, close, and well fitted on the crown of the head, falling backwards, and rather lower on the sides than over the beak, but not so low on the sides as to prevent the bird from seeing.

Head—With round protuberance on the top, concealed by the large crest.

Eye—Large, full, and bright.

Beak—Small, even on the surface, rounded on the lower edge.

Wattles—In the unbearded varieties, thin and pendulous; in the bearded varieties, none—the under side of the beak and throat being covered with a full, close, muffy beard.

Neck—Medium in length, slightly and neatly curving over the back and well hackled.

Breast—Deep, full, round, and carried prominently forward.

Back—Perfectly straight, wide between the shoulders, and tapering to the tail, hip-bones even.

Wings—Ample.

Tail—Large, rather erect, expanded and well adorned with sickle feathers.

Thighs—Short in the white-crested black, rather long in the speckled varieties.

Legs—Rather short in the white-crested black, long in the speckled varieties.

Carriage—Erect.

GENERAL SHAPE—HEN.

Crest—Very large, round, straight on the head, not inclining to either side, the surface close, firm and even.

Head—Round, the protuberance concealed by the crest.

Eye—Large, full, and bright.

Beak—Small, even on the surface, and rounded on the lower edge.

Wattles—In the unbearded varieties, small and thin; in the bearded varieties, none—the throat and under side of the beak being covered with a full close beard.

Neck—Rather short and taper.

Breast—Very full, round, and prominent.

Back—Straight, the hip-bones even.

Wings—Ample.

Tail—Large, expanded, and broad at the end.

Thighs—Short in the white-crested black, rather long in the speckled varieties.

Legs—Clean, neat, and taper; short in the white-crested black, rather long in the speckled varieties.

Carriage—Rather upright.

WHITE-CRESTED BLACK POLISH

COLOR.

Crest—Pure white; the less black in front the better.

Beak—Pure glossy white.

Remainder of Plumage—Uniformly rich glossy black.

Legs—Lead blue, or black.

POINTS IN WHITE-CRESTED BLACK POLISH.

Size of crest.....	3
Shape of crest.....	3
Crest of the purest white, and most free from black.....	2
Dark Ear.....	1
Richest black plumage.....	2
Symmetry.....	2
Condition and general appearance.....	2
	15

DISQUALIFICATIONS.

Crooked backs, wry tails, white feathers in any part except the crest, legs of any other colour except dark leaden blue or blue.

GOLDEN SPANGLED POLISH.

COLOR OF COCK.

- Crest**—Golden bay, laced with black, in adults, white feathers may appear.
- Neck and Saddle**—Golden bay, the end of each feather laced with black.
- Breast**—Clear golden bay, free from mousing, each feather ending with a round rich black spangle, the spangle increasing in size in proportion to the size of the feather.
- Back, Shoulder Coverts, and Base of the Wing**—Rich golden bay, spangled with black, the texture of the feather giving the spangle a rayed appearance.
- Wings**—Greater and lesser wing coverts, golden bay, each feather laced on the edge with black, and ending with a large black spangle, forming two distinct black bars across the wing.
- Primaries**—Bay, ending with a black spot.
- Secondaries**—Golden bay with a distinct crescent-shaped black mark on the end of each feather.
- Thighs**—Bay, spangled with black.
- Tail**—Rich golden bay, each feather ending with a large black spot.
- Sickle Feathers**—Rich golden bay, ending with a rich black spangle.
- Tail Coverts**—Rich golden bay, edged with rich black, and ending with a rich black spangle.
- Legs**—Blue.

COLOR OF HEN.

- Crest**—Golden bay, each feather laced with black, in adults, white feathers may appear.
- Neck**—Golden bay, laced with black.
- Breast, Underparts of Body, and Thighs**—Clear golden bay (free from mousing), each feather ending with a distinct round rich black spangle, the spangle increasing in size in proportion to the size of the feather.
- Back and Shoulder Coverts**—Golden bay, each feather ending with a distinct round black spangle.
- Wing Base**—Golden bay, each feather ending with a crescent-shaped black spangle.
- Wing Coverts**—Golden bay, each feather laced or edged with black and ending with a large black spangle, forming two distinct black bars across the wing.
- Primaries**—Bay, each feather ending with a black spot.
- Secondaries**—Golden bay, each feather ending with a crescent-shaped black mark.
- Tail**—Bay, each feather ending with a large black spangle.
- Legs**—Blue.

SILVER SPANGLED POLISH.

Color and Marking the same as in Golden, substituting silvery white ground for golden bay.

POINTS IN SPANGLED POLISH.

Size of Crest.....	3
Shape of do.....	3
Color of do.....	1
Plumage accurately marked according to the foregoing rules.....	2
Purity of ground color.....	1
Beak.....	1
Symmetry.....	2
Condition.....	2
	15

DISQUALIFICATIONS.

Crooked backs, wry tails, legs of any other color except blue.

THE ONTARIO POULTRY ASSOCIATION.—The first meeting in the present year was held by this Association on the 2nd of January. Several new members were admitted, and among them J. M. Saunders, Esq., Vice-President of the American Poultry Association. A prosperous condition of the Society financially and generally, was reported. The matter of a Spring Exhibition was discussed. The Show will probably be held in April. In view of this and other similar exhibitions, we publish further extracts from the "Standard of Excellence," and with perhaps one more extract in a future issue we shall have given nearly the whole of this valuable Standard as laid down by the Poultry Club in England.

Rearing Chickens Artificially.

A correspondent of the *Country Gentleman* gives the following account of the method of rearing chickens artificially:—

I called at the place of the Messrs. Lawrence, near Milford, who have been engaged for some time in raising fowls for market, and intend pursuing this undertaking on a large scale. They have very nicely fitted yards and houses, and so far have met with a gratifying degree of success. They are trying a

system of artificial rearing which appears to promise well—taking chicks from the mother within a few days after hatching. I send a sketch of one of the pens into which they are put, shown in fig. 1.



Fig. 1.—Coop for Rearing Chickens Artificially.

The idea of this was derived from the plan proposed by Geyelin, described in the *Country Gentleman* last year (March 29, 1866) by Mr. Anderson, and represented in fig. 2.

The dimensions of Mr. Lawrence's coop, shown in fig. 1, are: Box or coop at back, with sloping roof containing sash and hinges in the top, as seen in the cut, and bottom raised four or five inches from the ground—4 feet wide, by 2 feet deep, 18 inches high in front, and 12 inches high behind. Pen in front, of slats 15 to 20 inches high, in four-foot lengths, four of which are hooked together at the corners to form the yard. In the interior of the coop is the brooding area from "artificial mother," 18 inches by 2 feet in size. It may be described as a shallow box, deep enough to hold a half inch layer of ashes, with a back 2 inches high, to which is hinged a lid, closing on to supports in front 4 inches high—this lid lined on the under side with a soft fleece or bit of buffalo fur.

If this description is sufficiently clear, the reader will understand how snugly the chicks can nestle under their woolly covering, while the sash above can be opened enough to admit ventilation if desired. A



Fig. 2.—The Geyelin Method.

somewhat similar contrivance is shown in fig. 2, *d* being the top and *e* the bottom of the brooding box, but Mr. Lawrence's modification are thought to be an improvement. As to the result—the hens go to laying again ten days after hatching, and the same one will hatch out two, three or four broods, in season. Of 450 chicks which were hatched out towards the end of winter and in the spring, about 50 have been lost from all causes, I understood, which is a small proportion, and there have been but 38 hens in the yard. Of these 18 were setting at the time of the visit. The artificial mothers are carefully cleaned every day, and a pen or coop of the size above described, easily accommodates 80 or 90 chicks. They are fed on corn meal dough, with a tablespoonful of sulphur, or two quarts of meal administered once a week, and a tablespoonful of cayenne pepper to three quarts of meal, also once a week, alternating with the sulphur. The meal dough is fed three times a day, and they also have wheat screenings before them all the time. From his experience thus far, Mr. L. prefers Brahmas, pure or part-bloods, to any other. We hope to follow the course of this interesting enterprise hereafter, and that it may prove as remunerative and satisfactory as now seems probable.

The Apiary.

A Clerical Bee-keeper's Sunday Adventure.

A CORRESPONDENT of the *Fid* relates the following anecdote of a west country clergyman:—It happened one Sunday afternoon in the month of May, about ten minutes before divine service, that our friend was walking from the school to the church—like Sidney Smith's missionary, "gown, and bands, and hymn book too"—with slow and sedate step, as befitted the occasion, when his ear was assailed by sundry cries of "There they be! there they be! keep your eyes on 'em." Looking sternly round to ascertain the cause of this unseemly clamour, he saw his own man, accompanied by two or three others, running frantically along, with their heads in the air. Presently he found himself appealed to: "Do'ee run, zur, do'ee run, or we shall lose 'em." He looked up, and immediately saw the cause of such unwonted excitement: a swarm of bees—his bees—fast disappearing in the clear ether. To hesitate was to be lost, or rather to lose the bees. He

was over the wall in a moment. A few minutes more saw him across the corner of the grass field, over another wall, and paning down the village street, with his head in the air like his more humble followers. Sympathising neighbors soon swelled the train, with the musical accompaniments, usual on such occasions, of tongs and frying-pans. A friendly hand placed something in his grasp; a friendly voice in the shrillest tones of feminine excitement shrieked in his ear "Do'ee take this, zur, and do'ee rattle un." Mechanically he took the gift, and "rattled" it with the energy of despair. A moment more and he was conscious of his position. It wanted but five minutes to the hour of service, and there he was, a quarter of a mile from church, surrounded by his faithful parishioners, and firmly grasping with both hands a tin slop-pail with a stone in it! The congregation on that Sunday afternoon, I regret to say, was scanty; but still faithful to their pastor, who was found by that worthy divine, on his return from church, congregated in the stable yard. They did not say much—it is not their way; but a gain of conscience merit pervaded the whole assembly. Every countenance bore the expression of one who has not only tried hard to do a good action, but has done it; there was no doubt about it. Virtue had been crowned with success, and the bees had been hived.—*Journal of Horticulture.*

Apiary in January

PREPARED BY M. QUINBY.

THERE are some people who are totally indifferent to the comfort of stock of all kinds; others who give every care to provide comfortable shelter for their cattle, but nevertheless leave their bees exposed all winter. We judge this comes from ignorance of what to do rather than from wilful neglect. If bees are allowed to remain on their summer stands, shelter from prevailing winds. Where few bees are kept, when swarms are hived, they should be placed in the lee of the buildings, or tight fences, or of an ever-green hedge. If in a Southern exposure, keep the sun off their hives, that the bees may not be too much excited by its deceptive warmth. It is better they should only fly when the temperature in the shade tempts them out. In the common box hive, a three-quarter inch hole, one-third of the height of the hive, from the top in front, if the combs run from front to rear, if not, at the side, is an advantage. If the entrance at the bottom is stopped by dead bees or snow, they have the upper hole free. They use this, and give themselves no concern about cleaning house in cold days, but fly in and out at this upper entrance. They enter at once in the cluster, for you can always see them clustered close to this entrance, and below it, except in extreme cold. This is preferable to having to crawl up a long cold side, and saves many lives. Covering hives with straw answers well. A uniform and dry atmosphere, a few degrees above freezing, is the end desired for safety, and for economy of stores.

Although bees lose less in numbers when wintered in a cellar, they begin to breed earlier when left out, which makes the latter course preferable for latitudes not subject to extreme and long continued cold. As this paper is read from Canada to Florida, we can best serve the interests of its readers by advising them to experiment cautiously, and find out what is best for their locality, not incurring risk by putting all their eggs into one basket.—*American Agriculturist.*

Quantity of Honey to be had from an acre of White Clover.

We find the following ingenious calculation in the agricultural column of the *N. Y. Independent* for Dec. 26th, 1867:—

"Feeling anxious to know how much honey an acre of white clover would produce, one fine morning in the month of June, I examined several fields in the outskirts of Burlington. I then commenced numbering the heads of the clover upon a single square foot. I found them to vary from twenty-five to one hundred heads per square foot. I found the number of square feet in an acre to be nearly 42,140. I then ascertained the number of drops of honey in a pound to be near 2,560. I then supposed that there were, upon an average, fifty clover-heads to every square foot; and according to the above estimate I found one acre of white clover will produce the enormous amount of eight hundred and thirty pounds, supposing each head to produce one drop of honey." It shows that millions of pounds of honey might be as easily made as not, where now it is wasted, and furnishes a quietus to the apprehensions of those who fear over-production of bees in given localities.



Enquiries from Emigrants.

A CORRESPONDENT from Scotland, writing for a copy of the CANADA FARMER, has sent the following suggestive communication, which we publish in the hope of eliciting information, and as a reminder to the discontented among ourselves of some of the blessings which we enjoy in this "Canada of ours." We commend the subject also to the earnest consideration of the Legislature of the country. If our correspondent will send us some definite enquiries on points respecting which he is specially desirous of being informed, we think we could satisfy him, and shall be happy to give him all the information in our power. In the meantime we can honestly assure him that the land is fertile; the climate healthful and agreeable; and though our winters are somewhat long, the cold is very tolerable, and only occasionally intense, being, indeed, on account of the dryness of the air, more easy to bear than the raw and damp cold of the old country. In regard to the supply of water of which he speaks, he need be under no apprehension. As a rule, it is everywhere abundant and pure. He writes as follows:—

"I am anxious, if possible, to get, in a cheap and popular form, any account containing an outline of what Canada really is, and what chance or prospect men have in settling down among you. We are told of your long and very cold winters; of the great want of good water for drinking in summer. The truth is, however much you may doubt it, we know very little about Canada in this country. I cannot find any work on Canada that suits the intending emigrant. A Rev. Mr. Fraser published a small thing at one shilling, lately, but a copy cannot be got either here or in London. I am anxious for your paper, as I expect to get all the information I require. Trade is in a very depressed state here, and not likely to recover soon. We are so eaten up with taxes, that to keep one's head above water is almost impossible. I am only one of thousands that the difficulty of getting along here compels to look for a home elsewhere. I am afraid that a man in mid-life, beginning a new business in a new country, cannot have much prospect of doing much good for himself; but the fact that his children would be relieved from this continual anxiety to get the two ends to meet would repay one for many drawbacks.

"I trust you will excuse a stranger thus writing to you; and if you, or the press of Canada, could only get your Government to propose a system of land grants, thousands here would take advantage of them."

QUERIES.—A correspondent has sent the following miscellaneous queries:—*Melilot*. From what language do we get this word and how is it pronounced? *Horse-Beans*. You have recommended the growth of these; where can a small quantity of seed be procured? *Garden and Orchard Robbing*. This by many parties is regarded as a venial crime, and by some as an innocent amusement. I have suffered from it this year in the destruction of some promising vines, that were trampled down by the depredators. Can any of your readers suggest a means of catching the thieves?

ANS.—With regard to the first query, the name is of latin derivation, from *Mel*, honey, and *Lotus*, the flower of that name. The accent is on the first syllable. Horse-beans can, we believe, be procured through any of the seedsmen in Toronto. Perhaps some of our readers may give more specific information on this point. Some amongst them may also be able to give a useful hint in regard to the third matter of the garden depredators. A good dog and a sharp look-outure the best preventives we know of.

SEWING MACHINES.—"A Subscriber" writes to enquire which is the best sewing machine. This is a question we cannot presume to answer, as, by so doing, we might inadvertently do great injustice to very meritorious inventions. We can only refer our correspondent to the account of those machines exhibited at Kingston, and the award of prizes at the Provincial shows. This may be some guide to him. We may also add, without wishing to detract from any other machines, that in our own family we have used, and with entire satisfaction, one of the cheap and portable kind, manufactured by Mr. Raymond of Guelph, and which was described and illustrated some time ago in this journal.

A FAMILY LOOM.—In a former number of the CANADA FARMER we published a letter from Mr. R. A. Brown, of Nisourti, in reference to a loom which he very highly recommended, and wished to introduce to the notice of his fellow-countrymen. We have since received from him various testimonials in its favor, and he has also supplied an important omission in his former communication, by giving the name of the maker, which is J. D. Wait, Waitsville, Jefferson County, Wisconsin. From all accounts the loom seems well adapted for domestic use, and is easily manipulated even by those who have not been accustomed to weaving.

COMMUNICATIONS POSTPONED.—We have received several communications for which we have not space in our present issue; among the rest from J. F. C., L'Original—too late for insertion; from "V. C.," on a subject connected with Natural History, which we defer till the 1st of next month, when this department will have place as usual. Our acknowledgements are also due to Major Bruce, in a matter which we shall have the pleasure of noticing in our next.

The Canada Farmer.

TORONTO, CANADA, JANUARY 15, 1868.

The Department of Agriculture.

It has been heretofore subject of grave and just complaint, that under the old regime of our Provincial affairs, the Agricultural Bureau was of but small practical value, having very little actual connection and sympathy with farming as a business, and a national interest. This was, doubtless, partly owing to the fact that our Ministers of Agriculture knew nothing of farming except in theory, and, perhaps, were not well up even in that. We hear much from time to time about the importance of practical farmers being elected as representatives of the people, and for ourselves, we do not expect that agriculture will ever get its due share of Governmental attention, until we have a pretty good sprinkling of farmers in our legislative halls. Trade and commerce receive continually the attention and fostering care of Government, because there are always a good proportion of business men in Parliament. We have no end of legislation about legal matters, because there is a never-failing and full supply of lawyers in the house. When the farming community is better represented, we shall doubtless have more and better agricultural legislation. There is, we believe, marked improvement in this respect, in the composition of our new Provincial Parliament. This augurs well for our future. We have reason to think that the Department of Agriculture will henceforth be of more utility to the country. The present Commissioner was brought up on a farm, and has always retained and cherished a fondness for farming pursuits. He is a practical farmer still, being proprietor of a nice farm in the vicinity of London, which he personally superintends. We are glad to find that he is anxious to put his Department of the public service on such a footing as shall render it thoroughly efficient, and

directly beneficial to the country. We shall at all times be glad to further any good measures that may emanate from this important branch of the Government, and we have no doubt that the Department of Agriculture will be glad to receive, through the columns of this journal, or by direct communication, any suggestions which practical farmers may have to make as to ways and means of promoting the agricultural prosperity of the Province.

Our English Correspondent.

We are happy to inform our readers that we have secured as English correspondent of the CANADA FARMER, one of the most eminent agricultural writers and authors in Britain, and a gentleman of large observation and practical experience in farming matters. The first of his letters will be found elsewhere in our present issue. It is chiefly devoted to the manifest upward tendency of agriculture in public estimation and appreciation, as evidenced by a variety of circumstances; and to a critical account of the recent Smithfield Cattle Show, which embodies the opinions of leading agriculturists on cattle-breeding and feeding. We are sure this new feature of the CANADA FARMER will heighten its value not a little in the estimation of our numerous and increasing list of subscribers.

The New Agricultural Bill

We have been favored with a perusal of the above Bill, which is about to be introduced by the Government, and on which we trust the Legislature of Ontario will concentrate its best wisdom and attention, since it deals with interests that must ever underlie our prosperity as a people. In its present form, the Bill is in all essential features what the recent Convention agreed upon, and with a view to meet as far as as possible the wishes of our leading agriculturists, the Government will, in all probability, leave it very much in the shape into which it has been brought by the committee appointed by the Convention to draft it, leaving any important changes to be made, if need be, by the House itself. For this purpose it will be thoroughly gone through in Committee of the Whole, at which stage those who have modifications or alterations to propose, will have an opportunity to urge their views. We hear of some important modifications of the measure which some honorable members have it in contemplation to propose, but until these are before the House and the country it would be premature for us to name them, or express opinions upon them. We trust that as agriculture is a common interest, all will heartily unite in the endeavor to make the Bill as perfect as possible, and to promote, so far as wise legislative can do it, the development and prosperity of the farming community.

New Varieties of Seed Grain.

EXPERIENCED agriculturists, all the world over, understand the importance of a frequent change of seed. Nature provides for this in the numerous varieties of one and the same plant with which we meet, these varieties coming into existence as the result of diversities of soil, climate, modes of culture, &c. We do not fully know the philosophy of the thing, but the fact is well established that it is wise and needful to obtain, from time to time, a change of seed, if we desire to have good crops of well-developed grain. We have been led to touch on this subject just now, in consequence of a conversation with one of our largest western millers, who, lamenting the failure of the Soules' wheat, remarked that for want of some new variety of seed in his section of the country, the wheat yield had become very small, and the sample very poor. Doubtless this is not altogether owing to the use of the same kind of seed year

by year, though it may be partially attributed to this cause. Exhaustion of the soil has had not a little to do with the evil complained of, and at the risk of being deemed pertinacious and repetitious, we must persist in taking every opportunity of urging upon our readers the absolute necessity of liberal manuring, and judicious rotation of crops. The best seed that ever fell from the hand of the sower would fail to bring a satisfactory crop on much of the land that is unreasonably expected by its owners to give them a good harvest of wheat. The wheat-producing elements of the soil have been taken out by successive and excessive cropping. They must be put back again by manuring, and the balance of things restored by a proper rotation, if we are to have productive wheat lands. But this condition of affairs brought about, we still need, from time to time, a change of seed, and the question is where and how to get it. One of the functions of the Board of Agriculture, as defined by statute, is to obtain information on this interesting subject, and actually to procure new seed, as the wants of the country may require. Not much has of late been done by the body just named, to meet the necessity under consideration. Some Riga flax-seed was imported not long since, but we believe it was not regarded by the farming community as a very great acquisition. There are difficulties, no doubt, in the way of doing this much needed work efficiently, but surely the Board of Agriculture might render us more aid, if they would take the thing up with greater earnestness. Perhaps under the new order of things about to be established, some arrangement may be made by which the Government may do something for us. The United States Department of Agriculture has made it a leading object for some years to obtain a supply of new seeds. There, indeed, the thing has been overdone. Seeds of all kinds, some valuable, and more worthless, have been scattered far and near, the most liberal postal arrangements having been put in force for their distribution. Loud complaint has been made of the manner in which the seed business has been managed at Washington, but the foundation for this fault-finding has been the acknowledged want of practical judgment and common sense in the late U. S. Commissioner of Agriculture, of whom, notwithstanding the axiom which prescribes that we speak only well of the dead, truth requires it to be said that though an Isaac Newton in name, he was not an Isaac Newton in wisdom. But with all its blunderings, the Washington seed business is acknowledged to have done great good in the dissemination of new varieties of seeds, and we hope something will be attempted in this direction, ere long, by the Department of Agriculture for Ontario. The suggestion has been made, and it seems to us a wise one, that by means of a co-operative action on the part of the Government and the Provincial Agricultural Association, prizes, in the form of choice new seed grains, might be advantageously substituted for cash prizes, at the Provincial Exhibition. This is certainly one practicable method of going to work. County and Township Agricultural Societies might do much good by expending their funds in this way, and we are glad to know that some of them have proved themselves useful, in thus helping to supply the want under consideration. Our seedsmen may also aid us greatly. They are in the way of knowing what new varieties of seeds are put upon the European markets, and by means of their catalogues can at least supply useful information on the subject. Through them, individual farmers of enterprise and push can directly import seeds for trial, and we strongly recommend the adoption of this course. An exchange of seed from one part of our Dominion to the other, would so far be of benefit, and this can easily be accomplished. We would, in taking leave of this subject for the present, strongly urge that special pains be taken to clean all foreign seeds, lest we introduce and naturalize noxious weeds, that may do the country well-nigh as much harm as

the new varieties of seed grain do it good. Too much care cannot be used to prevent the multiplication of weeds. Some of the worst that now curse the country have been imported, and goodness knows we have already quite enough, native and foreign, without any further additions being made to their number.

Canadian Dairymen's Association.

We have received from Mr. James Noxon, the Secretary of the Canadian Dairymen's Association, a circular which, though in the nature of a personal and private nature, is in its general tenor of a public character, and we therefore feel no hesitation in giving our readers the substance of the communication, which is to the following effect:—

The First Annual Meeting of the Canadian Dairymen's Association will be held in the Town of Ingersoll, on Wednesday and Thursday, February 5th and 6th, 1868.

The Executive of the Canadian Dairymen's Association are desirous of making the annual Convention of the Society of the greatest possible advantage to the dairy interests of the country. With this object in view they have selected and noted the principal subjects that will be presented for the consideration of the Association. Ample opportunity will be afforded to members to introduce such other pertinent topics as they may choose, but the greater portion of the time will be devoted to those named here-with.

1. Purity of flavor in cheese, what are the requisites, how best procured?
2. Are curd mills beneficial, and would their general use be advisable?
3. What constitutes the superiority of the Cheddar system of cheese-making, and could it be adopted with advantage in Canada?
4. Statistical circular—could it be made useful in equalizing and maintaining the last price for cheese the current year?
5. How long is it desirable to press cheese? Would two or more days improve the quality or texture?
6. Is it not practicable to adopt the American system of making cheese once a day, and would it be preferable to making twice a day, as practised by our factorymen?
7. Best stock for dairy purposes.
8. What is the best hour and plan for milking?
9. What kind of salt most suitable in cheese-making, and how does the Goderich salt compare with the Liverpool dairy salt?

In addition to discussion on the above topics, reports will be received from the various Cheese Factories in regard to their transactions during the past year. The matter of sending an agent to England will also, it is hoped, be satisfactorily arranged.

We trust there will be a large attendance at the important meeting to be held in February, and hope to give our readers a full report of the proceedings as early as possible. The report of the American Dairymen's Convention, held at Utica last week, has not yet reached us, but by the date of our next issue we shall no doubt be in a position to give an account of the meeting.

The Game Pest in Britain.

It is well for us occasionally to note the advantages, as well as the disadvantages of our colonial position. Our old country farmers now and then grumble at the high price of labour and other difficulties which beset Canadian Agriculture, and conveniently forget the drawbacks that exist in the old world. High rents, heavy taxation, and various expenses unknown here, eat away the profits of the British farmer, and it would be easy to show by minute and elaborate comparison how superior in many respects is the lot of the farmers of this land to that of those on the eastern side of the Atlantic. Articles in our English

exchanges have recently drawn our attention to a grievance unknown here, but rife in Britain. We refer to the preservation of game, and the heavy cost thereby entailed on the tenant farmers. We have midge and other insect pests to contend with, but it is everybody's interest and aim to exterminate them. What should we say if one class of our population, specially privileged by law, were sedulously nurturing myriads of living creatures, a large part of whose food was obtained from the growing crops? Yet such is literally the case in Britain. Partridges, pheasants, hares and rabbits, are free commoners, and roam at will over the fairest fields of the farm. The destruction, thus caused is immense. Pheasants devastate the ripe wheat, and even tear up the seed in the newly-sown fields. Hares and rabbits commit great devastation upon the turnips, and the pheasants are only second to them in the mischief inflicted on the root crops. A Suffolk correspondent of the *Mark Lane Express* informs that journal that such is the injury done by pheasants on the newly-sown wheat, that he is obliged to employ relays of men night and day to watch and drive off the troublesome birds. He is put to the same labour and expense in harvest time to prevent their threshing out and consuming the grain in the stock. The journal just named contends that hares and rabbits ought to be put in the same category with rats, being in all respects vermin, and adds that "the injury they inflict on the farmer is incalculable." The turnip crop chiefly suffers from their ravages. The hare has a nice taste, and on entering a field of turnips will often nibble at a dozen bulbs, or even more, before finding one sweet enough to suit his dainty palate. A shepherd testifies that in the spring of the year the pheasants ate as many of the Swedes as his flock of sheep. They pick the rind off, so that the frost gets into the bulb and roots, which rot so soon as a thaw comes.

"But," says the *Mark Lane Express*, "the damage done to the crops is only part of the loss a farmer has to bear from the game. He has to sustain his share of the expense of the prosecution of poachers, to maintain their families while in prison, and to crown all, by the last effort of the game preservers in Parliament, the rural police have been converted into game-keepers, and thus the expense of preserving the game in all its branches is thrown chiefly on the farmer. First, he feeds it; then he pays the police for protecting it; next, he bears the larger share of the cost of the prosecutions under the law; and finally, supports the families of the poachers while the latter are in prison."

This is a sufficiently long list of game grievances; but as if it were not enough, some of the M. P. game preservers are complaining that the police force in the rural districts is not adequate to the work of protecting their pets, and they urge that large additions be made to it. The Canadian farmer will surely gather, from this picture, incentives to contentment and gratitude.

Ontario Veterinary School.

Our readers will be glad to learn that this needed and useful institution is making a steady and healthy progress. The number of students progressively increases; nine second year's pupils have completed the first term of the present session. They have been conducted through portions of advanced courses in Anatomy, including dissection and demonstrations, Pathology, Physiology, and Materia Medica. We understand that a larger number than usual of first year's students have entered on the second term, which commenced January 8th. In connection with this, a course of instruction is given in the science and practice of agriculture, including the breeding and management of live stock, which is free to young men engaged in or intended for Canadian farming. Mr. Smith, the talented principal of the school, is most persevering and indefatigable in the prosecution of his duties, and he is ably assisted in the different departments by Professor Buckland and Drs. Thornburn and Bovell.

Agricultural Intelligence.

Farming Gossip in Great Britain.

[From our Special Correspondent in England.]

State of Agriculture in Great Britain—London Cattle Show—The Prize Animals—Prices of Meat—Cross-bred Cattle—Over-fattening, &c.

It was for a long time the universal habit, and is still to a large extent the habit, of many of those connected with commercial callings, trades and manufactures in this country, to look upon agriculture very much as if nearly out—if not, indeed, altogether out—of the pale of those arts and sciences which minister to the greatness of our country—to the wealth, the comfort, or the luxury of her people. Very much the fashion was it thus to treat farming as a thing of no account, and to characterize those practically engaged in its pursuits—if indeed they were deemed worthy of any notice at all—as men dead to every feeling of real progress, little influenced by what was called, and is still called, in the language of scientific cant, the enlightenment of the age; and as the “slowest of the slow,” to quote the one phrase in short which comprehends all the contempt a fast man of business, of trade or manufactures, can show towards agriculture. We are by no means exaggerating the matter as between men of business on the one hand and farmers on the other; we have, in truth, simply stated the fact as it for a long time existed. Evidence of it was to be met everywhere, from the pages of *Punch*, in the cartoons of its caricaturists, in the leading articles of our papers, in the stoties of our magazines; and the poor farmer was always made the butt of wit, and his very name used as the synonym of slowness. Nor was this much to be wondered at, after all, for while, on the one hand, every attention was paid by the Government to the demands, and every help given to the necessities, of trade, commerce and manufactures—while their interests were represented by a Special Board, the President of which had a seat in the Cabinet of Her Majesty—while “returns” and “reports” were regularly issued with all the prestige of official position—Agriculture, on the other hand, was doomed to languish in neglect, the very Cinderella of the nation. She had, and has still, no Board, no Minister; no returns have been issued, no statistics given, by which those interested in her progress could learn whether she was making that growth which was to be desired, or falling into that decay which was to be dreaded. Notwithstanding all this, there were those who knew that British agriculture was not standing still, but that she was making steady, if silent, progress; that her followers were not the slowest of the slow; but that contrariwise, they were taking note of the internal progress in other arts and sciences, striving how far they could draw towards themselves the aids which these could afford; in brief, that farmers were in reality bringing to the aid of agriculture those sciences which have now, at last, aided, and aided mightily, its practical progress, by new discoveries, new powers and new processes. Thus it is that time has gradually brought about a more just and generous appreciation of the position held by agriculture, and thus it is that the public mind generally of Great Britain is beginning to learn the great truth, that “agriculture is the mother of all the sciences, the nurse of all the arts;” that she claims, and is fully entitled to the claim of pre-eminence over manufactures, trade and commerce, from her superior usefulness, as well as from her earlier origin. For our part, we admit of no rival near her throne; we claim for her the highest position, and are quite ready to endorse the saying of one of the most brilliant expositors of her principles, who one day, while decanting upon the pleasures of farming, remarked to us, “Agriculture is a noble pursuit; the farmer.

Sir, is a creator.” Holding such opinions, then, your readers will perceive that in this, and in the succeeding papers which we hope to have the privilege to present to them in the pages of *THE CANADA FARMER*, the honour of the science or art will by no means suffer at our hands, nor will her dignity be lessened or compromised. We purpose, in these papers, to lay before your readers a fairly complete and exhaustive relation of all that happens throughout the year in connection with events and topics which are likely to be of practical interest, and which take place and arise in the various districts of Great Britain. While noticing all matters having relation to practice, we do not intend to overlook those which are connected with theory, bearing ever in mind the true connection which ought to subsist between them. Thus much by way of preface, for the length of which we pray your readers to pardon us—and this they will do, we feel assured, on looking at the title of our paper, which comprehends a pretty wide license in the way of talking. These papers are intended to be characterized by all the peculiarities of gossip; we shall thus be free to say what we have to say without being trammelled by the necessities of a strict classification of subjects. We shall “seize the humour as it flies;” we shall go from theme to theme, from a fact of one kind to that of quite an opposite character—“from grave to gay, from lively to severe;” but with all this, not forgetting what the object of our papers is—to communicate information—that it is not so much how we say a thing as that we must have something to say.

The great event of the month has been the Smithfield Club Cattle Show, held in the Agricultural Hall, Islington. This is one of the most important, if not the most important, of all our Stock Shows. No Society has done more to improve the breed of our cattle, sheep and pigs, than has the Smithfield Club, and its meetings, therefore, are always looked forward to with great interest by farmers, as there will be found displayed the very best of the animals of each class which the various districts of the kingdom can furnish. In consequence of the Cattle Plague or Rinderpest, the interests of the Club have been materially influenced, if we cannot say injured, so far as the exhibition of cattle is concerned, through the restrictions placed upon the movements of cattle from one district to another, and which prevented cattle forming, for some time, a feature of the Annual Show. For the first time since the breaking out of the Plague, cattle were this year exhibited, but under the restriction or stipulation, that all were to be slaughtered within ten days of the closing of the Show. From this it may be supposed that a considerable influence of a deterrent kind was at work to prevent the Show from being so very well attended by breeders as might otherwise have been the case. Notwithstanding this restriction, and further, notwithstanding the comparatively short notice which breeders had that an exhibition of cattle would be permitted at all—for at one time this was very doubtful—the number of stock exhibited far exceeded the number shown in 1861, which was the last year at which the Show was held at Baker Street Bazaar, the crush and crowd in the confined galleries of which some of your readers may perhaps have had experience. Thus in 1861, taking all classes, the number of classes exhibited was 169, against 213 in this year. One very remarkable feature, and worthy of special notice here, as illustrative of the change of views of breeders with reference to purity of breed as against cross breeds for fattening purposes, which has taken place within the last few years, is shown in the returns for 1861 and those for 1867. Thus in 1861, while the cross breeds only numbered 8, in 1867 they had doubled; while, on the other hand, there has been a remarkable coincidence in the number exhibited in the two years in the pure breeds, with the exception of the

Herefords, which have more than doubled. We need scarcely wonder, however, at the increasing estimation in which cross breeds for fattening purposes are held, when we consider the rapid manner in which they increase in weight, and the high price which they now bring. The breed preferred for crossing is the Shorthorn generally, which for this purpose is used everywhere. Pure-bred cattle in some districts have gone almost quite out, notably in Scotland, where the cattle are nearly all cross-breeds. One thing seems pretty well established from the experience of the more recent cattle markets, that more money is to be got out of a herd of cross-breeds than out of one of pure-breeds. Upon this point we shall have something more to say at a future period.

To return to the display of stock at the Smithfield Show, we have already noted that in spite of the restrictions upon the cattle department, the display was wonderfully good, both in number of animals and in quality. At the same time we are not inclined to characterize this year's display in the high terms employed by some critics,—rather, indeed, are we inclined to think that, as a whole, the points of the animals do not even in the best of the exhibits come up to, certainly they do not go beyond, the standard offered by the exhibits of former years; while in many cases they fall far below it. It is much more easy to indulge in the language of indiscriminate than in that of discriminate praise. Thus, in respect of the Polled Ox (in the class of Scotch Polled Steers or Oxen of any age) exhibited by the celebrated breeder, Mr. W. McCombie, of Tillyfour, Aberdeenshire, Scotland, all sorts of high-flown expressions have been used—of which that of “wonderful” is probably the least highly spiced. Yet, to our mind this undoubtedly fine Ox, and which in many respects deserved the first prize which it obtained, was certainly more “wonderful” in respect of its huge bulk and proportions, than of its handsome symmetry—indeed, this is scarcely the term to use respecting it, for from the thickness with which the flesh was got up to, and the irregularity with which it was laid on, symmetry was not at all apparent. Such, however, was the animal, as a whole, and such the reports which had been made of it, that Her Majesty conceived a desire to inspect it personally, for which purpose this Behemoth of the bovine breed was sent down by Express to Windsor—an offer of him at the same time accompanying him from the owner. This present, however, and as we think with good taste, Her Majesty did not accept, but ordered a “Royal baron of beef” from him to be forwarded by the butcher who might kill him. He has been secured for this purpose by Messrs. Lidstone and Scarlett for the sum of £120 sterling—\$600—a rather “tall” price, as a Yankee would designate it.

Having named Her Majesty in connection with one feature of this Show, we are naturally reminded that Her Majesty was herself an exhibitor in the class of Devon steers, not exceeding two years and six months old; in which she took one first prize. This was a fine animal, not of great size, but beautifully formed, with fine quality of flesh. In the class of Hereford steers, not exceeding three years and six months, her Majesty was also an exhibitor, and the winner of the second prize; Mr. Beach, of Dudley, taking the first prize for an animal by no means remarkable for fineness, although possessing at least one very good point. Although the Hereford breed is more distinguished for producing good fatteners rather than milkers, still some of the latter are very fine. At the Show, Mr. Bettridge, of East Hannay, took the first prize in the class of cows above four years old, with an animal which, for some points, excels any other which has been previously exhibited—the line from back or chine to ramp, with the depth of the frame, being something specially worthy of notice. In the Shorthorn Steers not exceeding two years and six months, the Duke of Sutherland took the first prize with an animal having

a high pedigree, going back to Colonel Towneley's celebrated "Royal Butterfly," and possessing some good points. In the class of Steers not exceeding three years and six months, Mr. Foljumbo took the first prize with an animal to which the same remark applies, but with a pedigree going further back than probably any of the exhibited animals, namely, to the Chilton and Collins breed—an interval between that and this going over one hundred years. We have thus noted a few of the features of the show so far as the pure breeds are concerned, which make up what may be called the first class of the fattening animals, of which we need scarcely say the Shorthorn takes the top place.

As regards Sheep—by far the best feature of the Show was the pen of Southdowns exhibited by Lord Walsingham. With them we were, at the first glance, particularly struck, and subsequent examination only confirmed us in our first impression. They were the feature of the Show in this department. The Oxford Downs, exhibited by Mr. Bruce, of Eresham, were also especially fine. The pigs were not numerous, nor were those exhibited remarkable for quality. The pen of pigs, above twelve and not exceeding eighteen months, exhibited by Lord Radnor, were the feature of this department.

The animals best represented were the Shorthorns and crosses with it; next, the Herefords, and finally the Devons. The supply from Scotland was quite up to the average. As a whole the animals for sale were remarkable for their high condition. Sales were quickly effected; but prices obtained did not seem to satisfy the graziers. The prices, sinking the offal, were as follows: Coarse beasts, 10 cents to 10½ cents per lb.; second quality, 11c. to 12c. per lb. Prime large oxen, 12½c. to 13½c. per lb. Prime Scots, 14c. to 15c. per lb. The number of animals brought forward was 8,110, compared with 7,340 of last year. Of sheep there were 20,810 brought forward; the prices averaged as follows: For coarse sheep, 10c. to 11c. per lb., sinking the offal; second quality, 11½c. to 12½c. per lb. Prime coarse woolled, 13c. to 14c. per lb. Prime Southdowns, 14½c. to 15½c. per lb. The number of calves brought forward was 218; prices varying from 13c. to 14c. per lb. for large coarse calves; and from 14½c. to 16c. per lb. for prime small do. Suckling calves brought from \$5 75 to \$6 50 apiece. The number of pigs brought forward was 420—the prices varying from 10c. to 11c. per lb. for large hogs; and from 11½c. to 12½c. per lb. for prime small porkers. The price each of "quarter-olds" being from \$5 75 to \$6 50.

As the animals at the Smithfield Show, to which we now return, were all under the restriction which necessitated their slaughter, no sales were effected for breeding purposes. This applied only to the cattle however. We have not as yet heard what sales were effected in the other departments of stock. By the way, your breeders who come over to this country to buy stock, must be men of energy and of great pluck; as creating or improving a herd, a flock, or a pen of pigs by imported first-class animals is work only for men with long and well filled purses. An eminent breeder of sheep told us that the cost of some sheep which he had sold last week, to go to America, would be, with all expenses, including his price, which, by the way, was rather "tall"—some \$250 per head when they would arrive at their destination. Something in the way of a handsome return should come out of the purchase of sheep at this price.

Talking of the cost of breeding puts me in mind to name a very remarkable change of opinion in many eminent men on the art of breeding itself. Not many years ago it was the universal notion—and even still it is held by many—that the only point to be aimed at was the hooping on of the greatest possible amount of fat which the frame of the animal could carry; and to such an extent was this done, that in some cases the frame could not carry the fat which covered it. The result was that a very essential point in breeding was overlooked, namely, the *symmetry of the frame itself*; indeed to make a bull pure this was sure to be overlooked, for it could not be seen through the excess of fat with which the frame was loaded. We never joined with those who sang loudly the praises of breeders of this kind, and who maintained that breeding had at last reached its climax, and that no further improvement could be had. On the contrary, we held that this "obese" system, so to call it, was a mistake; that it was simply the creating an abnormal condition of existence, and that a diseased one, and which very disease was likely—the conjecture on our part was at least physiologically correct—to bring about a state of matters which might have a prejudicial effect on the powers of the race, first, to re-produce good stock, and secondly to resist disease. How far this conjecture was right, let recent experience show. But as before said, a very remarkable change of opinion has come about of late; it is now pretty generally conceded by those whose opinions are worth bearing, that a state of extreme fatness is a state of disease, and that there are other points to be

arrived at than merely producing fat. At a discussion which lately took place, one eminent authority in agricultural science pointed out the evils arising from an over-abundance of fatty matter in stock, brought about by errors in feeding, our chief error being the over-use of oil-cake or other oleaginous food. But as if to keep alive the truth of the proverb, that "Doctors differ," at the same meeting another authority in agricultural science, equally eminent, came out with the doctrine that the danger did not arise from an excessive supply of fat-producing but of flesh-producing elements, which were obtained in our oil-cake or other oleaginous food used. Both authorities thus arrived at very opposite conclusions, so opposite that the puzzled breeder or rearer of stock might well ask, "If, then, doctors so differ, who is to decide?" But both authorities came to these opposite conclusions from a *chemical* standpoint. Now we have always, at least for some years, maintained, both through the medium of papers and orally, that we believe the great mistake made in discussing the cattle-feeding question, is in considering it altogether from a *chemical*, and not from a *physiological* point of view, or rather partly from the one and partly from the other. We are quite satisfied that chemistry alone will never bring cattle-feeding up to or nearer that correct standard to which, in spite of recent triumphs, it has not yet reached. For let us remember this, that the nature of the food is not the point alone, but the animal which consumes it must be considered also; and further, that the animal has its peculiarities of organism—it has its likes and dislikes, which make it as separate from, at least as different from another animal, its neighbour, although both may belong to the same herd. If this is not the case—if physiological diversities in what at first sight would be considered as the same animals do not exist—how must those puzzling diversities in results which all breeders meet with in their practice be accounted for? For we know that such practice does show not only that the kind of food which suits one animal will not suit another, but that the food which suits an animal at one time will not suit this very same animal at another time. In cattle-feeding as a true science we have to deal with two quantities, to borrow a mathematical phrase—*material* and *life*—if we can so class the latter as a quantity. The two must be taken into account, and how they should be so taken, and what is the precise relation they bear to each other, constitutes the science of breeding and feeding; but as life is considered in the problem, and as we know so little of it, we may never get up to the true standard; but we may approach it—and we shall approach it all the nearer if we bring to bear upon our researches the aid of physiology as well as that of chemistry. Hitherto we have almost exclusively invoked the aid of chemistry. In the prospect of physiology being now called in, we believe a new era in cattle-feeding is approaching.

Settlers' Association, Muskoka.

To the Editor of THE CANADA FARMER:

SIR.—You will oblige by publishing the following information in your journal:—

The executive committee of the Settlers' Association met at the Victoria Hotel, in the village of Bracebridge on Monday evening, the 23rd December. There were present the President, Vice-President, Secretary, Treasurer, members of the Committee, and a large number of prominent settlers. Stirring speeches were made, and a lively interest evinced by all present. Already several communications have been received by the secretary on the subject of settlement and emigration from some old townships in Ontario, and from the United States.

A meeting of the executive committee will take place immediately after the session of the Provincial Parliament, it being deemed advisable to defer any publication of statistical information, description of the region, or hints to intending settlers until the terms and conditions of the intended land policy of the Government are made known. The Association bids fair to be a decided success.

A. P. COCKBURN.

24th Dec., 1867.

SHORT-HORN SALES.—Mr. Ashworth, of Belmont, Ottawa, Canada, has sold "First Fruits of Belmont," a bull calf, got by Desdichado 5501, out of Lilla Languish, by Sirius (13737), to Allan Gilmoor, Esq., of Gaucan Mills. Also, "My Luck at Belmont," bull, got by Desdichado 5501, out of imported Red Duchess by John O'Gaunt (16322), to Col. R. L. Denison, of Dover Court, Toronto.

Chicago Classification of Hides.

The following classification of hides has been prepared by some of the largest hide dealers in Chicago.

All sales of hides in Chicago are made by the following classifications. As a large proportion of the hides are green salted, the price that they bring is as a rule made the standard for the price of all other kinds.

Green hides are those that are sent in just as they come from the animal, never having been salted.

Part cured are hides that have been salted, but not long enough to be thoroughly cured.

Green salted are those that have been salted, and are thoroughly cured. To cure a hide thoroughly will require from 12 to 20 days, according to the thickness of the hide and temperature of the weather. The loss in weight from the green state is from 12 to 20 per cent.

Dry flint is a thoroughly dry hide, that has not been salted.

Dry salted is a thoroughly dry hide having been salted while green.

In green salted hides and skins, those weighing less than eight pounds are called deacons; eight to eleven pounds, calf; fourteen to twenty-five pounds, if plump, are called kip, but if thin and poor, are called runners or murrains; all over twenty-five pounds, are called hides.

A green salted hide is understood to be thoroughly cured, free from salt, dirt, meat, water, horns, tail, bones and sinews, and before being weighed, all such substances are removed, or a proper reduction is made from the weight, and when the head-skin hangs to the hide by a narrow strip, it is cut off before weighing.

All bull, stag, tainted, cut, grubby, or murrain hides, are called damaged, and go at two-thirds price, without they are very badly damaged, when they are classed as glue stock, at a much lower price.

In dry hides there are other kinds of damaged, such as moth-eaten, sun-burned, or weather-beaten.

It is generally conceded by farmers and hide dealers, that over one-third of the value of all the hides taken off in the Northwest is lost by careless skinning or curing.

— An Egg Preserving Company has been formed in Chicago, with a capital stock of \$50,000.

— A machine which will remove the pits from one hundred cherries per minute, has been invented in Germany.

— The Boston Traveller estimates the cranberry crop on Cape Cod this season at 10,050 barrels, which, at \$10 per barrel, will be \$100,500 for cranberries alone.

GENTLEMEN FARMERS IN PRUSSIA.—M. Emile de Laveleye has just contributed an article to the *Revue de Deux Mondes*, in which an interesting account is given of the progress made by Prussia during fifty years of peace. Writing on agriculture, he points out that nearly all the landowners cultivate their own estates; except for detached portions renting is the exception. They are, therefore, retained in the country by the care of their own interests, for nothing more imperiously requires the eye of a master than rural industry. It is true they are aided by a class of *employés* who are not found in any other country. These are educated young men belonging to families in a good position, often just leaving an agricultural college, who remain for a certain time on some large estate to initiate themselves in the practical direction of one of their own. This novitiate is an ancient custom still preserved in many trades. Thus, frequently, the son of a rich hotel-keeper will not hesitate to enter another hotel as butler or waiter (*Kellner*), to be initiated into all the details of the service over which he will one day have to preside. When any one visits the farms (*Hittergüter*) he is astonished to see as superintendents the son of a banker, a baron, or a rich landowner. These young people drive a cart or guide the plough. At noon they return, groom their horses, and then go and dress themselves and dine at the owner's table, to whom they are not inferior, either in instruction, birth, or manners. After the meal, they resume their working dress, and return, without any false shame, to their rustic occupation. Thus we find in feudal Prussia a trait of manners suited to the democratic society of the United States, and which hereafter will become general. In France, in England especially, a young man of the upper class would believe his dignity compromised in performing the work of a farm laborer.—*Paris Correspondent of "Land and Water."*

Entomology.

"Hair-Snake."

Mr. Charles Arnold, of Paris, Ont., sent us some little time ago a live specimen of what is commonly called a "Horse-hair worm," or "Hair-snake." He writes as follows:—

"Enclosed herewith please find some kind of living thing. I should not have troubled you at this time, were it not that there are many intelligent persons in this section who believe that the origin of this species of living creature was a hair from a horse's tail!

"Being myself almost an unbeliever in this doctrine of Transmutation, I beg to refer the matter to you, trusting that you will keep the readers of the CANADA FARMER well posted on these subjects.

"One young man, to whom I showed this animal, declared that he once put a hair from a horse's tail into a bottle of water, and in a short time it became a living creature like the one sent. If this is true, it is very suggestive, and puts strange notions into one's head. Query. If the horse's tail were put in the water entire, what kind of an animal would it turn into?

"The enclosed has been confined in the bottle some three weeks (We have had it as many more, and it is still very active. Ed. C.F.) At first it appeared very lively, and would put its head (or tail, I do not know which) out of the bottle; latterly it has not been so lively. The water has been changed every few days."

The supposed live horse-hair is a parasitic hair-like worm, belonging to the class *Entozoa*; it is a specimen of the *Gordius aquaticus*. It is about ten inches in length, and about one-fortieth of an inch in diameter, without any perceptible organs to mark either head or tail. These worms live in their young or larval state in the bodies of insects, such as grasshoppers, etc.; but when mature they leave the bodies of their victims, and take refuge in shallow pools or moist situations, where they lay their eggs in long chains. If the weather should chance to be dry, they often become dried up to mere threads, which are very brittle and easily broken; but a shower of rain or immersion in water soon restores them to activity. The young are said to hatch from the eggs in the water or mud in which they are deposited, but they soon penetrate into some unfortunate insect, and complete their development in its body. The worms which affect children belong to a kindred order of animals of this class, but they are of a shorter and stouter form, and possess an anal orifice, which these do not.

The common superstition about their being vivified horse-hairs is, of course, a pure myth. We remember often having been told by ignorant people in our childhood, that if we put a hair from a horse's tail into water it would turn into one of these "snakes" in nine days! We were never sufficiently credulous to try the experiment ourselves, but numbers of country-folk are ready to declare that they have seen the operation with their own eyes! This would be a transmutation far beyond the wildest theory of the most enthusiastic disciple of Darwin. As our correspondent asks, what would be the effect of the immersion of an entire tail? or why should not a hair from the mane do as well? or better, from the tail of an ass! If Mr. Arnold's young friend is not given to "drawing the long bow," he must have mistaken a dried-up *Gordius* for a horse-hair, and have restored a parched specimen to activity.

Cut-worms in Spring Wheat.

To the Editor of THE CANADA FARMER:

SIR,—In your issue of 15th April last you kindly replied to my note regarding the "Cut-worm," as you believed it to be, destroying spring wheat. I promised to send you some specimens of it, should it make its appearance this season. I am sorry only for the reason that I will not in the meantime be able to assist you in discovering its natural history, that I was not able to send you any. I looked carefully about the same time as it did its work last year, and in fields, as far as I could judge, exactly in the same

position as those so much injured last year, and I could not discover so much as one, nor did I notice any of the wheat injured in the least, neither have I heard of any fields which have suffered from it. Is it not rather peculiar that it should have been so very destructive in 1866, and no injury known to have been done by it, either in the year immediately preceding or in that succeeding it?

INQUIRER.

TURNBERRY, Huron County, 30th Nov., 1867.

NOTE BY ED. C. F.—The sudden appearance of immense numbers of particular species of insects during one year, and their disappearance again for several years more, is one of those problems in Natural History which has not yet been satisfactorily solved. The laws of nature are intended to maintain a just balance between the animal and vegetable kingdoms of the earth, and also between the various families, genera and species of each kingdom; these laws are at times apparently broken or suspended—at least as far as man's observations extend—and then some particular class gains a temporary preponderance, which, after a longer or shorter period, it loses again. In the disturbance of nature's laws, man himself is the great offender, by his clearing of forests, converting wildernesses into smiling fields, and in various other modes; and thus he at times produces an enormous supply of food for a destructive insect, while at the same time he drives away the birds and other animals that generally keep them in check. This is a subject, however, upon which our limited space warns us not to enter. It is rather a theme for an essay or dissertation, than for a brief note of explanation. We are much obliged to our correspondent for his attention; we shall always be glad to hear from him.

PENNYROYAL FOR FLEAS.—A Georgia correspondent of the *Scientific American* gives his experience with these pests. He says: "Much the larger number of these insects are brought into our family circles by pet dogs and cats, and the pig-sty is generally filled with them at this season of the year, where numbers will hop on you when visiting it for the purpose of feeding or inspection. The oil of pennyroyal will drive these insects off; but a cheaper method, where the herd flourishes, is to throw your dogs and cats into a decoction of it once a week. Mow the herb, and scatter it in beds of pigs once a month. I have seen this done for many years in succession. Where the herb cannot be got, the oil may be procured. In this case, saturate strings with it, and tie them around the necks of dogs and cats; pour a little on the back and about the ears of hogs, which you can do while they are feeding, without touching them. By repeating this application every twelve or fifteen days, the fleas will flee from your quadrupeds, to their relief and improvement, and your relief and comfort in the house. Strings saturated with the oil of pennyroyal, and tied around the necks and tails of horses, will drive off lice; the strings should be saturated once a day."

A FLIGHT OF LOCUSTS.—At Malta, about noon on Saturday, the 9th instant, the sky became filled with locusts, which appeared to be travelling from east to west over the island. The main body preserved a high altitude, but many, perhaps tired by their long flight, settled in different localities along their route. A light breeze was blowing from the westward, so that the insects were proceeding head to wind. The town was quite in a state of excitement. The boys were catching the locusts in their hats, and the sparrows and jackdaws were feasting on them in the air with evident satisfaction. This extraordinary spectacle lasted all the afternoon. During the whole of this time they never ceased passing for a moment, and towards sunset their numbers were considerably augmented. In some parts of the country the fields and gardens were covered with them. Most fortunately, for some unaccountable reason, they made no long stay, and on the following morning, with the exception of a few stragglers, had all disappeared. Nor do we hear of any serious damage having been done by them to the crops, which have already suffered much from the continued absence of rain. A similar visitation occurred at Malta, in 1814, the year after the plague; and in 1850, a cloud of these insects appeared on the eastern side of the island and did some injury.—*Malta Times*.

Rural Architecture.

Design for a Country House.

We again present our readers with a design for an elegant and commodious residence, rather more elaborate and costly than those we have hitherto given. Although it may be beyond the means of the majority of Canadian farmers, there are many amongst our readers sufficiently prosperous to be able to erect a dwelling such as is here represented; and many others on the road to affluence may store up the hints here given for practical application at no distant day.

We recommend this design not only for the agreeable effects of its exterior, but for its simple and commodious arrangements within. The style of the exterior is what is generally termed the Italian, and is perhaps as well adapted to the requirements of this climate as the Gothic or any other style; the roofs are not steep, and will not throw off the snow as well as the Gothic, but they project well over the walls in every direction, thus throwing the snow or rain clear of both the walls and foundations. The deep shadows formed by the projecting cornices are also very effective, and give beauty to the building. The square tower rising above the main roof is a picturesque feature, and suggests the idea of stability in the structure.

This style of building requires that it should be erected with either brick or stone. When stone is easily attainable, as it is in many localities in Canada, we would prefer that material, as it tends to give the building a more permanent and substantial character than any other. It is often urged that stone houses are damp; but this fault is easily overcome by building the walls hollow, which can be done by building an inside lining with four and a half inch brick work, and leaving a hollow space of say three inches between the stones and brick work, and tying them together at certain intervals with hoop iron ties.

This mode of construction has also other advantages, viz., no inside furring and lathing is required, as the walls can be plastered on the solid brick-work, where two coats of plaster will be sufficient instead of three. Another important advantage is, there will be no place for rats or other vermin, as the skirting boards can be placed against the solid wall. The air space can also be used for ventilating purposes.

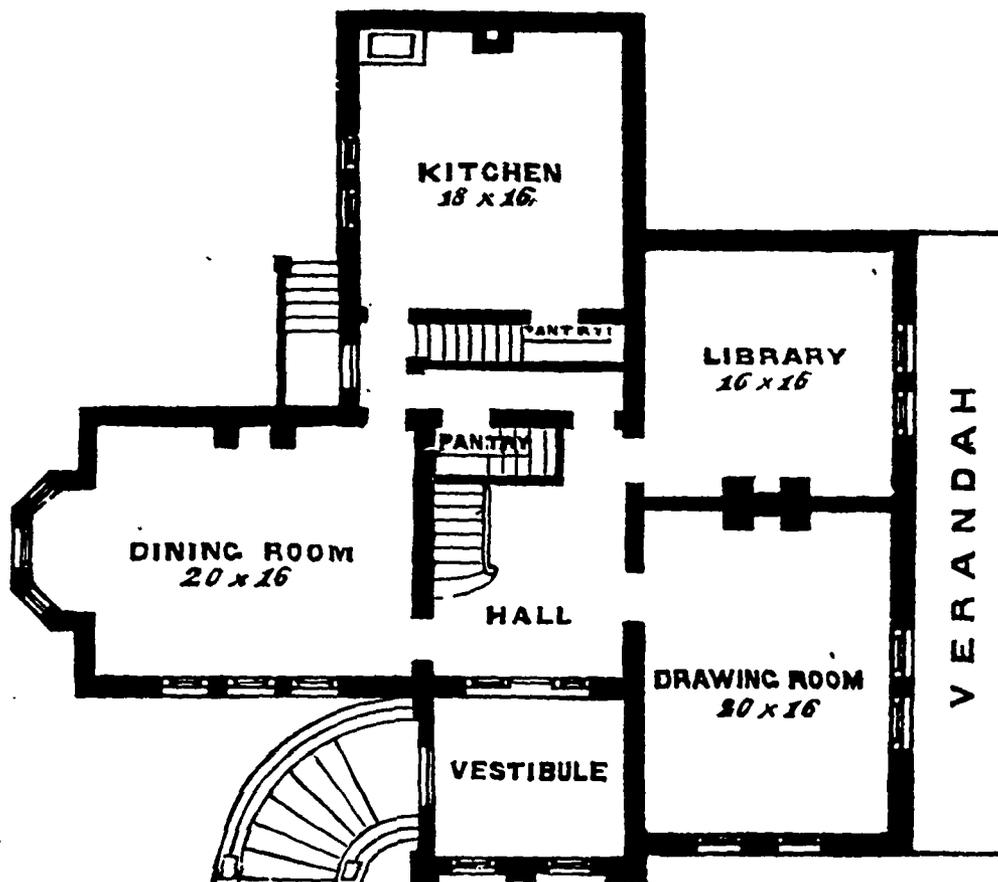
There is, moreover, an air of stability and durability about a stone structure; age, so far from being destructive to it, only increases its beauty. What can be more picturesque than an old stone house or church covered with moss or ivy, and shaded with venerable trees, planted by the hands of those who have perhaps long since passed away. Contrast with this the effects of time on a wooden structure, under similar circumstances. We have all seen such examples even in this young country—cracked walls, broken plastering, settling of the timbers, leaky roofs, &c., &c., too well known to many house owners and tenants in Canada.

To those about to build, we wish to say a few words. Having selected the site, and chosen the material, the next step is to procure a design best suited to the wants and conveniences of your family. The accompanying design is not intended for a model to be copied for every locality, but to show how important it is to have a design adapted to the peculiarities of the site, and suit the wants of the house; and how unwise it is to erect only the stereotyped house of a certain model, unvaried in all its details or character, as is very much the custom in Canada. Having selected your architect, make him conversant with your general requirements, the amount of accommodation necessary, the materials to be employed, and the amount you can afford to spend on your proposed



house, and leave the rest to him. This done, he will make you a sketch, embodying your ideas and requirements, and then submit it for your approval. Any alterations or improvements can then be made, and the whole thoroughly understood by both parties. Working drawings can now be made, careful specifications and contracts will be drawn up, and the whole submitted to competent contractors for tenders for the different works required to be done. Having accepted your tenders, the work can now be commenced under the superintendence of the architect, or other competent person, who can explain the drawings or details, as may be required.

Whilst on this subject, we would take occasion to advise those who contemplate building not to grudge the expense of an architect. His professional skill will, in all probability, ensure better taste and good keeping in the main design and all the features of the building, as well as greater convenience in the arrangements; his knowledge of the trade may protect you from some of the tricks of



the contractors, and in this and other ways he will effect a saving in the total expense, that will generally more than cover the amount of his own professional charges. He may besides, in many instances, prevent the commission of grave mistakes to which the inexperienced in such matters are liable. Ludicrous blunders are sometimes made by amateur builders. We knew a good old lady who built a stable for her cow, and when the structure was complete it was discovered that there was no way of introducing the animal except through the front door and hall of the dwelling-house. With regard to the accompanying design, the drawings are, we think, sufficiently clear, and need no further explanation or comment. The plan of the ground floor only is given, as the arrangements of the chamber floor would be similar to those below, or might be modified to suit the convenience of the owner. In the matter of a cellar under the main building, we recommend its being dispensed with altogether if possible, as more conducive to health.



Fruit Trees in Owen Sound.

To the Editor of THE CANADA FARMER :

SIR,—In a recent issue of your journal I noticed a letter from Mr. McLean on Owen Sound as a fruit growing district. I can say as much with regard to that by experience as any one can. About twenty years ago I began to raise fruit trees, and also to buy them from agents; all grew and bore well except imported peaches. I then began to plant peach stones; they grew well in summer, but froze down a little in winter for several years, but began to bear in about four years, and the last three years they have borne a very heavy crop, and now they never freeze. I have also a Clinton Grape Vine; it bears well, and ripens about the end of September. We took about 200 lbs. from it last fall. We have also an Isabella beginning to bear equally well, but is later in ripening. We have also plums, pears and cherries, doing well. Our apples consist in part of the following kinds:—Northern Spy, Rhode Island Greening, Snow Apple, King of Tomkin's County, Baldwin, Keswick Codlin, Roxbury Russet, St. Lawrence, Ribston Pippin, Maiden Blush, Twenty Ounce, besides some good seedlings of which I do not know the name, and all seem to do equally well except for the bark louse, which is yearly gaining ground in this locality.

WILLIAM BROWN.

New Double Crimson Hawthorn.

This very fine variety of the English thorn is most remarkable for the intensity of color. In other respects, it is not materially different from the common double red hawthorn. We clip from the *Florist* the following account of its origin:

"The history of the sport is briefly this: About seven or eight years ago, some flowers of this intense hue were observed on a plant of the double pink thorn; and, on examination, it was found that a strong branch had started up from near the centre of the tree, with leaves as well as flowers differing from its parent. The branch was encouraged, and year by year increased in size, retaining the color and character originally observed. The parent plant is apparently about twenty-five years old, thirty feet high, and as much in diameter, measured from the outermost branches at its greatest width. There is still only one stout central branch of this deep color; the other branches, which are profusely adorned with flowers, being of the original pale pink so well known to horticulturists. When looking at the tree recently, so great was the contrast between the sport and the original, that we could not rid ourselves of the impression that the parent variety was, in this instance, paler than usual; and we asked ourselves whether the coloring matter had not been drawn from the larger surface, and intensified in this particular branch by one of those secret processes which the student of nature is often called upon to behold and wonder at, without being able to account for or explain. This may be fanciful; but here is certainly a *lusus naturæ* worthy of the attentive consideration of our vegetable physiologists."

The plant, which has only recently been brought out in England, is well deserving of extensive cultivation. There is nothing more ornamental, or more endeared to us by early memories, than the showy and rosy hawthorn of May; but the colors have always been dull. Now, we have intensity of color, which must add much to the attractions of the plant. We suppose any stock of this variety can hardly yet have reached this country, but have no doubt that our florists, with their usual enterprise, will soon introduce it to the public.—*Am. Jour. Hort.*

How to protect Trees from Insects.

The following simple means of preserving trees from the ravages of insects, recorded in a late number of *Chambers' Journal*, was first published at Lyons by the Imperial Society of Practical Horticulture of the Rhône; it is worth a trial in this country.

"The mischief done by insects whose eggs are deposited in buds and blossoms is almost incredible. The remedy is to mix one part of vinegar with nine parts of water, and shower it from a syringe or fine-roset watering-pot over the trees, plants or flowers requiring protection. The experiments made in this way in the neighbourhood of Lyons have proved eminently successful, the trees so treated having been loaded with fruit, while others which had been let alone bore very scantily. In preparing the solution, it would be well to remember that as French vinegar is much stronger than English, the quantity of the latter should be increased." [We should think the inexpensive Pyroligneous Acid might be employed instead of vinegar, if sufficiently diluted. Ed. C.F.]

Characteristics of a Good Fruit.

To the question, what are the points of a good fruit? we answer: First, the best quality; second, durability, or the property of remaining sound after being gathered; third, size; fourth, color; fifth, form, though I regard the last two as of nearly equal importance.

So long as we raise fruit to eat, we can have no hesitation in giving the first place to its eating qualities. No combination of other properties, however valuable, can atone for any considerable deficiency in this respect. Texture, juice, flavor, aroma, join to determine the quality.

Next in importance to quality is durability, or keeping, by which I do not mean late ripening, but the property, whether early or late, of remaining sound after being gathered. A habit of decaying at the core is a very great fault in fruit; and, for market, one which can be ripened in the house is much more valuable than one which, to be eaten in perfection, must be ripened on the tree, as is the case with the Rostiezer and other pears of the Konelet family, the Early Harvest and Williams apples.

The third requisite, size, is at once obvious. One of the highest flavored new pears is Dana's Hovey, but its value would be many times multiplied could its size be doubled, and its luscious character retained. Yet, while we seek for large fruit in preference to small, we should not forget that a fruit may be too large for table use. We have but one dessert pear of the size of the Duchesse d'Angouleme, and perhaps one is enough. But whether the size is large or small, it should be uniform.

Beauty of color and form, though less important than the preceding points, are still of great value, and, all other things being equal, that fruit which possesses them will justly receive the preference. The best colored pears are those with a brilliant red cheek, next to this comes a golden or cinnamon russet, then yellow, and last green.

Beauty of form has been less regarded than color, but a moment's observation will show its importance. Some pears are so beautiful in the curves which form their outlines as at once to attract and please the eye, while others are entirely unprepossessing if not ugly. The *Buerre Bosc* is the most perfect example of the former; and it is not only beautiful in itself, but pleases us as being the true pear type. After the *Pyramidal* comes the *Doyenne* type; and between the two we have all gradations, which are desirable in proportion as they approach the former. Next to the *Doyenne* is the *Bergamot*; then comes the globular; then the ovate, tapering toward the eye; and when this is conjoined with a knobby substance, it is worst of all.—*Extract from President Wilder's Address at the Pomological Meeting.*

A LARGE GRAPE-VINE.—Mr. Stewart, Oxford, C. W., has a Clinton vine seventy feet long—that is, thirty-five feet each way from the root, running over and on an eight-foot picket fence, which hung this year with one mass of grapes from end to end. He entirely ignores the idea of cutting grape vines back to five or six feet, arguing that the leaders should not be cut at all. The vine referred to is in his garden, and has had all necessary care; and though the grapes had been somewhat injured by hail, both in bunch and berry they would compare favorably with the Clintons to be elsewhere seen.

Horticulture for the Clergy.

"Rev. Dr. Vall," says the *Pittsburg Advocate*, "for forty-six years a trustee of Amherst College, has ended an honorable and useful pastorate of thirteen years, at Palmer, with a farewell sermon, in which he spoke with an honest pride of his never having subjected his people to the inconvenience and expense of the fashionable ministerial vocation of modern times. He said that had been superseded by a system of horticulture and home exercise, which all country ministers might most advantageously adopt, with far better results as to health and study, and pastoral labor, and pecuniary expenditure, than rustivating in Adirondack mountains or among the salt marshes of Cape Ann."

We commend the above to the thoughtful attention of the clergy of Canada. Travel enlarges one's ideas, and if the traveller be observant adds greatly to one's knowledge of human nature and stock of information generally, but unfortunately travelling is an expensive luxury such as few clergymen can afford to indulge in. Gardening is universally practicable. The taste for it is intuitive, and even where it is not supposed to exist, can easily and quickly be developed. It is a source of great pleasure, and so far from being a costly recreation, may be made remunerative and profitable in a pecuniary point of view.

WASH FOR FRUIT TREES.—"J. H. W." from Sandwich, has sent us the following in reply to a recent enquiry from a correspondent respecting a wash for fruit trees:—"In THE CANADA FARMER of November 15th, W. Drone, of Kirkwall, asks whether 'lye' is a suitable wash for young trees.

"My experience as a fruit grower is, that a wash made with soft soap and rain water is far superior to any other that has yet been recommended. It produces a freshness, a healthy and vigorous growth of bark, which will tend materially to increase the vitality of the tree. I have used this successfully, and can recommend it. A white-wash brush may be used, and a plentiful supply given.

"A patent pail of soft soap will make twenty gallons of the wash."

LARGE CLUSTER OF GRAPES.—Mr. Fowler, gardener to the Earl of Stair, Castle Kennedy, produced, at a recent show in Glasgow, the most extraordinary bunch of grapes, for size and weight, that has been exhibited in modern times. It all but rivalled the famous bunch of Speechly at Welbeck. It weighed 17 lbs. 2½ ozs., and was of the White Nice variety. The same grower had enormous Black Alicante, with berries the size of Victoria Hamburg, and bunches compact and pyramidal to a fault. Trebbiano, too, was the largest and best formed bunch of the kind probably ever exhibited. Mr. Fowler also produced a bunch of the *Duchess of Buccleuch* variety, much larger in cluster and berry than any of this variety before exhibited. The size of bunch which Mr. Fowler induces in all the sorts under his cultural care, is something wonderful, and if he does not at all times show them quite up to the finishing stroke in point of color, it need not be wondered at.—*Norist* (London).

PROTECTING FRUIT TREES FROM MICE.—As the time of drifts and heavy snows is now upon us, it is well for those having young fruit trees to take some measure to protect them from the ravages of mice. A great many trees are gnawed and spoiled by these little pests, which a little timely care would save. I have tried several remedies, such as making an embankment of earth around the trees, treading down the snow, &c. The latter has generally proved successful, though it sometimes fails, especially where there is a thick growth of grass. My method now is to use tins, which I find a very sure as well as an economical arrangement. For small trees not over two inches in diameter, I buy sheets of tin twelve inches square at the tin-shop, and cut them into pieces six inches square. These I bend over a round piece of wood to give them form, and connect the sides as they meet, with a small piece of wire, made crane-hook fashion, and inserted in holes previously made. The tins will last a good many years if taken care of in summer, and the only work of putting them on is to spring them open and put them around the trees, then hook and slide them down to the ground.—*Cor. Maine Farmer.*

The Household.

Domestic Manufacture of Furs.

Our readers, especially the correspondent who requested us to give directions for dyeing sheepskins with the wool on, may find some useful hints in the following extract from the *Rural American*:

"That furs are not more generally used by both sexes in this country, is doubtless because of their expensiveness, and not from want of appreciation of their great utility, richness and beauty. It is no extravagance to assert that every farmer's family may furnish their own fur collars, gloves, robes, and other articles of dress and ornament, with trifling expense, from the resources within their own reach; but from want of more knowledge on this subject, valuable skins are wasted or disposed of for a mere fraction of their real value, and articles of apparel that should have been made from them are bought at extravagant prices of fur dealers. The skins of raccoons, minks, muskrats, rabbits, foxes, deer, cats, dogs, woodchucks and skunks are all valuable. Handsome robes may be made from the skins of the last two animals, and the writer has seen fur coats made from the skins of woodchucks well tanned, dyed and trimmed, which were elegant as well as comfortable, and no one but a connoisseur would be able to guess their origin. Of the finer and nicer furs, beautiful collars, muffs, cuffs, caps, gloves and trimmings may be made, with a little ingenuity and perseverance; and who would not feel a greater satisfaction in wearing a nice article, from the fact that it was something of their own manufacture, a product of their own taste and genius?"

"Very handsome floor mats are made by tanning sheep pelts, and then dyeing them some bright colour, which is done with very little trouble; the art of dyeing is now so familiar to almost every household. Furs may be dyed as easily as woollen goods, notwithstanding the impression that it is an art known only to the trade. Any dye that will colour woollens will also dye furs, only care must be taken not to have the dye too hot or the texture of the skin will be injured.

"The mode of tanning usually followed by city furriers, is to rub the skins well with rancid butter, then tread them thoroughly in a tub or vat, after which a large quantity of sawdust is mixed with them, and the process of treading continued until all the grease is absorbed, when they are finished off by beating, working and rubbing with chalk and potter's clay, whipping and brushing. An old trapper practised this method with small skins, first washing with a suds of soap and sal-soda to free them from grease, then rinsing in clear water to cleanse them from the suds, then rubbing as dry as possible, after which they were put into a mixture of two ounces of salt to a quart of water, added to three quarts of milk or bran water containing one ounce of best sulphuric acid, and stirred briskly for forty or fifty minutes; from this they are taken dripping into a strong solution of sal-soda and stirred till they will no longer foam; they are then hung to dry, and when nearly dry are taken down and rubbed dry, when they are very soft and pliable. A very good and simple process in use among farmers is to sprinkle the flesh side, after scraping it well, with equal parts of pulverized alum and salt, or washing it well with a strong solution of the same, then folding the flesh side together, and rolling it compactly, in which state it should remain for eight or ten days, then it is opened, sprinkled with bran or sawdust to absorb the moisture, and rolled up again, and after remaining twenty-four hours the process is completed by a thorough rubbing and manipulation, on which the pliability depends. Skins, when taken off, should be freed from grease or flesh, by thorough scraping, when they may be dried, and left to await the leisure of the owner. Previous to tanning they must be well soaked and wrung dry.

Kerosene Explosion.

KEROSENE is now so widely employed for purposes of illumination, and though perfectly safe when properly managed, is so terribly destructive to life and property when an accident does occur in its use, that it is of the highest importance to know what safety demands in handling it, or, in other words, the causes of explosions, and the means of avoiding them. No reader of this paper, probably, is so devoid of sense as to need to be cautioned against the insane practice of pouring the oil into stoves, in doing which so many persons have been killed; but accidents with lamps are not well understood, and we are glad to find, in the last number of the *Boston Journal of*

Chemistry, a valuable article explaining them, from which we extract the following.

Kerosene accidents occur from two causes; first, imperfect manufacture of the article; second, adulterations. But a lamp may be filled with bad kerosene, or with the vapor even, and in no possible way can it explode, unless atmospheric air has somehow got mixed with the vapor. A lamp, therefore, full, or nearly full of the liquid, is safe; and also one full of pure warm vapor is safe. Explosions generally occur when the lamp is first lighted without being filled, and also late in the evening, when the fluid is nearly exhausted. The reason of this will readily be seen. In using imperfect or adulterated kerosene, the space above the line of oil is always filled with vapor, and so long as it is warm and rising freely, no air can reach it, and it is safe. At bedtime, when the family retire, the light is extinguished; the lamp cools, a portion of the vapor is condensed; this creates a partial vacuum in the space, which is instantly filled with air. The mixture is now more or less explosive; and when, upon the next evening, the lamp is lighted without replenishing with oil, as is often done, an explosion is liable to take place. Late in the evening, when the oil is nearly consumed, and the space above filled with vapor, the lamp cannot explode so long as it remains at rest upon the table. But take it in hand, agitate it, carry it into a cool room, the vapor is cooled, air passes in, and the vapor becomes explosive. We hear much said about dangerous gases being formed in lamps, but this is an error. The whole hazard comes from air-mixed vapor.

But how can we be positively assured of safety in the use of kerosene? How can we know the character of the article offered us by dealers? If consumers are willing to be put to a little trouble, a simple experiment will determine the safety of the kerosene they purchase. Fill a pint bowl two-thirds full of boiling water, and into it put a common metallic thermometer. The temperature will run up to over 200°. By gradually adding cold water, bring down the temperature of the water to 110°, and then pour into the bowl a spoonful of the kerosene, and apply a lighted match. If it takes fire, the article should be rejected as dangerous; if not, it may be used with a confident feeling of its safety.—*Country Gentleman*.

Curing Hams.

"MASSACHUSETTS HAMS" writes: "I cure and smoke 50,000 to 100,000 pieces per year, and know my business. Meat cured in pickle made of water is not as good as dry-salted meat, and the pickle is only used because more profitable and less laborious. The flavour of cured meats depends mainly on the quality of molasses used. The best temperature is 40°; frozen meat will not cure, and, if above 50°, will be liable to taint. For 100 lbs. meat take 8 lbs. salt and 1 quart best molasses, or 2 lbs. sugar, 1-4 lb. saltpetre, 2 ounces ground alum; mix and rub on the fleshy side of the meat, placed in pans so as to keep all the mixture; repeat the rubbing every three days, rubbing in thoroughly. For large pieces and cold weather, sixty days will be required; if mild weather, fifty days; and fifteen days less for small pieces. The skin and fat of hams should be cut clean from the face as far down as the second joint, to allow the salt to enter. The recipe for keeping meat in ashes, given in September *Agriculturist* is good. Smoking is of no benefit; it is only a quick way of drying. Most people would prefer drying without smoke. If you smoke, use only walnut or yellow birch wood, or mahogany sawdust. Be sure your meat is well cooled off before salting; ten days after killing is better than ten hours."

ASH BINS.—More fires occur from ashes stored in wooden vessels than from almost any other cause. The favorite deposit is an old flour barrel under the shed or in the wood-house. The ashes stand perhaps in an iron vessel until they are supposed to be cool, and are then emptied. Coals, especially of the hard woods, hickory and oak, will retain their fire in ashes for a day or longer, and this, coming in contact with the barrel at a crack, kindles a flame, and a destructive fire ensues. Farm-houses and barns are frequently destroyed in this way. There are several devices for the storing of ashes. Where wood is wholly used in the fireplace, or Franklin fire frame, it is convenient to have a flue in the back part of the hearth or the chimney, communicating with an ash bin in the cellar. The mouth of the flue is kept covered with an iron slide. The bin in the cellar is made of stone, and is of sufficient capacity to hold the winter's stock of ashes. But the stove has so generally taken the place of the open fire, that other contrivances are used. Some put up a small brick building expressly for the purpose, having a half-door in the upper part, for convenience in emptying the ashes. Bluestone flues are convenient for making

bins of smaller size, and are not very expensive. Perhaps the cheapest article for this purpose is a cement tile, two feet in diameter, covered with a piece of zinc or sheet iron. It is cheaper than iron and fire-proof.

So says the *American Agriculturist*; but as cement tiles are not easily procurable in the backwoods, most farmers must content themselves with stone or brick receptacles. Any contrivance is preferable to wooden vessels or bins, whence so many fires have originated.

A CANDLE TO BURN ALL NIGHT.—When, as in the case of sickness, a dull light is wished, or when matches are mislaid, put finely powdered salt on the candle, till it reaches the black part of the wick. In this way a mild and steady light may be kept through the night by a small piece of candle.

ARTIFICIAL HONEY.—Recipes for making artificial honey. The following is one of the best. Dissolve eight pounds of refined sugar, and two-thirds of an ounce of alum, in one ounce of pure soft water. Add to one pint of alcohol five drops of oil of roses. Four tablespoonfuls of the alcohol and oil of rose mixture is sufficient for eight pounds of the honey.—*Cor. Co. Gent.*

REMOVING STAINS.—All cloths subject to be stained, such as table linens, napkins, children's clothes, towels, etc., ought to be examined before being put into any wash mixture or soap suds, as these render the stain permanent. Many stains will yield to good washing in pure soft warm water. Alcohol will remove almost any discoloration. Almost any stain or ironmould, or mildew, may be removed by dipping in a moderately strong citric acid, then covered with salt and kept in the sun. This may require to be repeated many times, but with us has never failed.—*Country Gentleman*.

AN EXCELLENT OINTMENT for chapped lips and hands, for dry sores, for burns, for sore nose, for softening corns on the feet, for piles, in short for any diseased surface where a soft protecting coating is required, is what is called "*Glycerine Ointment*." This can be readily prepared by any druggist, by simply rubbing into what is termed "cold cream" a little glycerine—just enough to give a soft, lard-like consistency. More glycerine can be added in winter than in summer. A drop or two of oil of roses stirred in, gives it an agreeable perfume. It should be kept well corked, and be made fresh every month or two. When the hands become chapped or roughened by cold weather, smear them with a little of the glycerine ointment at night, rubbing it in, and then wipe off all that will soil the clothing, and the skin will usually be soft and pliable in the morning.—*American Agriculturist*.

Advertisements.

DURHAM BULL.

FOR SALE by the subscribers, that thorough-bred Durham Bull, ALBION, five years old, colour, red, sire, Master Graham, 4159, A. H. B., dam, Roan Duchess, by Lord Luno, 13181, E. H. B.

G. B. & H. KEY,
Oakland P. O.

Oakland, January 8th, 1868.

v5-2-11

FOR SALE.

A PURE BRED AYRSHIRE BULL, two years old—has taken five first County and Township prizes; pedigree can be furnished. Also, a one year old three-quarter DURHAM BULL, from the herd of W. T. Ayken, Esq. Also, a three year old fancy MARE, and a number of ONE-HORSE CULTIVATORS.

Russell, Nov. 1st, 1867.

F. F. LOCKES,
v5-2-11*

ATTENTION!

DAIRYMEN AND OTHERS!

H. PEDLAR, of Oshawa, Manufacturer of all kinds of Cheese Factory apparatus generally, took the First Prize and Diploma at the Kingston Exhibition in 1867, for the best cheese vats, over all other competitors. Parties intending to start dairies would do well to send for my price list, and I have imported direct from the English manufacturers a very large stock of large Tin Plates, for the express purpose of making Vats and Cans, and am able to supply factories throughout with everything at a price that will pay well, by addressing

v4-24-6

H. PEDLAR,
Box 100, Oshawa.

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Markets.

Toronto Markets.

"CANADA FARMER" Office, Jan. 14th, 1868.

The produce market has been more active during the past two weeks. Both flour and grain have been in good demand.

Flour.—The market has gradually advanced, until to-day \$7 10 was freely offered for good brands.

Wheat.—There has been a good demand for both spring and fall, and prices have advanced considerably.

Oats.—The receipts have been considerable; prices, however, have remained steady.

Barley.—The demand for barley still continues. Brewers are lightly stocked and are paying higher prices for their supplies.

Peas.—There is nothing doing in this grain, and prices remain nominally unchanged.

Out Meal.—Meal market firm. Fair inquiry at \$6 00.

Bran.—Same; nominally worth \$20 by the car load.

Pork.—Mess pork is in better demand, owing to the short supply in the market.

Bacon.—Dull and difficult of sale. No heavy transactions have taken place during the week.

Lard.—In rather better request. Sales have been made at from 9c to 9 1/2c.

Dressed Hogs.—The supply has been large. Those offering met a fair sale at from \$5 to \$5 10.

Butter.—The market has experienced a change since our last report, and closes decidedly dull for anything but choice dairy which sells readily for local trade.

Cheese.—Quiet, no sales; 9c to 10 1/2c.

Eggs.—Lower, lots by express offering at 16c to 17c.

Hay.—Selling at from \$14 to \$17.

Straw.—Selling at from \$11 to \$13.

Hides and Skins.—There is the usual demand at full prices, with very little stock in market.

Montreal Markets, Jan. 12.—Flour.—Superior extra, \$8 to \$8 25; extra, \$7 80 to \$8; Fancy, \$7 70 to \$7 80.

Contents of this Number.

Table listing contents of the issue with page numbers. Includes sections like THE FIELD, STOCK DEPARTMENT, THE DAIRY, VETERINARY DEPARTMENT, POULTRY YARD, THE APIARY, CORRESPONDENCE, EDITORIAL, AGRICULTURAL INTELLIGENCE, ENTOMOLOGY, RURAL ARCHITECTURE, HORTICULTURE, THE HOUSEHOLD.

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