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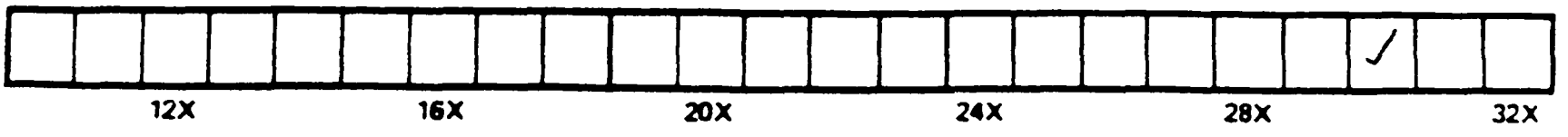

THE CANADA FARMER

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## The Field.

### Use and Abuse of the Reaping Machine.

A CORRESPONDENT of *The Farmer* (Scottish) writes well on the above subject, in the issue of that paper for Jan. 1, 1868. We condense the substance of his communication. After giving a minute detail as to the comparative cost of reaping by hand and machine labour, he puts down hand-cutting at 8s. 6d. per acre, and machine-cutting at 4s. 8d. per acre, thus proving that nearly the price of a good reaper is saved in the cost of every hundred acres it cuts. But the saving of labour and outlay, great though it be, is among the least of the advantages secured by using the reaping machine. The rapidity with which it secures crops in late or critical seasons, the much larger amount of hay, straw and grain which it saves, and the facility it gives of bringing grain to an early market, when it is desirable to do so, are benefits which experience proves to be most valuable and important. An eminent agriculturist in the north of Scotland, writing in the *Aberdeen Free Press*, of 11th October, 1867, having shown that the work is more cheaply and better done by a reaping machine than by manual labour, the land more evenly and closely cut, and the sheaves so much neater and more regular as to ensure more thorough threshing by the mill, adds—"I have no hesitation in stating that, since I used them, *I have obtained at least one quarter per acre additional grain upon my farms.*" This statement admits of the following easy proof and explanation:—Take two sheaves, one hand-cut the other machine-cut, turn them both upside down, and in the base of the former you can count fifteen heads of grain for one head in the latter. Now, as heads so lying in the bottom of the sheaf are, when in the stook, injured by contact with the ground, when in the stack liable to be picked out by birds, and when in the mill to pass through it without being threshed, this source of loss to the farmer is shown to be fifteen times greater with hand-cut than with machine-cut grain. Again, striking out—not unfrequent with the scythe—and heads cut off and left on the ground—a loss common to the use of both scythe and hook—are avoided where the machine is employed. The closeness and uniformity of cutting, in machine-cut fields, and which in autumn are so pleasing to the eye of the farmer, ensures a much more thorough covering up of the stubble by the plough, while even the very roading of the field by the machine improves the subsequent crop of clover and rye-grass. The practical advantages of a good reaping machine are so numerous and so profitable, that those farmers who have used them most and longest are the loudest in their praise. In fine, with even but thirty acres of crop to cut, a good reaper and mower is the farmer's best investment.

So much for the use and value of the machines in question. Their abuse, by carelessness, ignorance, neglect of oiling, and exposure to the weather, comes in for sharp and well-merited censure. A sound and honestly-made machine, constructed on the best principle and of good material, will, with ordinary care, keep in efficient working order without repairs, other than those that can be done by any common sense person, for a number of years. A close watch ought to be kept up, and if a nut comes off, or a pin slips out, the evil should be at once remedied. The derangement may seem but trifling, it does not stop the machine, nevertheless to go on with even small injuries unrepaired, is the way to cause more serious evils, bad breakages, and mischief that it will be found expensive and troublesome to remedy. Imperfect sharpening of the knives, or total neglect of sharpening them, are common abuses to which these machines are subjected. Often, by the end of their first season, the edges of the knives are more like cold chisels, than the sharp, keen blades they ought to be. Farmers have been known to cut thirty or forty acres of strong grass, without the knives being once sharpened. For this there is no excuse, as the sharpening process is a very simple and easy one. The knives ought to be touched up every two hours, when at hard work, and the short time it takes to do this is amply paid for in the ease and celerity with which the work is performed.

Neglect of oiling is another flagrant abuse. Oil is cheap, it can readily be applied, and to withhold it both makes the work harder and hastens the wearing out of the machine. Oil should be used every hour or two during full work. A machine was giving plain signs of want of oil, when the man who had charge of it, being spoken to about the neglect, indignantly exclaimed:—"Oiled! of course she's oiled; I oil her myself *regularly every two days!*" Another man, who was asked when a certain machine had been oiled, replied. "Ah dinna ken, ah hanna seen any oil aboot the place ever since ah cam till it."

The exposure of these machines to the weather is another common and glaring abuse. They are left in the stack-yard, in the open fields, or shoved into the hedge, to leave the headlands free for ploughing. This is a melancholy but not unusual sight; sometimes a set of knives is left sticking in the fingers, to rust as they best may, until the mowing season again comes round, when the neglected machine, with knives that will not cut, is dragged out into the field, and a feeble attempt at cutting made.

Let all such abuses be avoided, and proper care taken of these useful machines. The attention they require is not much, but neglect of it is a costly and ruinous business.

BEET ROOT SUGAR IN AUSTRALIA.—Experiments are about to be made in Australia for the cultivation of Beet Root, and the manufacture of sugar from that article.

### White Mustard for Green Manure.

*To the Editor of* THE CANADA FARMER:

SIR,—Amongst other remedies to supply the great want of manures, I have been advised to employ white, or garden mustard, to be sown very early in the spring, say about the middle of April, on land intended for summer fallow of the same year; and on the mustard attaining a growth of about eighteen inches in height, which I am told will be about the 1st of July, to plough it under and at once sow buckwheat or rape on the same land; and as soon as it reaches a growth of eighteen inches or more, again plough it under, and sow fall wheat or allow the land to remain unsown until spring. By that time it surely would be rich enough to bear an excellent crop of spring wheat. *This plan seems feasible*; but I am doubtful whether the white or garden mustard will become a weed, the same as wild mustard, or charlock, or that the frost will destroy the young plant in such early spring sowing as the middle of April. I am confident that the land will be greatly enriched, but feel doubtful whether this course would keep the thistles sufficiently down. This plan would be almost as cheap as a naked fallow; for there would only be two ploughings expended, in addition to the fall ploughing done last autumn; and white mustard seed, to commence with, costs only about $3 a bushel, and a few pounds are sufficient for an acre. After the first year sufficient can easily be allowed to go to seed for all future wants. Will you please invite answers from your numerous correspondents, and also request any information or experience they may possess on the subject of sowing, and particularly the liability to be injured by early frosts, or the probability of any seed remaining in the ground to give trouble in future crops as a seed. We all know the benefit of clover when ploughed in, but clover requires two years to grow, and it often happens that the weather is too dry, and clayland is almost always too hard to plough in clover in June or July. We all feel the want of some inexpensive quick-growing green crop, that can be sown (on land ploughed in the fall) very early in the spring, to be matured sufficently by the 1st of July to be ploughed under, and again to be re-seeded, and again ploughed under, and all completed by the first week of September for fall wheat, or allowed to attain somewhat more growth for spring wheat in the year following.

I heartily request an answer from one or more of your subscribers who may have tried the plan proposed; and if it has been successful in many quarters, shall feel the more certain of its results; and in my turn I will endeavour to assist others by recording the result of the plan when it is known, after next season has proved it.

AN IMPROVER.

Toronto, March 8, 1868.

NOTE BY ED. C. F.—If any of our correspondents can give the information sought for, they will oblige by forwarding a prompt reply, as the sowing, if it be adopted at all, should be done in a few weeks from date.

## A Plea for Agriculture.

*To the Editor of* The Canada Farmer:

Sir,—The cultivation of the soil is a subject of so much importance, and often so undervalued, that I feel constrained to say a few words respecting it. Many of your readers may have formed too hurried an opinion with regard to farming, or the cultivation of the soil, as an occupation. Some of the dandies of the day have said in my hearing, "Oh! I would not be a farmer; his is a hard lot, with no enjoyments, nothing to cheer him on in his dull, lonely life;" but allow me to say to all such, that farming is one of the most honorable occupations on the face of the earth. As evidence of this I would just refer you to that period of English history, when the crowned head and archbishop condescended to bind sheaves in the field in honor to this noble occupation. The above is practised at the present day in China, where the Emperor ploughs, harrows, and sows a small piece of ground annually. Why then should farming not be termed a good calling, and more of us be willing to follow it for a livelihood? It is evident to every sensible man that this beautiful Dominion of ours affords many advantages, that we are totally deprived of as soon as we leave the soil which British blood has so dearly bought.

The schools of Canada are as good as those of any other country in either hemisphere; our religious privileges are unsurpassed; and also there are other institutions set apart for public instruction, which are a great benefit to the people in general; but I ask, who is it that pays for all this?—who erects the buildings in which to hold our public meetings?—who came to the country and made it what it now is? It was the agricultural part of the community that first came here and cleared the land, beat back the savages, suffered and bled to make homes for the succeeding generations.

I should be very sorry to have any of your readers for a moment suppose that I thought a man could not get an honest living unless he had something to do in connection with agriculture. This is not my object. I only wish to impress upon the minds of the youth of our land the absurdity of thinking, that, because a man is a farmer, he is not as good in every respect as his neighbour, who has a profession of some kind. We are all aware that the country would be poorer were it not for professional men; for we should be lost (if I may so express myself) in many instances, and should not know what to do, were it not for the doctor, the printer, and others, who each have their own respective duties to perform.

It is my opinion, however, that Canada is better supplied with men of mental culture than it is with those whose services are of a physical character; that mind is less wanted than muscle; and for this reason I would advise all young men who have had the good fortune to receive an education, but have not chanced to get a situation that suits them, to take up farming and make a start in life for themselves, instead of loitering about saloons as too many of our youths are in the habit of doing.

The prosperity of the Dominion depends wholly upon the energy put forth by the rising generation, to reduce its backwoods to fertile plains, and keep that which is already cleared under a good state of cultivation. I have had experience enough to know that this work requires brave hearts and willing hands—qualities which most of our young Canadians possess, if they are only roused and called into exercise. Then, young men, why not embark in the pursuit which has made our country what it is, and help it to still continue its progress, until it shall become in all respects worthy of the kingdom under whose protection it has so long prospered? It is an honorable calling, the country requires it, and would inevitably go to ruin without it; but I am sorry to say that the backwoods of this newly created Dominion, although very fertile, would remain for years the same, if they had to be brought under a state of cultivation by a certain class, who do not seem to either care for themselves or their country. However, while there are people of this kind in Canada, we have the satisfaction of knowing that these characters infest other countries as well, and what is better, we can boast that this Dominion has many subjects with as noble hearts and open minds as any other under the sun.

A PASSER-BY.

## Potato Growing.

*To the Editor of* The Canada Farmer:

Sir,—The potato crop in this country is usually good, if properly managed. The soil best adapted to the growth of the potato is loam, but it must be either naturally or artificially drained; for potatoes exposed to much water are liable to rot. To insure a plentiful crop our land must also be properly cultivated. If the land is not in good condition it may be well to summer fallow it, and cleanse it from all foul seed. Before ploughing the last time sprinkle a little manure over the land, then plough it under for winter. In the spring plough it over again, and your land will work mellow. One of the chief difficulties is to destroy the thistle, for their roots are so deeply housed in, that neither the frost nor the plough are able to destroy them. And, moreover, it seems useless to try to keep one acre of land clean from thistles when acres of land around it are covered with them. But most of our farmers in this part of Canada have loamy portions of land well adapted for raising potatoes: yet notwithstanding, from ignorance and want of instruction, many farmers this year have not half enough for their own use, and do not provide one single bushel for the market. If you would ask them the reason of this, they would say it's a dry season for potatoes. True, it has been a dry season not only for potatoes, but for almost everything else; but, in my opinion, the true reasons are: First, want of instruction, and second, want of labour. It is a common practice with some farmers to cut their potatoes in two pieces, putting both pieces in one hill, and leave them without further care, scarcely knowing if they are up until the weeds cover the ground so that they can scarcely discover either the form of the hill or the leaves of the potatoes. Others cut them eye from eye, putting a number in a hill. Some put them in whole. I think it useless to put two pieces in one hill. Four good vines are plenty in a hill. We cannot always have the same number in one hill, but four properly tended to will yield as much as one dozen not tended to. Our plan is to cut the largest, putting one piece in a hill; the smallest are put in whole. The land should subsequently be kept clean. In this way we have raised hundreds of bushels, and if there is any better way I am ready and willing to hear the improvement.

E. R. S.

Napanee, February 28, 1868.

Clover and Timothy.—A. Hadley, in a communication to the *Northwestern Farmer*, gives what he regards as three important reasons why clover should always be grown with timothy. First, the clover being tap-rooted penetrates deeply, stands drouth, mellows the soil, and the timothy grows much stronger and holds up the clover. Secondly, if sown for pasturage, the timothy almost universally prevents the clover from swelling cattle. Thirdly, hay is too binding, especially for cattle, and clover too washy, (succulent,) hence both together are better than either alone. To these we may add, under the head of the first, that where grass comes in a rotation, it is of the utmost importance, on a clay soil, that at least a part of this grass crop be clover. It will serve to mellow and loosen the heavy soil in a remarkable degree, so that when turned over with a plough, it will not only be rich, but loose and friable. If, on the other hand, timothy alone is sown (which some do because the hay sells better), the sod will turn over heavy and clammy, and be unfit for any crop which is to follow. The same correspondent says that he is partial to rye for calf or sheep pasture, which he ocasionally sows in the summer or autumn, after a crop of corn; and then, after being pastured winter and spring, it is turned under for a spring crop—corn, if the soil be strong enough—or it may be allowed to go to harvest.

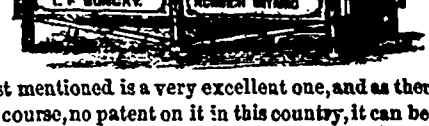
Platt Midge-Proof Wheat—Mr. Giles Membery, of Adolphustown, writes:—"In reply to your correspondent regarding the result of the Platt Midge-proof Wheat, I am able to state that it was as much superior to other kinds in 1867 as it was in 1866; but on account of the excessive rains in the spring, and the protracted drought that followed, no grain in this part yielded half the crop in 1867 that it did in 1866."

In reference to the same subject, Mr. John Kirkland, of Guelph Township, writes:—'I notice in the Canada Farmer, of the 15th ult., a request for information concerning 'Platt's Midge-proof Wheat." I may state that I purchased a bushel of the said wheat from Mr. J. Watson, Postmaster, Adolphustown, which I sowed on an acre of ground on the 10th of May last. The land, which is "gravelly loam," had been manured with barn-yard manure the previous year, at the rate of about twelve loads to the acre, and planted with potatoes. The yield turned out to be seventeen and a half bushels. I am of opinion that it ought to be sown as soon as the weather will permit, the earlier the better, in order that the plants may cover the ground before the spring rains are over. In this case the drought set in almost immediately after sowing, and prevented the plants from tillering as they would have done had the season been propitious. As a natural consequence of its being thin, weeds sprang up, and materially affected the yield of the crop. I also purchased forty bushels of the wheat advertised in the Farmer by Mr. W. H. Boulton, of Demorestville, which I believe to be identically the same as the kind I got from Mr. Watson, were it not for the immense labour and trouble it is costing me to free it from a mixture of barley and oats, with which it abounded when I received it from him. I am not prepared to say what the yield will be per acre; but am inclined to the belief that, all things considered, the results of both will be about the same."

## The Dairy.

### Dairy Implements at the Ingersoll Convention.

We omitted mentioning, in the report of the late Dairy Meeting at Ingersoll, that Mr. L. F. Bungay, of Norwich, had on exhibition a nicely finished Oneida Cheese Vat. There is difference of opinion among dairymen as to which of the vats before the public is really the best, but there is no question that the one




just mentioned is a very excellent one, and as there is, of course, no patent on it in this country, it can be furnished at a comparatively moderate price. The small cut annexed will give some idea of its construction and appearance, but beyond this general reference to it, we are unable to give a verbal description of it.

Another useful utensil for cheese factories, was a Curd Dryer, invented and for sale by Mr. D. Harris, of Ingersoll. It consists of a large sink with a semi-circular bottom, having a narrow strip of perforated tin or zinc running along the centre of the bottom, through which all whey and superfluous moisture thoroughly drains off, and flows away. It seemed to be regarded, by the dairymen present, as a very useful affair.

The Messrs. Noxon keep on hand a large variety of dairy requisites, among which we noticed some very nice cheese hoops, press screws, and ranges of presses ready set up for use, of their own manufacture.

☞ The *North British Agriculturist* thinks stagnant and foul water is often the cause of abortion in cows and other domestic animals.

## Dairy Farming Versus Manuring With Turnips.

*To the Editor of* THE CANADA FARMER:

SIR,—Your correspondent "Vectis" has promulgated a theory in relation to fertilizing, that, to say the least of it, partakes of originality, namely, the use of decayed turnips. Every practical farmer is on the lookout, or ought to be, for every available means for the resuscitation of exhausted soils; but this scheme appears to me rather an expensive experiment, and of doubtful utility. Of course I am not prepared to give the chemical qualities of the decomposed bulbs; but from a casual view I should expect about as much fertilizing matter in rotten wood as in rotten turnips.

In the first place, land for turnips requires to be highly cultivated and highly manured, and turnips being a very exhaustive crop, it appears to me doubtful about its bringing back, even if rotted on the land, the elements of fertility consumed in its growth.

In speculating upon the means of coaxing the earth to yield, we may wander a little from the beaten track, but we have always got to come back to established principles. We have got to fall back on the three great, we may say distinct and combined means of increasing fertility, namely, rest, barnyard manure and pasturage, and artificial stimulants. In the latter we refer to plaster, which taken in connection with clover and grazing, is one of the most valuable auxiliaries of the husbandman. This is more especially the case as we are now entering upon a new branch of farming industry. The farmers of Ontario are beginning to look with a good deal of favour on dairying, and factories for cheese-making are springing up in various parts of the country. There is a large amount of first class arable land in Canada, and our climate being well adapted for the production of cereals, coupled with high prices, has led to a severe run on the great Bank of Nature. But we fortunately have the means of renewal within our reach, if we choose to avail ourselves of the same; and if dairying turns out a paying affair, as I have no doubt it will, we shall make the means of resuscitation of over-cropped fields a means of profit in itself.

In England they are obliged to bring fertilizing material from the ends of the earth, importing guano at a great outlay, from remote islands, thousands of miles away. And labor being cheap the earth is often removed from the ridges of undulating fields, to save the waste of the land, and lime and sea-sand, and in fact every means is used to replenish the soil, rotten turnips excepted. In fact farmers here have a great advantage in this respect, if we can make the source of renewal a means of profit. Then having brought up the soil to the required standard, by stocking fields and stocking stables, and having adopted a first class system of cultivation on the lands we work, there is nothing, I feel assured, to prevent us from raising as good crops in Ontario as they raise in England or Germany. I believe the climate and soil of this Province are as well adapted for producing the golden cereals, of every description, as Odessa, or Norfolk, or Suffolk, or the plains of Marengo, Austerlitz, Jena, or Friedland. All we want is stock and cultivation. The climate is becoming very dry, which makes it all the better for good farming. In a season like the last, while short crops prevailed, our country had plenty and to spare. With the adaptation of the means of fertilizing we have at hand, and good farming, this Province will become the garden of Agriculture.

J. H.

Hope, Feb. 24th, 1868.

## Profitable Use of Whey

*To the Editor of* THE CANADA FARMER

DEAR SIR,—Permit me to use your valuable paper for the purpose of obtaining information which may not only be beneficial to me, but to others of your readers who are interested in the cheese question. I see from your editorials that you are not an admirer of the practice of having pig-pens near the cheese factory, or to use your own words, it is "an unmitigated nuisance." And Mr. Farrington, at the Ingersoll Convention, said, "They should not be allowed within smelling distance," and that is not very near, I can assure you. While all admit the propriety of having the surroundings of a factory sweet and clean, there are many who, for the sake of convenience, will have their pigs within a few rods of the factory. Now my object in writing this is to hit on some plan of profitably disposing of the whey without the pig nuisance. In a work on Agricultural Chemistry, by Professor Johnston, it is stated "That feeding cows with whey, thickened with a little meal or grain, has increased the yearly produce of cheese from a single cow upwards of one hundred pounds. If this is so, it is much more profitable to feed it to our cows and convert it into cheese, than to give it to the pigs, and it will in a great measure do away with that pestilential odour which is the cause of so much bad flavour in cheese. I would like to know if any of your subscribers have tried the above, and with what results, as I have not had an opportunity of testing its worth.

CHEFSEMAKER.

NOTE by Ed. C. F.—Some of the best cheesemakers in the United States adopt the plan above alluded to; others make butter from the whey.

DAIRYING AT THE WEST.—The *Prairie Farmer* contains an interesting report of proceedings at the meeting of the Illinois and Wisconsin Dairymen's Association at Belvidere, on the 11th inst. "The session lasted two days, and was one of great interest and importance to the dairymen of the West. The attendance was large, and was composed of earnest and able men, showing that though this branch of farming is new in our midst, it has already enlisted such capital and talent as to insure rapid progress and profitable results."

NEW MILK COMPANY.—A new company has been formed called the "Wellington Milk Company," whose object is to supply the city of Toronto with pure country milk. This will be procured, we are informed, from farmers in the county of Halton, and will be the produce of cows fed solely on hay, grass, grain, and roots. This is an enterprize that should prove mutually advantageous to dwellers in town and country, and we see no reason why the same plan should not be successful in the neighbourhood of all our larger towns, which, by the assistance of the railways, might be supplied with genuine country milk, instead of the very poor substitute which they have hitherto been compelled to use.

# Stock Department.

## Management of Sheep.

*To the Editor of* THE CANADA FARMER:

SIR,—As I have had experience among sheep all my life, and as I have seen some statements in the CANADA FARMER with regard to them that did not quite satisfy me, I intend to make a few remarks which may be of service to the inexperienced. I shall suppose that some person has commenced farming, and has just got a few sheep, and wishes to winter them as economically as possible. The first thing of importance is putting them to the ram. This should not be done before the 22nd of November, and they will begin to lamb about the 18th of April; and as the ewes will then be getting some grass, they will mostly have enough milk, and the lambs will not give much trouble. Then they should have some shelter in winter, but they do not require much heat. I never confine mine, either night or day. I feed them in the morning before the cattle get out, and at night after they are put in. I give them pea straw at first, and hay towards spring. A few turnips each day are very good for them if we have them. I lay their food on the snow, and if they leave any the cattle gather it up, and they soon learn to keep out of the way of the larger beasts. It is certainly better to keep them from the cattle, if possible, but this is not always convenient for a beginner; and I only mean to show that they can be kept in this way without much danger, as mine have had their liberty among the cattle, as above stated, more than twenty years, and I have never had one much injured by them, and have only lost one during that time by any kind of disease. Many sheep are hurt by being too much confined in a house, and they never eat their food so well as on the clean snow. I once kept above forty all winter by a stack of hay, with a rail fence round it, in a plain field. They lay without the fence day and night, and ate their hay where the wind would let it be best, and they never thrived better, nor were more fortunate in lambing. But if the ticks are not destroyed they will impoverish young sheep very much. I boil some tobacco, and pour about two-thirds of a quart of the liquor on each sheep; one pound will do about twenty. Let us now turn our attention to lambs. Many of them are lost annually by coming too early in the season. It is common to find one or two that have been lambed during the night, but have not sucked, and are nearly dead of hunger and cold. The proper way to treat such lambs is, to get some warm milk as quickly as possible, take them by the fore legs and the under jaw with one hand, and the nose with the other; open their mouth, letting their body hang down, and pour a mouthful of milk from your own mouth slowly into theirs. If you have no milk take the ewe, and try to get some from her. I have given them an egg when I could not get milk. Then put a few quarts of boiling water into a small tub, or something that will hold the lamb; then put in as much straw as will keep the lamb from scalding, cover it over with a cloth, and the steam will soon make it revive. Then give it another mouthful of milk, and set it to its mother in some warm place. If a lamb die from a ewe that has plenty of milk, and you have a twin, or one whose mother has little milk, give it to her that has plenty. The way to do this is, to take the skin from the dead lamb in the common way, only do not cut it out behind; then cut a hole in the skin of each leg above where the legs are cut off; cut it also out between the eye holes, and put it on the living lamb, with the head through the hole in the head, the legs through the leg holes, and the tail through the hole behind; then put the ewe in a narrow pen where she cannot turn round. If the lamb is old, let it fast a day before you put in the ewe; then set it on to suck. The ewe will smell bark, and finding the skin of her own lamb, will take it at once. Let them stand ten or twelve hours, until the skin heats well on the lamb; then take off the skin, let them out, and the transfer will most likely be complete. But if the ewe seem unsatisfied, give her something to eat, and put them in again; but do not put the skin again on the lamb. If one has not the skin, the process is more difficult. But I have often succeeded by milking the ewe's milk all over the lamb, and rubbing it well about the udder, &c., as it is by the smell that they are deceived. In Scotland we had houses for the purpose, with pens or "parrocks," as we called them, of different sizes to suit the sheep. I have often had four, five, or perhaps more in them at once. They seldom smother the lamb, as it has empty corners in which it can lie. I have often had young ewes to put in the pen a few hours with their own lamb when they would not let it suck; and we ought to examine every young lamb to see if they are sucking right. Otherwise they may be exhausted before we are aware. A dead lamb should never be lifted from its mother until we have another ready to set on, as they will commonly remain with, or near them, one or two days. I have set a lamb on a ewe a week after her own died, when I could not get one sooner. When a lamb died on the hills in Scotland, I have often taken a living one to where the dead one lay, taken the skin off the dead one, and put it on the living one, while the ewe stood bleating near by; then laid it down on the spot where the dead one was, lifted the carcase, and run away, when the ewe would take it gladly, seeming surprised to see it jump up alive after lying so long dead. I have often seen ewes that seemed to nurse their lambs well enough for a few days, but if the weather was cold the milk would go from them, and the lamb would perhaps die, if not fed. In such cases give them a little cow's milk twice a day, but no more than to keep them alive until they can do without it. The next thing is to take the wool from the sheep. This should never be done until the old wool rises, so that they can be clipped below it. This depends on the way they have been wintered, and the weather. I have clipped them in April, and not before the latter end of May. Next, about the first of August the lambs should be taken from the mothers and weaned. It answers very well to trade lambs with a near neighbour for two weeks; but if they can be kept separate at home, it will be less trouble. By attending to the above directions I do not think a new beginner will lose many sheep or lambs by mismanagement.

WILLIAM BROWN.

Lake Shore, Sydenham,
Owen Sound, March 3, 1868.

## New Method of Breaking Oxen.

Mr. Peter Musselman, of Concord, township of Vaughan, has published a little work in which he explains a new system for breaking oxen, of which he is the author, and by which he says he will guarantee to break a pair of oxen far better in two or three hours than he could formerly do in as many weeks. Among the few painful memories we retain of life on a bush farm, is the vivid recollection of our tribulations and toils in training and subduing a pair of spirited steers. It was indeed a work of time, patience, and weariness. What would we not have given then for Mr. Musselman's book! The young farmers of the present day are indeed highly favoured All the dull, prosaic, hard work is being taken out of the business, and nothing left but the poetry of new and improved methods and machines The little work *in* question also gives directions for training unruly cattle, and wicked cows: also "a systematic method of making yokes and bows."

We are not informed as to the price of the book, but all particulars can be had by addressing the author as above.

A Little Mixed.—A farmer wrote as follows to a distinguished agriculturist, to whom he felt under obligations for introducing a new variety of swine:—"Respected Sir—I went yesterday to the cattle show. I found several pigs of your species. There was a great variety of hogs, and I was astonished at not seeing you there."

Early Lambs.—On the 22nd day of September last, a shearling Merino ram escaped from his enclosure, and got in with a flock of 112 Merino ewes belonging to Mr. Black, near Warkworth, Percy. He could only have been with them a few hours, yet the following will show that he must have been very busy:

On Feb. 16th, 1 ewe lambed
" 17th, 2 "
" 18th, 3 "
" 19th. 9 "
" 20th, 4 "
" 21st, 1 "

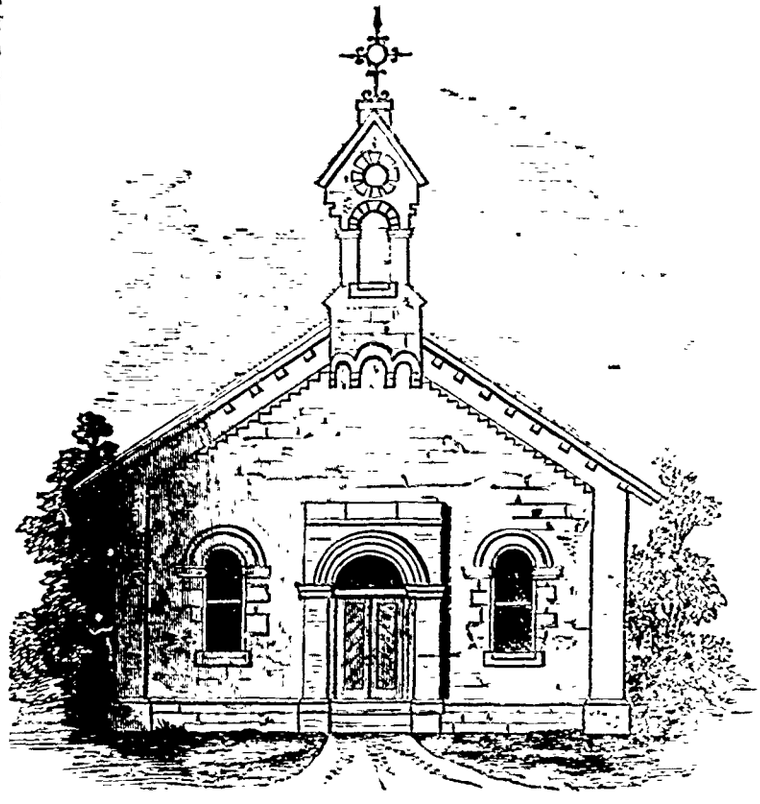
No extra care was given to the ewes; they were not separated from the others until after they had lambed, yet eighteen of the lambs are alive and doing well and should they live until shearing time in June next, will yield, on an average, three pounds each of the finest wool.

☞ The London *Globe* says a man named Charlier thinks the notion that horses need shoes entirely wrong He himself does not cut a horse's hoof. He merely protects it against violent blows and accidents, and against the wear and tear of the city pavements, by inclosing it in a thin circle of iron, which wards it from danger without compressing it. He ascribes most of the diseases of the horse's foot to clumsy shoeing and unskilful paring of the hoof.

## Rural Architecture.

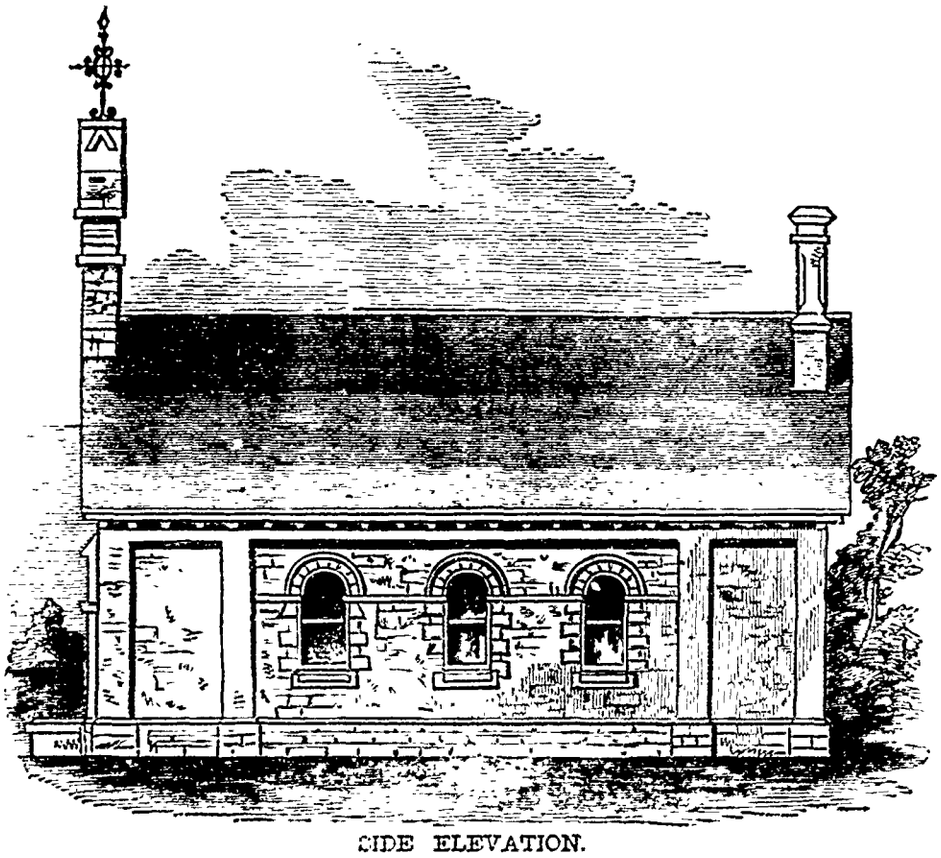
### Design for a Country School-House.

The accompanying plan for a neat Rural School-House, simple in construction, and pleasing in general appearance, needs little explanation. In a former number we gave a design for a Frame School-House, that which we now give is for a building of a larger and more permanent character. As a general rule, too little attention is given to the designing and building of our rural school-houses Any one who has travelled through the country must have been pained with the appearance of our school-houses; for the most part they are mere oblong brick or stone boxes, alike devoid of taste or any of the requirements necessary to make such places remembered with pleasure in after years, by those who have attended them. It should be the aim of those who have influence, to correct this state of things. It is not necessary that a good proportioned, airy, and well-built school-house should be expensive. If any building ought to be made attractive, the school-house especially needs this charm, for no impressions are so lasting, for good or evil, as those made in our boyhood; and it is of the greatest importance that the associations and remembrances connected with the school-house should be as pleasing as possible. The following hints from the "School and Schoolmaster" should be attended to in selecting sites for our school-houses.



END ELEVATION

"So much do the future health, vigour, and moral principles of the pupil depend upon the position, arrangement and construction of the school-house, that everything about it is important. When the most desirable situation can be selected, and the laws of health and the dictates of taste consulted, it should be placed on the southern declivity of a gently sloping hill, open to the south-west, from which quarter come the pleasant winds in summer. From the road it should be remote enough to escape the noise, and dust, and danger—and yet near enough to be easily accessible by a path or walk always dry. About it should be ample space, a part open for play ground, and a part planted with flowers and shrubs. Damp places, in the vicinity of stagnant pools or unwholesome marshes, and bleak hill-tops or dusty plains, should be carefully avoided. Tall trees should partially shade the grounds, not in stiff rows or heavy clumps, but scattered irregularly, as if by the hand of nature.



SIDE ELEVATION.

Our native forests present such a choice of beautiful trees, that the grounds must be very extensive to afford room for even a single specimen of each. The border of a natural wood may often be chosen for the site of a school; but if it is to be thinned out, or if the trees are to be planted, and from limited space a selection is to be made, the kingly, magnificent oaks, the stately hickories, the spreading beech, for its deep mass of shade, the maples, for their rich and abundant foliage, the majestic elm, the useful ash, the soft and graceful birches, and the towering sycamore, claim precedence. The hill-tops should be planted with evergreens, forming at all seasons a barrier against the winds from the north and east."

If proper playgrounds are provided for, the master

may be often present at the sports, and thus become acquainted with his pupils.

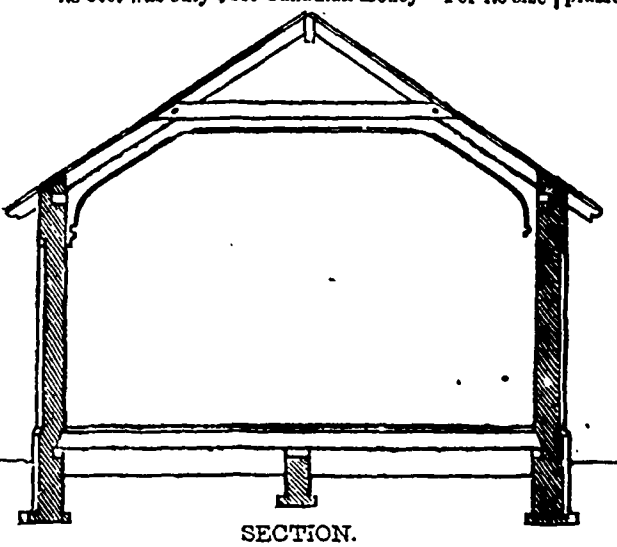
With regard to the indoor arrangements, the principal room of the school should be sufficiently large to allow every pupil to sit comfortably at his desk, and to breathe a wholesome atmosphere.

The accompanying plan of a school is designed to accommodate about 100 pupils. It is 34 feet wide by 48 feet long on the outside. The scale of the plan is 12 feet to the inch.

The drawings are sufficiently clear to require no explanations. The ceiling is 18 feet high, and divided into panels by false rafters showing under the ceiling; these should be grained and varnished.

The ventilation in winter is accomplished by build ing flues on each side of the smoke flues, having only a half brick partition between them. The heat of the smoke flues rarifies the air in the ventilating flues, and thus causes an up draught. The registers for these flues should be placed near the ceiling. This mode will ensure good ventilation with very little expense.

At some future time, the best arrangement, &c., for school furniture, will form the subject of another article and illustrations.



SECTION.

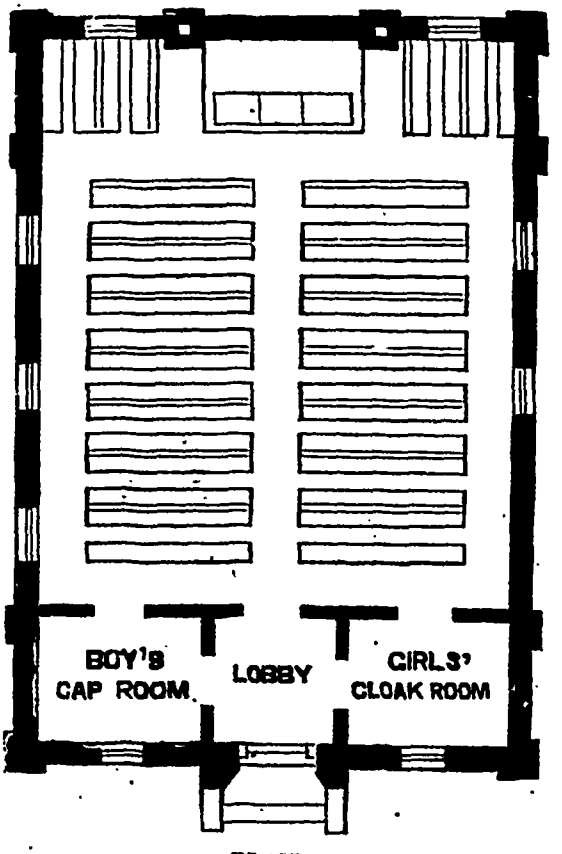
## Farm, School, and Church Bells.

A bell, sufficiently loud to be heard all over a farm, so as to call hands to meals, or give alarm in case of fire, &c., is a desirable and important convenience. Most people who have lived in the country have recollections, not over-pleasant, of the effort to blow the old-fashioned tin horn, and of the disagreeable noise produced when the effort proved successful. The ringing of a bell is a far easier and more agreeable thing, both in the doing and hearing of it, than the twang of a horn. A bell is also a most desirable appendage to a school-house. Before school is in, during "recess," and at the "noon spell," it is very common for the scholars to wander some little distance from the school-house, and while engaged in play, the minutes pass very quickly and insensibly, so that those who have no truant disposition or design of being late, find themselves, to their sorrow, behind-hand. A bell that could be heard even half a mile or a mile off, would prevent this. Beside which, the regular ringing of a bell has a great tendency to promote punctuality, one of the most important virtues in both pupils and teacher. Churches, too, should be furnished with bells. To a considerable extent they are, in our cities and larger towns. Unfortunately, however, they are very scarce in country neighborhoods. Of many old and well settled districts in Canada it is as true as of the solitary island of Juan Fernandez:

> "The sound of the church-going bell,
> These valleys and rocks never heard."

A church bell is of even more utility in a rural neighborhood than in a city or town, from the fact that clocks vary so much in the country and there is not so ready access to a regulator or standard of time. To this may be added the pleasant effect of a church bell in the country, and the higher consideration that it gives to religion itself a voice, calling thoughtless mortals not only to public worship, but to a reflective consideration of divine things.

One great reason why farm, school, and church bells are not more generally used, is the expensiveness of the ordinary bell-metal bells. Various attempts have been made to obviate this difficulty by finding a cheaper material which should yet give forth musical reverberations. The most successful attempt of this kind, as far as we are aware, has been made by a Cincinnati firm, Blymer, Norton & Co., who are manufacturing bells of an amalgam which certainly approaches very nearly to the quality of sound characteristic of ordinary bell metal. During a recent visit to the West we heard several of these bells, and were much gratified with their tone. One of them has been purchased for the new Congregational Church in Guelph. Its weight is 1,600 lbs., and its cost was only $130 Canadian money For its size and calibre, it is a remarkably good bell, and we should be glad to see more of them introduced into this country. A farm bell of fifty pounds weight costs but about $5, and a bell of 200 lbs. weight, suitable for a school, only $20. Bells for churches can be had from the size and price last named up to 1,000 lbs. weight, costing as we have said $130. Farm and school bells are subject to fifteen per cent. duty, but church bells are duty free. Messrs. A. T. Bates & Co., 195 Washington Street, Chicago, are the agents for the West of the bells in question. Enquiries or orders may be addressed to them, or if parties prefer, to the Editor of the CANADA FARMER. Further particulars will probably be given by advertisement in our next issue.




PLAN.

# The Household.

## How to Make Good Coffee.

BY PROFESSOR LIEBIG.

WHATEVER kind of coffee you may use, the first condition is to pick it before roasting, and remove all things not belonging to it—as pieces of wood, stones, plumes, and above all, the mouldy, black beans, which will be found in every kind of coffee. The sense of taste is so susceptible, that the smallest addition of anything foreign will not pass unnoticed. The color of dark or dark-green looking coffee is usually given to it artificially, and such beans must be washed and then dried with a warm linen cloth. The next important operation, on which the quality of the coffee depends, is the roasting. The beans should not be roasted more than to the point where they lose their hornlike quality, and thus become fit for grinding or crushing in a wooden mortar. The coffee contains some crystalline body, called *caffein*, the volatile nature of which makes it necessary that the greatest care be taken to retain it in the beans. The roasting, therefore, must be done slowly, until the coffee assumes a light brown color. From beans roasted to dark brown, the caffein will be gone; and should they have been roasted still stronger, and become of black color, all the principal components of the fruit are totally destroyed, and the drink made of them does not deserve any more the name of coffee.

The beans, made porous by the roasting—and thus subject to the influence of the penetrating atmosphere, will lose every day some of their aroma. To avoid this, strew some powdered sugar over them before you take them out of the hot roasting-pan—one-half ounce of sugar will be sufficient for one pound of coffee. The sugar will melt immediately, and will candy the beans, which are to be stirred and shaken. Their pores will be covered by the melted sugar, and thus be protected against the influence of the air. The coffee will lose nearly all its smell by this procedure, but the latter will appear again so much fuller at the grinding. More recommendable it will be still, to roast only such quantity of coffee as may be wanted for one day's consumption. An open frying-pan is preferable to a closed coffee-drum, as the former affords a better chance to watch the roasting. The beans, when roasted, are taken from the pan and spread out on a tin plate, to effect their speedy cooling, then stored in a dry place, and they must not be ground or crushed until used for making coffee. This is best done in the following way:

Take three-fourths of the coffee-powder which you want to use, and let it boil for ten minutes in such a quantity of water as you wish to turn into coffee. After boiling ten minutes, add the fourth part of the coffee-powder left. Then remove the pot from the fire at once, cover the vessel, and let the liquid settle for five or six minutes. By stirring it easily then, the small quantity of powder swimming on the surface will soon go to the bottom; and by pouring carefully into a clean pot, you will have the best coffee that can be produced.

The usual method of making coffee leaves, often, more than half the soluble parts of the beans in the grounds of the coffee.

The coffee prepared by the above method is not exciting, and I have convinced myself that it may be taken after dinner without disturbing the digestion, which latter is nearly always interrupted by the taking of strongly-roasted coffee.—*Ex.*


## The Grape Question Again.

*To the Editor of* The Canada Farmer:

Sir,—What grape shall we plant? is a question that is still being asked by thousands of persons in this country, both in the Dominion, and in the United States. Many of us have, in this respect, obeyed that scripture injunction which says:—"Prove all things, hold fast that which is good;" and to attempt to enumerate all the varieties that have been tried, and found worthless, would occupy considerable space, and bring to the recollection of many of us some grievous disappointments. Still we must keep trying, and "try, try again;" and even though one plant, of a certain variety, should be a success or a failure, in one part of the vineyard or garden, it is not positive proof that another of the same variety would be equally a success or a failure, even a few yards distant. As a general rule, I admit the success or failure of the first plant will be a good criterion. I merely give the others as exceptions. In many instances, it would be impossible for the best grape grower in the country to account for the success in the one case, and the failure in the other. That thousands of newly-planted grape vines die annually of dyspepsia, or become diseased from over feeding, there is no doubt. On the other hand, it is doubtless equally true, that many grape vines that have borne heavy crops for several years in succession, are dying from ill-treatment, and an insufficient amount of proper nutriment. And when we remember that some varieties require such different treatment, and so much higher culture than others, no wonder that all of us blunder at times, and too hastily praise or condemn certain varieties. On the above-mentioned points there is among grape growers, I dare say, scarcely a difference of opinion; but when we come to the question, what varieties shall we plant? we must many of us, agree to differ. For instance in looking over that very interesting article by "Fox," in the Canada Farmer for the 15th Feb he says:—"On the 21st of September last, forty miles west of Kingston I found Diana grapes quite ripe, and on looking around, I found Concords hanging loaded with fine bunches *just putting on their bloom*." Now upon my grounds here, in Paris, when the Concord puts on its bloom the Diana is generally as green as grass, and when it does begin to ripen, it is only a berry here and there and the whole bunch is never thoroughly ripe before the middle of October. But that is not the worst of it. For the last four years I have failed almost entirely of getting fruit of any kind from Diana. I have tried impoverishing and enriching the soil, fall pruning and spring pruning, much pruning and almost no pruning, and all to no effect; while upon the same trellis, and close by them, stand plants of Rogers' No. 3 and No 15, and each plant of Rogers' has borne more fruit in one year than eight Dianas have in four years, and as to the quality of the fruit, there is no comparison.

In your paper, more than two years ago, I gave my opinion that Rogers' No. 15, in the open air, is as good as Black Hamburgh as we frequently see it ripened under glass. And Rogers' No. 4 is nearly as large as Black Hamburgh, both in bunch and berry; and Rogers' No. 3 is as early as Hartford, and superior in every respect. I, therefore, repeat what I said three years ago, that Rogers' Hybrid grapes are, several of them, the best varieties ever offered for sale, for this section of country at least.

But I fancy I hear some readers of this article saying:—"Does Mr. Arnold admit that Rogers' Hybrids are superior to his own Hybrids?" I reply my own Hybrids are not yet in the market, and it will be some time before they are within the reach of everybody who ought to plant a grape vine. And, readers will please remember, that all persons who raise seedling grape vines are not like Dr. Grant, who boasts that varieties raised by him are the only varieties worth cultivating. With your permission, Mr. Editor, for the satisfaction of many enquirers, I will shortly furnish you with extracts from a number of letters from many of the most eminent Pomologists in America, and from several Horticultural magazines, respecting my Hybrid fruits.

There is one other valuable suggestion in the article by "Fox." In alluding to the wild grapes of our native forest, he says:—"The country that will grow the fruit spontaneously, must surely be suitable for its cultivation." I wish, Sir, that this idea could be thoroughly impressed upon the memory of every person in the country, who has ground upon which to plant a grape vine. It would, however, be well at the same time to remember, that it is the frost grape (*Vitis Cordifolia*) only that is found in our native forest, and to the offspring of this species, hybridised with some other, must we look, in my opinion, for the only really hardy and healthy varieties. I hope "Fox" will excuse me if I suggest, in the most friendly manner possible, that he, in my opinion, gets off the track, when he goes from the grapes in our forest to Diana, which is a grape of another species, and one of a species that, so far as I am aware, is not found growing wild in our Canadian forest. I do not go so far as some Pomologists in the United States have gone, and say that Diana is not fruitful, and never can be to any great age; and, moreover, that neither it, nor any of its color, can ever produce healthy seedlings. This much, however, I will say of it, that after fifteen years' trial, no grape is less promising, and it is about the last grape I would now think of planting. I will travel many miles any day to see a few plants of Diana, eight or ten years old, well loaded with ripe fruit. When in the State of New York last season, after examining all the new varieties of a first-rate establishment, the proprietor remarked that he had an old vineyard of Diana a short distance off, if I would like to see it. I said I would go fifty miles to see Diana, of any considerable age, well loaded with ripe fruit. To which the gentleman replied, "We never get that here."

As "Fox" asks for information about several other varieties of grape, I will give my experience with them. Iona and Israella nearly froze out, root and branch, for three years in succession, although protected the same as Rogers' Hybrids, and many other varieties close by them, that came through the winter uninjured. Louisa, Anna, Northern Muscadine, and Perkins, all perfectly worthless. Creveling, Adirondac, and Allen's Hybrid, suffer in the winter considerably, but not so much as Iona. Allen's Hybrid is of first-rate flavour, when you get it ripe, but requires about as much attention as Sweetwater or Golden Chasselas, which it very much resembles. Mildews badly. Needs sulphur frequently.

CHARLES ARNOLD.

Paris, March 3rd, 1868.

## Trees Barked by Mice.

*To the Editor of* The Canada Farmer:

Sir,—As the mice have been very numerous this year, and the snow has been deep, there will probably be many fruit trees girdled by them. Thousands of fruit trees are destroyed yearly by those little pests. There are many precautions which, if taken in time, would prevent this destruction. Orchards should, if possible, have straight fences around them, and should be kept perfectly clean from all rubbish, weeds, grass, &c. Earthing up eight or ten inches around the trunk of the tree, and removing the earth in the spring, is a good practice; it is also beneficial to tread down the snow hard around them. But those things are often neglected, and trees are girdled and lost. Where the mischief has occurred it may still, in many cases, be remedied, and I send you, accompanying this, a plan to bridge fruit trees at a trifling cost. Trees worth from five to thirty dollars each may be saved for ten or twenty cents.

Take a thrifty limb from the top of the girdled tree, or any other tree of the same kind, from which to cut scions, large or small, according to size of the tree, and length of the girdle. A tree one inch and a half in diameter, with three inches girdled, would require scions about the size of a pipe stem, and three in number; while a tree three inches in diameter, and girdled twelve or fifteen inches, would require scions to carry sap about three-fourths of an inch thick, and five or six in number. In order to insert them, cut into the tree, half an inch below the girdle, half the thickness of the scion you are going to use; cut perfectly square on the under side, and slanting down on the upper side. Next, cut in the same way above the girdle, only cut square above, and let the lower side be slanting upwards. Cut the scions off square at each end, and let them be one-quarter to three-fourths of an inch longer than the space from cut to cut. Slant off the inside of the ends of the scion half its thickness, bend it with your fingers, and spring it in; cover the cuts above and below with grafting wax; wind around the whole some strips of old cotton, and bank up with earth—the earth and cotton to be removed the next fall. Full half of the top should be pruned out, and the tree should not be allowed to bear fruit that season. As soon as the snow melts away the trees should be protected from sun where they are barked, by earthing up until the sap starts, when the buds begin to swell; then remove the earth, and bridge as above.

I have bridged trees in this way, some ten years ago, and have never known one to fail of growing and bearing fruit well up to this date.

S. H. MITCHELL,
Gardener, St. Marys, Ontario.

Clematis Jackmanni, &c.—The *Farmer* (Scottish) says:—In looking into the prettily kept arboretum and pleasure-grounds of Mr. James Nelson, Falkirk, we observed specimens of various clematis growing and flowering profusely, trained against a boundary wall, and introduced at intervals among a rich collection of ivies. It is impossible to speak too highly of the decorative character of *C. Jackmanni*, with its large deep blue or azure flowers of great substance and charming form. *C. rubra-violacea* is also a fine thing, showing how well it is suited for clothing walls, and even used here on a trellis, like a standard rose, appeared very effective. The old *C. Sieboldii* is another one of less showy appearance, but a capital variety for intermixing, the soft lilac rays that pervade the flower drawing attention towards it. Surely, when people know that many of them are so hardy, and all so captivating, they will not hesitate to introduce them.

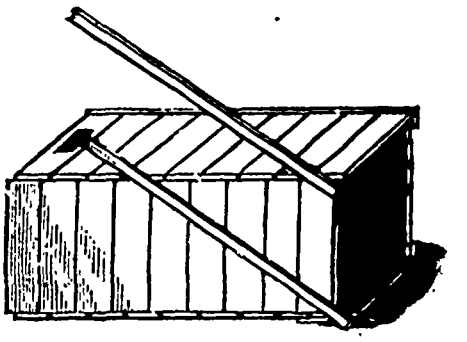
# The Apiary.

## The Sectional Bee-Hive.

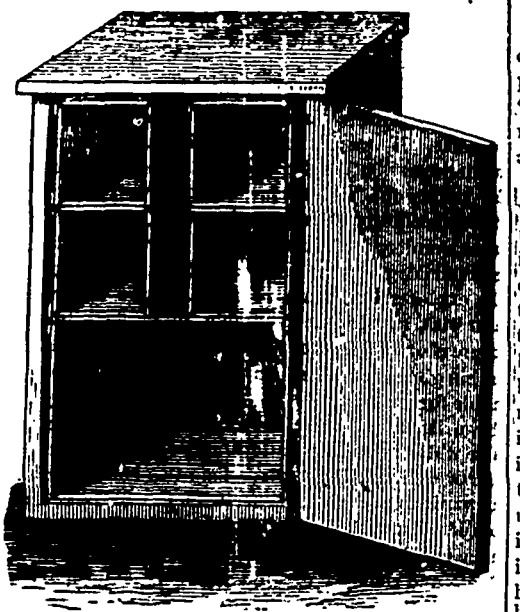
Messrs. W. D. and J. Lafferty, of Mimico, have brought to our office a sample bee-hive, which they are anxious to introduce to the notice of Canadian bee-keepers. It is constructed according to plans and directions laid down in a recently published pamphlet, of which D. L. Adair, of Hawesville, Kentucky, is the author, differing, however, from the hive therein represented in size, the Adair hive containing only 1755 cubic inches, while the Lafferty hive contains 2150 inches. From a written account of this hive which has been handed us by the gentlemen above named, and which consists chiefly of extracts from Adair's pamphlet, we glean the following particulars, which, in addition to the accompanying cuts, will enable our readers to understand the construction of the hive in question, and the points of excellence and superiority claimed for it:

"The sectional bee-hive is made by forming the different chambers, apartments and honey-boxes, of a series of vertical sections or rims, so fitted to each other as to form close boxes of the size and length required. By an entirely new and simple device the bees are compelled to form the sheets of comb just where they are desired; so that when the sections are taken apart none of the comb will be broken. The whole is enclosed by an outer case or box for protection from the weather. The hive is composed of—*First*, the brood chambers, containing 2150 cubic inches inside measurement, which is acknowledged by Mr. Quinby and other experienced apiarians to be the most suitable size. But it can be made of any size or dimensions either way. The brood chamber is formed of ten vertical sections or rooms. *Second*, the honey boxes, four of which are used in each hive, two set on the brood chamber, the other two are put on the top of the first two. The bees pass through the lower tier of boxes to get to the others; when the two lower boxes are half filled they are raised to the top and the top ones are placed on the brood chamber; by this means the bees will fill the four boxes in about the same time required to fill two, thus affording an additional supply of surplus honey. Four boxes of the size used will hold about sixty pounds. *Third*, the brood chamber and honey boxes are enclosed in an outer case, made sufficiently large to allow an air space to surround the brood chamber and honey boxes. Thus, in wintering bees out of doors, the space between the brood chamber and the case can be filled with saw dust, chaff or cut straw, leaving two empty honey boxes on top of the brood chamber; the upper space above and around the honey boxes should by stuffed with straw, thus affording protection through the winter. The front end of the brood chamber and honey boxes is enclosed with glass; thus each hive is made a complete observing hive at small cost.

"The sectional bee-hive has the following advantages over any other now in use: It has all the advantages of the movable-comb hives, with none of their inconveniences. It has no loose or disconnected frames to be getting out of place or order. The bees cannot gum or glue the frames or sections so that each piece of comb cannot be handled separate from the other. It is warmer in winter and cooler in summer than any other hive. The size of the working or brood chamber can be contracted and enlarged at will, to suit the size or requirements of a colony. Artificial swarms can be more easily made than on any other plan. It can be more easily Italianized, as every bee can be seen and handled, and not one left in the hive. In fact, when it is completely opened out, there is no hive left, except an empty outer case. Thus there is no chance for the queen to dodge into some corner where she cannot be found. The surplus honey boxes are in close communication with the working chamber, and also with each other, and the bees work in them with certainty. The honey boxes can be used to the full capacity of the bees to fill them, and they can be forced to work in all of them at once, thereby doubling the quantity of honey made on any other plan, in any other hive. The surplus honey boxes can be made of any convenient size, either before or after they are filled with honey. Each piece of comb can be readily removed, at any time, without having to wait until the whole box is filled. Thus the bee-keeper can have honey in market earlier than from any other hive, thereby



securing a better price. The honey is in better shape for market. It can be divided into pieces of from one to two pounds, without breaking a cell or losing a drop of honey; thus suiting it to the small retailer, and for this reason it will bring a better price. Out of the partly filled honey boxes, filled boxes, of any desired size, can be constructed, thus making marketable as 'box honey,' a large portion of honey which, under any other system, would have to be sold in bulk, or strained, which never brings as much by twenty-five to thirty per cent. For family use, just what honey is needed can be taken from a box without breaking what is left. The honey boxes can be applied to any of the hives now in use, or the common honey boxes can be used with this hive, if desired."



While we cheerfully publish the foregoing statements, because we are desirous that Canadian bee-keepers may be kept informed of all proposed improvements in their line of things, we are bound to say that facts do not bear out all the above assertions by any means. Thus, it is quite incorrect to say that this hive "has the following advantages over any other hive now in use,"—inasmuch as all the real advantages of this hive are common to moveable frame hives generally, while the only peculiar advantage possessed by this hive, namely, the sectional honey box, is one that can be connected with any other hive. It is an utter mistake to claim that the Adair hive compels bees to build straight comb. It is no better in this particular than any other moveable frame hive: indeed it is not so good as most other hives made on this principle, from the inconvenience and difficulty of getting at the interior. The only effectual plan of securing straight comb is to watch the bees when they commence to build. On the triangular frame with sides they will usually build straight comb, and should they begin crooked work in any case, it is easy to put matters right while the comb is fresh and plastic. The more convenient and ready of access the moveable frames are, the easier is it to do this. The Adair hive is awkward and difficult of access from the frames being fastened in their places by cleats, which must be unscrewed to get the frames apart. It is also quite wrong to say that the process of artificial swarming and Italianizing can be more easily attended to in the Adair hive than any other. Unfastened frames can surely be as easily transferred to another hive as those that are fixtures. As to hunting for the queen in order to Italianize, she will in nine cases out of ten be found on one of the frames, or should she resort to the body of the hive, it is by no means difficult to find and capture her there.

We are as anxious as anybody can be to obtain the very best hive that can be had, but after careful study of the Adair hive and book, we are unable to see anything specially worthy of adoption except the sectional honey box, which is convenient for dividing surplus honey into small quantities either for sale or for use in the family. The Adair hive is preferable to the common box or straw hive: so is any moveable frame hive, however rudely constructed. It is not patented in this country, and therefore can be freely made and used by any one who chooses to do so. But as yet we have not seen any hive to compare in convenience and practical utility with that made by Mr. J. H. Thomas. We shall use it in our apiary till we find a better. And though it costs a trifling outlay to obtain the right to use this hive, we would say emphatically to our bee-keeping readers, *get the best*, for that is cheapest in the end.

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The Gordon Bee-Hive.—Thomas S. Henderson, of Beverly, asks:—"Can you, or any of your correspondents, give me any information respecting the "Gordon Moveable Comb Hive?" It is new in this neighbourhood. However, they sell a great many, as it is said to be superior to Mr. Thomas's."

Ans.—"Gordon's Excelsior Patent Bee Hive" was patented Nov 28, 1865. It is made upon the moveable comb principle. The novelty of the hive is what sells it more than its real merits. It is so constructed that the frames are triangular in form—the hive running to a point at the bottom, much in the shape of the letter V. It is claimed that dead bees, dirt, &c., will fall out of the hive, and as the hive requires to be hung in a frame, its construction not allowing it to set on a stand, or on the ground, it is claimed that millers will not find their way into it. This is all moonshine. A hive so constructed that it *cannot* be set down, must of course be hung up, and some excuse must be given for so great an inconvenience. With the inexperienced, the excuse is more than sufficient—it is an improvement. This, however, is a mistake; inasmuch as in the Gordon hive, the entrance for the bees, being the full breadth of the hive, is far too large, and the moth will find easy access, no matter whether the hive sits or hangs. As for the dead bees, dirt, &c., it is not of the slightest consequence whether they fall out or not, as it is the duty of a part of the colony to see to that business, and they will do it. The hive is also far too small; it does not contain sufficient space for breeding purposes; and if a free entrance is given to the *supers*, the queen may frequently deposit eggs in them. The frames rest upon a level bearing, which makes it difficult to remove them when filled with combs; in this respect it is like many other frame hives. There is a bar running through the centre of the hive, which will be apt to cause the bees to build crooked comb, and is therefore objectionable. It will also be found very inconvenient when hiving a swarm, as the bees must be put into the top of the hive, which is a very troublesome task. No one but a party interested in the sale of this hive will pretend that it is superior to that of Mr. Thomas.

## Correspondence

### Miscellaneous Notes and Queries.

A correspondent from Sidney sends the following:—

I am glad to say that enterprise and capital are at work in the neghbourhood of the Trent, endeavouring to utilize and tame portions of this stream. The Messrs. Sills have erected a large stone building for the purpose of a paper mill, which business they intend to pursue on an extensive scale. They are endeavouring to induce farmers in this vicinity to grow flax, the fibre of which they would use in their business. Do you think the growth of it for seed and fibre would pay the farmer? At what price could he afford to sell it to realize profit? Is the seed manufactured into oil cake and linseed-oil in the Province? Other mills and manufactories are in the course of erection.

I would enquire whether leached ashes are useful as a fertilizer on all soils, or on which are they most beneficial? Would it pay to draw them four miles for the purpose? Would they be good as a dressing for hops?

Large quantities of clover were raised here the past season. I never had so tangible a proof of the efficacy of plaster before as on that crop. Contrasted side by side, the difference between the plastered and unplastered was obvious, both in color and size. Of the seed a large quantity was raised, more I think than is required for local demand. Could it be exported abroad, and which foreign market would be the best? How long does the seed retain its vitality? A great deal of the land on this side the river abounds in flat limestone, which crops out on the surface. The rocks seem to contain the remains of shell-fish and other aquatic creatures. I found embeded in one, the vertebræ of some creature, six or eight inches in length Are these deposits fresh water or marine? When disintegrated by grinding, attrition, and atmospheric agency, do they supply any element of plant life to the soil?

Enclosed I send you an insect. What is it: I caught it last summer Perhaps you can tell me all about it, and it may be worth a place in your cabinet.

I remain, yours respectfully,

JOHN S. BOUTILLIER.

Ans.—With a string of questions like the above on hand, one feels almost as if he were sitting down as a candidate for a degree, to furnish answers for an examination paper. We will, however, as briefly as possible reply to our correspondent's queries. With regard to the flax, he will see the question repeatedly considered in the former volumes of the Canada Farmer. Practical men among us differ in their opinions respecting the profit of raising this crop in Canada. Some have done well with it, and we think it deserves a further trial. The price, to leave a margin of profit, must vary, and depends on a number of circumstances affecting the cost of production. Ordinarily an average yield of two tons to the acre, at $12 to $15 per ton, would pay. As regards the price of the seed, from six to eight bushels is a common yield to the ton, and should be worth about two dollars the bushel. Oil cake is not now manufactured, to our knowledge, in Ontario, though Lyman & Co., we believe, still carry on the manufacture largely in Montreal.

*Leached* ashes, though far inferior to unleached, are yet of considerable value both on light and heavy soils, especially the latter. It is doubtful whether they would pay for the hauling the distance mentioned, four miles. Hops require some richer manure.

With reference to the *clover seed*—there will probably be, for some time to come, market enough at home for all that will be raised. The United States export a considerable quantity, and we should probably find Great Britain our best foreign market for any surplus. If the seed has been kept perfectly *dry*, it will be quite fit for use the second year; but though, under favorable circumstances, it will retain its vitality for a much longer period, we would not recommend any one to depend upon it after the second year. The *limestone* about Trenton is a marine formation, and would perhaps yield, on account of its animal remains, traces of phosphate as well as a large proportion of carbonate of lime. The Trenton limestone contains no fossil vertebrate animals. The fossil which our correspondent mistook for a vertebral column was probably an *orthoceratite*, a genus of the *nautilus* family, differing from the prevailing form in being straight instead of coiled. These creatures were mollusks, and their shells consisted of long conical columns divided into cells by horizontal partitions, the cells communicating with each other by an internal tube running through the whole length.

The *insect* enclosed has fared very badly in its transit. Such specimens should be sent in boxes. The *debris*, broken into innumerable fragments, had evidently once been a dragon fly, one of the *neuroptera*, but of what species we could not determine.

### The Ottawa Valley.

*To the Editor of* The Canada Farmer:

Sir,—The subject of the letter in your number for February 1st, headed "Farming in Canada," by your correspondent, "Subscriber," has for a considerable time been present to my mind, and suggested the idea long since of addressing you on it. I reside in the immediate vicinity of the capital of the Dominion. The character of the surrounding country, known as the valley of the Ottawa, does not stand high for its fertility in the estimation of those at a distance. The reason is two-fold. 1st. The land west of this city has been more recently settled, not longer than say fifty years, before which time it may be justly said, for the practical purpose of this communication, that the sound of the farmer's axe was not heard in its vast recesses. It was at that time, in fact, a howling wilderness. 2nd. Being the Switzerland of Canada for variety and picturesqueness of scenery, in which it far excels any other part, its rocks and its mountains standing forth in bold relief were the first and most striking objects which arrested the attention of the explorer, and must necessarily have impressed him with an idea unfavourable to its fertility—an impression still further deepened by the cold impenetrable gloom of its silent and apparently interminable forests. But the axe of the settler, in bringing down its trees, has also brought down this error. The wide extending valleys and spacious plains of the Ottawa, which for more than two hundred miles upwards from its confluence with the St. Lawrence border its northern and southern banks, are not excelled by any other part of Canada in variety, depth and richness of soil; wherever mind has enlisted in the cause of agriculture the resources and results of science, the reward has been equal to any which has blessed the supposed more fortunate farmer of the West. But as a body our farmers are the least advanced of their class in the knowledge of their calling; and no wonder, for they are for the most part the first settlers—immigrants without training, habits of thought, or capital—descendants of a non-progressive race, who could with difficulty realize anything as an improvement which they had not inherited from their forefathers; and as they were planted in isolated settlements, between which and the civilized world communication, in the absence of roads, was difficult, it was but reasonable to expect that a spirit of self-satisfaction would arise and be fostered, hostile to change. Yet, notwithstanding these and other easily conceived unfavorable conditions, vast progress has been made within the last fifteen years. I cannot characterize it otherwise than as marvellous. The advantages of machinery in general are fully appreciated, and the particular merits of special mechanical implements for lightening toil and accelerating work are keenly and intelligently discussed and valued, and immediately purchased. Comparative wealth is the result. Independence and comfort are now the general attributes of the tiller of the soil, and here and there may be seen extensive farms which would look respectable in the eyes even of the old-countryman. Prejudice, therefore, against this part of the country as an agricultural district is unreasonable, and must soon fade entirely away before the advancing light of accurate knowledge of its capabilities and juster appreciation of its beauties. I pass entirely by the element of salubrity, it being admittedly the healthiest part of Canada.

Then, again, as an inducement to the settler, the facilities for acquiring property are very great. How often have I heard persons well acquainted with the more favoured districts of Canada exclaim, "Well, if such and such a farm could only be seen by a home farmer, possessing a small capital of a few thousand dollars, how quickly it would be snatched up; and to think that for such a sum a man may purchase a small estate, and instead of being a tenant become a proprietor—the ambition and the glory of an Englishman—the owner of one, or it may be two hundred acres of land unexcelled by any at home, with, it may be, a handsome, commodious house, extensive buildings, cleared and fenced, and ready to receive the purchaser without a farthing of outlay!!"

That farming in Canada, intelligently conducted, *cannot fail to* lead to independence in *every* instance, and to a certain degree even of affluence in many, may be accepted as an established fact by any person possessing the most superficial acquaintance with the history of individual enterprise in this country. I know men in the Eastern townships who bought their farms, and even stock, on credit, and who, by the profits of stock raising, in a few years (and I think in one case specially before my mind as I write, seven) not only repaid the borrowed capital with interest before it fell due, but actually bought more land. It is most cheering, in travelling through those townships intersected by the Grand Trunk Railway (and the same remarks apply to the other townships, but especially to these), to observe the beauty of the farms—the neatness of the tillage—the style and size of the houses—the elegance of the furniture—the air of completeness, opulence and comfort which characterizes them; and yet equal if not more favorable conditions obtain here, I believe, for securing the same results.

The great body of our farmers in the Ottawa Valley are poor, for the following reasons, in addition to those already given. 1st. Because their holdings are small. Very few cultivate as many as fifty acres. 2nd. Their lives are spent principally in clearing without capital, and consequently without assistance. 3rd. They know little or nothing of farming as a science. The practice is not uncommon of exhausting the land as they clear—pronouncing it good for nothing, leaving it to return to a state of nature, and clearing more, to be in its turn exhausted and deserted. Such a waste of time and labor as subsoiling and tile-draining are nearly unknown. Money is to them a great object. Hence there is unusual facility for the purchase of land all over the country for cash. Even within a radius of ten miles of the City of Ottawa there are abundant opportunities for selection. Excellent land can be obtained within these limits at from £4 to £10 per acre. The latter I would consider an extreme price, yet it cannot be considered high in view of the immense advantage of proximity to so good and sure a market for all kinds of produce as that of the city, and where cord-wood of all kinds may be sold readily at such a price as materially to aid in paying, out of the profits, the purchase money of the property. That so very few persons inquire for lands in this vicinity with a view to purchase has ever been to me, in view of the above advantages, a source of extreme wonder. I may be wrong, but I have often expressed the conviction of my mind that a person might go blindfold throughout the country, and buy lands at the first price asked, and be sure in five years, such is the upward tendency of things, to realize a handsome profit on his undertaking.

OTTAWA

February 10, 1868.

## Government and the Midge.

*To the Editor of* THE CANADA FARMER:

SIR,—You very truly observe, in your issue of January 15th, that up to the present time the Agricultural Bureau has been of little value to the country, and you express the opinion that its future will be more useful. I am encouraged by the article containing these statements to advance some ideas (which, however, may need correcting), derived I believe chiefly from your columns, on the subject of the wheat midge. I suppose there is little doubt that the annual loss to Canada by this insect counts by hundreds of thousands, if not millions of dollars; for after all is said and done as to cultivating with a view to evade its depredations, I believe that where it is once established the wheat crop is diminished about one-half. Now is it true, as we are told, that this insect is always more or less present in the wheat crops of the old country, and yet that it has never destroyed them to the extent of more than an estimated twentieth, and that only in one season? Is it true also that the midge has there at least two parasites, and that these are not found in this country? Is it not possible then, nay even probable, that if these insects were introduced into the midge-infected districts of this country, the abundance of their proper food would, as in other like cases, cause them to multiply rapidly, and thus our wheat fields be at least partially rescued from their destroyer? Of course, even if my opinions are correct, there are contingencies affecting the question of success, but these can only be settled by an experiment. Though a farmer, I am by no means desirous that this branch of industry should depend for success on State subsidies, and I am sometimes made half ashamed by the eagerness of my neighbors, as expressed at agricultural meetings, &c., to obtain as large Government grants as possible; but it is almost self-evident that such a measure as I am advocating, involving as it would considerable expense, and aiming at universal benefit, must, if undertaken at all, be a Government enterprize. Please, if necessary, correct my notions, and give your views on the subject. S.

Guelph, Feb. 24, 1868.

NOTE BY ED. C. F.—Our correspondent has called attention to an important practical subject. We believe that the best entomologists concur in thinking that an effectual check to the midge pest can only be looked for in the way indicated. It is thus that other insect depredators have been subdued; and although in the instances in which this has been known to have taken place the result has come about in the natural order of events, we see not why direct effort should not be made to accomplish the end. The experiment is an interesting one. It could hardly be very costly. Certainly, in view of the interests at stake, it is well worth trying.

DRESSING SKINS.—A correspondent asks:—"Can you, or any of your subscribers, tell me the best way to preserve calf and sheep skins, so as to make them useful as sleigh robes?"

ANS.—See CANADA FARMER, June 15th, 1867, Vol. 4. page 191.

IMPORTED EGGS FOR HATCHING.—A subscriber writing from Highland Creek enquires whether "eggs brought from England by steamer to Quebec, and thence by express to Toronto, would be of any use for hatching purposes."

ANS.—If properly packed, eggs should bear even a longer journey without injury. We know parties who have thus received eggs from England, and successfully hatched them in this country.

GOLDEN DROP WHEAT.—Aaron Choate enquires:—"Can any of the correspondents, or readers of the CANADA FARMER, give to the public the origin of a new and valuable variety of spring wheat known here as the "Golden Drop?" It resembles the Fife wheat in the field, but grows much stronger, is a longer berry, and more pointed at the ends, yields nearly fifty per cent. more, weighs well, is free from rust, and is much prized by millers. I paid to Wm. Barrett, miller, of Port Hope, sixty cents over market price, per bushel, for the seed, and the yield amply repaid the outlay, being nearly double that of any other wheat in the neighbourhood. Enquiring after its origin, I am informed the seed was brought from the West, some say from Dumfries, near Galt or Paris. I hope by this public enquiry to elicit valuable information."

DRILL SOWING.—A subscriber asks what we consider the advantage of Drill Sowing. In ordinary broad-cast sowing a large proportion of the seed never germinates, some being left exposed on the surface, and some buried too deep; whereas, by the use of the drill, the depth at which all the seed is deposited can be nicely regulated, and the covering up evenly secured. The results are, a considerable saving of seed, a stronger and healthier growth of the plants, and generally, therefore, a larger yield.

QUERIES.—R. W. S., Woodstock, says "That a friend, visiting in the County of Carleton, last summer, learnt that, by the payment of $4.00 to the Treasurer of the Township Society, Napanee, I think, the subscriber was entitled to the CANADA FARMER, and also to the privilege of sitting at the Board as a director of said society. Perhaps Prof. Buckland, who has visited that County, can say if such is the case, and by what legal authority such practice is permitted.

"At the last Provincial Exhibition, held at London, a cast-iron roller was exhibited, having two hollow cylinders or compartments, in which to introduce water to increase the weight of the roller to the requirements of the land. Can you inform me where and at what price it can be obtained?"

NOTE BY ED. C. F.—In reference to the first query we think there must be some mistake. A copy of the CANADA FARMER is included among the returns for the annual subscription to a large proportion of the agricultural societies; but the privilege of sitting on the Board of such societies cannot be a matter to be bought and sold. Prof. Buckland has no knowledge of the matters to which our correspondent refers. If the second query should meet the eye of the manufacturer of the roller mentioned, he will, perhaps, give the information sought. S. Harris and son, Beamsville, exhibited a cast iron roller at the Provincial Exhibition in London, in 1865.


# The Canada Farmer.

TORONTO, CANADA, MARCH 16, 1868.


## A Wheat Growers' Association.

A WRITER in an exchange paper, adverting to the proceedings at Dairymen's Associations, and their manifest utility in developing the cheese interest, asks: "Why not have a Wheat Growers' Association?" He very justly observes that the amount involved is vastly greater, and the importance of the product second to none. Moreover, while the wheat crop has become uncertain in various localities and many good farmers have given up attempting to raise it, there are still those who continue to grow our staple cereal with success, and it would be of great value to others for publicity to be given to their methods and experiences.

There is wisdom and force in these observations, and they only go to show the advantage to be derived from comparison of opinions and practices in connection with farming operations, such as clubs, associations and the like, secure. No one present at the recent Dairy Convention at Ingersoll, could fail to be struck with the manifest benefits of such a gathering. Whether it is best to have a Wheat Growers' Association as we have Dairy and Wool Growers' Associations, is a question to be considered; but that we need some opportunity for investigating these matters, comparing notes, discussing plans, and giving publicity to valuable items of dear-bought experience, is too evident to admit of debate. In every rural neighbourhood there should be some organization of the kind in active operation all the year round, while occasional conventions on a larger scale, and attracting more public attention, could hardly fail to be productive of great advantage to the farming community.

## Noxon's Factory, Ingersoll.

WHEN at the Dairy Convention recently, we took the opportunity of looking through the above factory, and though our visit was necessarily a short and hurried one, we could see plainly that a large amount of business was being done, and an excellent quality of work turned out. The establishment is very complete in machinery and labour-saving arrangements. We were glad to learn that an increasing demand is manifested on the part of the farming community in that part of the Province for implements of the very best model and workmanship. Seventy-five mowers and reapers were made and disposed of at this factory last year, and this year twice that number are being got up. The Messrs. Noxon manufacture a combined machine, which unites the best features of the Ohio and Buckeye, and has, withal, a self-raking attachment. This machine has the Ohio cutter bar, and the Buckeye gearing. It is compact, light of draught, yet of great strength, and is said to give much satisfaction to those who have used it.

Our readers are, of course, aware that the Messrs. Noxon make a very effective cultivator, since this implement has been described, illustrated, and advertised in this journal. We are glad to find that no fewer than three hundred of these useful implements are turned out yearly from this factory. The establishment in question comprises a foundry, iron and wood-turning shops, smithery, carpentery, paint shop, &c.; in short, there is every facility for taking the raw material, and metamorphosing it into the finished tool.

As elsewhere mentioned, the Messrs. Noxon furnish dairy requisites of all sorts. They even advertise to "supply first-class cheese-makers." The leading member of the firm is the efficient Secretary of the Canadian Dairymen's Association, and is thoroughly posted in all that pertains to cheese-making.

## Prices and Marketing.

AN excellent article on the above subject appeared in a recent number of the *Country Gentleman*, the upshot of which was to show that farmers rarely gain by holding on to produce for high prices, and that it is the part of wisdom to sell when there is a fair market. Even if a little more is obtained by holding produce, there is loss by shrinkage, rats, interest, &c., beside constant risk in connection with perishable property. The testimony of a farmer of considerable experience is to this effect:—"When I was young, and in debt, I was compelled to sell my grain and wool without delay to meet my payments; but since I have got out of debt, I often keep them for months, in order to receive higher prices. I find in the average of years, that I did better then than now."

No small amount of anxiety is often experienced, and many a sleepless night passed, under the feverish desire to know just when to sell, so as to realize the most by so doing. Our contemporary reasons that it is every way best to market produce when there is a fair demand, at a reasonable price. We quote the closing paragraph of the article under consideration:—

"Farmers are hard to satisfy. Many years ago wheat ran up for a short time to $2.00. A purchaser wishing to obtain some very fine seed wheat, offered the farmer $2.25—which, exciting his suspicions and increasing his rapacity, he refused—to sell the next year at half price. It seems that the higher rates advance, the more dissatisfied many become. We can well remember when the standard price for wheat in Western New-York was three shillings (37½c.) per bushel—some was actually sold for one shilling. Now that the price is two dollars and a half, or more, we find owners as much dissatisfied as ever. This dissatisfaction induces them to hold out against their own interest, as already shown. We should be glad if some of our readers would keep a record for the next ten years, embracing the following points: On one side place the price of grain on the first of October; on the other, the price on the first of May, deducting from the latter, the waste by keeping, rats, weevil, &c., the shrinkage by drying, the trouble and cost of storage, and the interest on the whole—then observe on which side the greatest amount of profit is found. We have no doubt the experiment would prove a useful one, and show the propriety of selling when there is a fair demand in market."