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VOL. V. No. 7.

TORONTO, CANADA, APRIL 1, 1868.

POSTAGE FREE.

The Month.



APRIL may be said, in this climate, to be the

first month of spring. It brings us fairly out of winter; unlocks the ground so that the plough can gain admittance; wakes all nature from slumber; and calls man to the tug of active out-door farm work. Now indeed begins the busiest season of the year, and it usually comes with surprising suddenness, inasmuch that we can hardly credit the fact that a transition of such magnitude has actually taken place. Winter holds undisputed sway in March, sometimes all through the month;—at other times the sceptre of the ice-king is broken, and his abdication rendered imminent, before the month is more than half through. But whatever may be the character of March, Spring is ushered in by April. It scarcely answers to the description of the month current in Britain, where “March winds” and “April showers” are reputed to “bring forth Mayflowers.” We are often more of the stormy March than the showery April during this month. Indeed it is very variable in its characteristics, being sometimes dry, sometimes wet, and often exceedingly pleasant and seasonable. One feature, however, it always has,—it is far milder than March. The weather moderates but gradually from January to March, but in April it makes a sort of jump toward temperateness and geniality. One would scarcely think the advance toward summer so rapid as it really is in April, were it not for the testimony of the thermometer, for we have now and then chilly days which make us ask, when will the winter be over? But this is our impatience, as well as the natural effect of the fine, pleasant days we occasionally have, and which are so delightful that we naturally wish to have more of them. It will be interesting to compare the mean temperature

of April given below with the table for March, and to note the great progress indicated for the present month.

Stratford.....	44°55
Hamilton.....	46°04
Barrie.....	43°02
Toronto.....	43°90
Belleville.....	45°85
Montreal.....	41°80
Quebec.....	41°40
St. John. N.B.....	39°10
Halifax.....	40°00

We may mention that the past winter has been more than usually severe. The records of the Toronto Observatory show a lower average temperature for January and February than at any period during the last twenty-five years. On March 2nd, which will long be known as the cold March Monday of 1868, the thermometer stood at 15°06, a point never before touched in March during the period just named—twenty-five years. A steady cold winter is generally regarded as the precursor of an early spring, and a good season. When snow falls early and lies long, wheat, clover, the grasses, and vegetation generally, are well protected, and come out better in the spring than when we have mild turns, which melt off the snow and leave the surface of the ground exposed to alternations of freezing and thawing. In this respect our neighbours in the Province of Quebec have a great advantage; for though their winters are severe, they can always count on an early and abundant snow fall, so that often, perhaps generally, the frost penetrates to a less depth into the ground there, than it does in the milder Province of Ontario. This is one of nature's compensations, of which there are so many interesting examples in various parts of the globe.

It is almost too soon to speak with confidence as to the state of the fall wheat fields and meadows, as injury may yet be done, should the weather prove extreme; but so far we believe they promise well. Fruit, however, is thought to have sustained some damage by the keen frosts we have had. Peaches are said to be a failure in the Niagara District, though we should judge, from some intimations, not a total failure. Fruit growers in that region complain of a change in the seasons, so that they cannot count with the same confidence as formerly on a peach crop. May it not be want of shelter? The natural forest has disappeared; has it been replaced by evergreen belts and artificial groves? We fancy not. Bitter experience is teaching us that it will not do to strip the country naked. There is nothing equal to leafy shelter, and we must have it either naturally or artificially.

As already hinted, out-door work on the farm begins in earnest now. Attention to fences is one of the first things practicable. So long as we are obliged

to keep up our present system of fencing, this will be a serious tax on the time and means of the farmer. It should be a motto and maxim that every necessary fence is to be kept impregnable,—“man-high, bull-strong, and pig-tight,” as some one has tersely said. Board fences need looking after, and all loose or broken places made tight. Rail fences must be closely watched and kept in good repair. Let there be no shaky, weak-looking spots to invite attempts from breachy cattle. Next to the fences is the care of pastures and meadows. It is a great mistake, but one often committed, to let cattle and horses roam at will through the fields in early spring. *Cui bono?* Where's the good of it? If it be for exercise, the roads are better. As for food, they can get none of any account, while the wet, spongy ground is cut up by hoofs and iron shoes, to the great injury of grass roots. Pick stones from meadows, and roll them when the land is dry enough. It is desirable to get the land as level and smooth as possible. Seed bare spots afresh, top-dress with well rotted stable manure, sow plaster and artificial fertilizers. Ploughing is now the order of the day. Let it be deep and thorough. Take the best care possible of the teams. Feed well. Groom faithfully. Look out for harness galls and collar sores. Many a valuable animal is put to needless pain and rendered half useless by neglect, when the busy season comes on. It is easy, by passing the hand over breast, shoulder, and back, to find out if there is any sign of chafing, and it should be at once guarded against. It is a reproach to be caught working with a galled beast, for either cruelty or neglect are evinced thereby. Spring work should be pushed forward energetically. Much depends with some crops on getting them into the ground early. Especially is this the case with oats, barley and potatoes. A little tardiness is often dearly punished. Clover may be sown this month, either alone or on winter grain. It is a good time to pull out red root and cockle from among wheat. New milch cows and their calves, ewes and their lambs, must be well attended to, if they are to do well. Manure should be turned over, compost heaps made, and dung fit for use carted into the fields. Orchards should be pruned, fruit and shade trees planted, tent-caterpillar nests and other insect dangers rooted out. Garden as well as farm work begins in earnest this month. Hot-beds must not be deferred longer than the early part of this month. Early potatoes and peas must be planted, so soon as the ground is dry and mellow. Rake off the coarse litter from asparagus beds, fork in fine dung and dress with salt. Cold frames and hand glasses will be in requisition. Prune grape vines before the sap starts. Uncover strawberries, plant out grape, gooseberry, currant and other cuttings. Draining, manuring, path-making, transplanting and sowing, should be pushed on vigorously. Bee-keepers will need to see that their little insect friends have food enough this month.

The Field.

"Vectis" in Reply to "Farmer."

TURNIPS AND OTHER CROPS AS MANURE.

"VECTIS" presents his best respects to "Farmer" and is very much obliged to him for his article in the CANADA FARMER of the 2nd March. There is this slight difference between "Vectis" and "Farmer": "Farmer" lives and farms on some of the best land in the Province, in Missouri, a rich sandy, loamy, clay, interspersed with limestone gravel, and fertile to a proverb; "Vectis" writes from a farm, which he also cleared up from the forest, only instead of clearing up eighty acres out of one hundred, and that in a number of years, "Vectis" cleared (or rather had cleared) up three hundred and fifty acres out of six hundred, and that in little more than four years. "Vectis" had to begin ditching the bush, to get the water off. "Farmer" could sow fall wheat as soon as he had cleared a patch, and was sure of from thirty to forty bushels per acre; "Vectis" had to sow spring wheat only, as the land was cradle knolly, and winter-killed the fall wheat, and he only got from twelve to fifteen bushels per acre for the first crop, and nothing worth speaking of afterwards; so that "Farmer" got first-rate land, and "Vectis" got the contrary. "Vectis" wants any and all the manure he can come honestly by, and would make any effort to get it; and "Farmer" wants very little, and for many years wanted none. Having premised these differences, "Vectis" will proceed to answer "Farmer's" remarks. First, "Vectis" never meant to plough in all the root crop; he would of course feed all that could be fed, and destroy and plough in the balance. He also knows well what cows and stock can be kept on a farm, cultivated strictly on the four course system, having for a considerable time in his youth lived on such a farm, and cut with his own hands, and carried sometimes with a wheelbarrow, and sometimes with a light pony or donkey cart, all the food which five cows required to soil them during the summer: and which food consisted of the outside turnip and mangel wurzel greens, some vetches, cut clover, &c. He also milked these cows, and such was the flow of milk on that food, that during the first two months after calving they mostly had to be milked three times a day; but then they were cows—bred specially for milk, and the descendants for many generations of good milkers, always selected for that quality, and bred accordingly—there are few such cows in Canada—so that "Vectis" knows all about cows, and values them as much as "Farmer" can do. He also knows all about sheep, having from his earliest boyhood had full experience with them, especially huddling off turnips in the frosty mornings of an old country winter, when the iron bar would chill his hands to the elbow, and the wattle hurdles, covered with white frost, were each of them almost too much of a load for him to move. If "Farmer" went through the novitiate he will understand all about it, without enlarging further.

But "Vectis" has also had great experience in Canada, and he knows better than most men that good winter wheat is the best thing on a farm to produce cash, and that so long as a settler on new land can grow fall wheat on ten acres of newly chopped fallow yearly, he is sure of money to meet all his wants; but when the midge or other misfortune cuts off his crops, he has to turn to the other productions of the farm, and then his struggles commence. Then he falls behind with his payments, and becomes as poor and struggling a man as a Canadian farmer can be. The best proof of all this is, the value of good fall wheat land. In the Gore of Toronto and the country of which that is the centre, and other similar land near Toronto, when they could grow fall wheat, that land (in good cleared farms) was worth from fifty to seventy dollars per acre: now they can only grow

ordinary mixed farm produce, the same land can be purchased at from twenty-five to thirty-five dollars per acre. The farmers are now poor and struggling men to what they were in the fall wheat days; doubtless these former prosperous times will come again, when the midge leaves us, as there is every prospect of its doing.

The most discouraging thing in writing for the farming community is—that they will take every thing literally; even such men as "Farmer" do not seem to exercise any discrimination; a spade must be merely a spade, and a rake a rake. They seem to forget that when a man speaks, in writing, of using a tool, either to move the ground, or to move the earth on the ground that has already been loosened, or to move manure or what not, the writer may use the generic term "shovel" of course leaving it to the common sense of the man addressed either to use a spade, or a scoop, or a shovel, (specially so called), or any other of the numerous varieties of the same implement. So in using the term rake, he may mean either a fine-toothed garden rake, or a hay rake made of wood, or a hand-rake, or even a horse-rake. But no—if the farmer who reads the article has a wooden rake in his mind, and the writer has advanced any doctrine which the farmer may consider heretical in the ordinary course of farming, he must at once set down the writer as an ignoramus, because in the farmer's mind he chooses to suppose that the writer meant a garden rake when speaking of cleaning up a field of hay or oats, or a horse-rake when making an onion bed. So "Farmer" chooses to consider that "Vectis" ploughs in and destroys all his turnips, instead of feeding all he can and destroying the rest; and not only does so, but chooses to suppose that "Vectis" first pulls them out of the ground, and then cuts them up (we may suppose with a pocket knife), while in sober truth "Vectis" supposed, as a matter of course, that the element of common sense would come in there, and that if it were once shown that it would be advantageous to destroy turnips or other root crops on the land, that some cheap way would at once strike the mind of the practical man, in order to do it quickly, and with but little labour or expense. To meet "Farmer's" views on this head, "Vectis" will mention as an implement for the purpose, a heavy broad roller made of alternate knives of thin iron, strong enough to resist the strain but sharp enough to cut a turnip or mangel, and intermediate discs keeping the knives some four or five inches apart, the knives projecting perhaps six to eight inches. Now this contrivance, properly arranged to keep from clogging (which is an easy matter) would, by being hauled twice or three times across a field of roots, cut them up in the ground, leaves, roots, and all, into "jommethry," as the Irish say, and leave the whole crop ready for ploughing in at an expense of possibly a dollar and a half an acre for cutting. "Farmer" reminds "Vectis" of a sailor story, where some improving landsman introduced a wind-mill with revolving sails, to pump out the ship; the sailors set it running, and were mighty well pleased until the water was all gone, and she "sucked" as they call it, then, according to all nautical experience, the "thing" ought to have stopped; but instead of doing so, the load being removed, the sails whizzed round at such a rate, that no one could go near it, (the operators having forgotten to arrange the breaks). Well, she wouldn't stop; so, after a full consultation, they armed the men with hand-spikes and knocked the "d——d thing" to pieces, and so ended the experiment. But "Vectis" is by no means prejudiced in favour of any one kind of root or green crop. If turnip roots are too expensive to raise and plough in, let us raise the turnips for greens only, and plough them in. If turnips are too expensive in any form, then let us come to the other green crops, whether of root or leaf, only let us, instead of everlastingly taking out of the ground, put something back, so as to have our land improving instead of deteriorating. What we want is, to gather from that great magazine of nitrogen, the atmosphere, a greater

quantity of the nitrogen, in the course of one year, than the land in the shape of a naked fallow would of itself absorb. To do this we must raise on the same ground some crop that, while it abstracts little or nothing from the soil, abstracts a great deal of nitrogen from the air. Then, as wheat wants nitrogen, or ammonia, the crop in question, whether turnips or other roots, clover, buckwheat, green peas haulm, or other similar substance, is either eaten on the ground, or if you have not stock to eat it, destroyed on the ground, either by ploughing in or otherwise, and it furnishes the required ammonia or nitrogen to the following wheat crop. So it is with super-phosphates and bone dust. The primary effect of these manures, if applied to wheat or other cereals direct, is but little felt; they are not in the shape the crop wants; but if you apply super-phosphates or bone dust to the turnips or similarly constituted crops, and you enable that crop to extract from the air, in a far greater degree than in any other way, the ammonia or nitrogen for the succeeding wheat or other grain crop, then too manure tells, and you have a return for your outlay. So with barn-yard manure. On many rich soils in England a liberal use of barn-yard manure for the wheat crop would be ruinous; the wheat would all rust, or mildew, or go down; but by applying the same manure to the turnips, then taking a crop of barley, then clover, and then wheat, the rich land having lost the grossness which would have caused the over-forcing of the wheat into rust, mildew, or going down, has been reduced, and a good crop of wheat is certain to follow. In Canada, however, we have less fear on this head; our land is poorer, and the summer season far dryer, and here almost any land will bear manure for the wheat crop, although such land as that occupied by "Farmer" does not always, or indeed often, require it.

"Farmer," like a great many other people, appears to pin his faith on old adages, and quotes one which answers his purpose. Many people are fond of doing this, and they seem to consider such sayings worthy of attention, as being the concentrated wisdom of ages; but the worshipers of such lore forget that there is always to be found some other proverb to meet the one quoted, and that the one in question—namely, that it is better to take the crop off a farm on four legs than four wheels—is fitter to apply to the old country, where meat is four times the price it is in Canada. "Farmer's" observation that he has little faith in rotten turnips, because where he has had the misfortune to lose a pit of turnips by heating, and has spread them abroad, he could see no material difference in the subsequent crop, is counterbalanced by the observation of a friend from Williams Township, who found everything grow most luxuriantly where such an accident happened to him, and also by a late correspondent from near Guelph, in the CANADA FARMER, that with him rotten turnips would cause such a luxuriant growth of wheat, that it would flatten it all down, and destroy the crop. All these statements may be, and most likely are, true; but each as applicable to its special locality. I should myself say, that if any one can raise such crops as "Farmer" speaks of on such land as I know his to be, rotten turnips, or ploughed-in green crops, are not often required; I only recommend them to be used where they are wanted, and not otherwise.

If we are not to plough in green crops, or root crops, or something else of a similar nature in Canada, what are we to do? Our crop of straw is not more than half the crop of straw in England, and neither is our general crop of hay, and therefore we cannot keep the full amount of cattle they can there. Our winter is twice as long, and meat half the price, so that it won't pay to consume large quantities of oil cake, cotton seed cake, and other kinds of food rich in nitrogenous matter. We must get our nitrogen where it is to be had cheapest, and that is from the air, and we can only get it by the intervention of turnips, or other roots, clover, and green crops. Our labour is so dear that we must not lose any opportunity of dispensing with it as much as possible, and if we can make two ploughings do for a summer fallow we must not employ three. A good smothering crop of green stuff, on a fallow, (provided you get it ploughed in before the weed seeds are ripe), helps to clean the land as much as any other course of husbandry, and the good of the green crop ploughed in is worth more to the land than an extra ploughing.

"Farmer" is rather fond of a sneer, and brings in the names of Townsend, and Mr. Coke, of Norfolk, as knock-down arguments. "Vectis" recollects well when turnips, in any shape, were sneered at in the old country, by all the then old-fashioned farmers,—and lived in a place where they used to yoke three and four horses in end (in what we call Indian file) to a monstrous wooden erection called a plough, which was a waggon load of itself. On strong clay land he has seen five heavy black cart horses, heavier than any of our Canadian Clydes, following one after the other before such a plough. One man to drive

and another to march between the stils, and the utmost the team would do would be an acre a day. The father of "Vectis" introduced into his part of the country light two-horse teams with the swing plough (as it was called then), a light iron mould-board without a wheel at all, and such as is now used here. He, poor man, was also sneered at, and divers great names brought forward to prove him wrong, and his neighbors said he might as well try to plough with two rabbits and a case-knife; but he lived to see the old wooden plough abandoned, and the two-horse plough and no driver adopted, all about him. So it has been with all improvements; the better they are the more they are sneered at by people who prefer to pin their faith on others, rather than think for themselves. The cost of raising turnips or other root crops is in the manure for them, and the culture of them, in order to get large roots. If they were to be raised for manure only, less pains would of course be taken, and the roots would be smaller and greater in number, and thus more easy to dispose of. One of the most approved methods of turning the stubble land to use in "Vectis" native place, was the sowing of "stubble turnips"—these were sown late (after the fly had passed) and the seed was scarce and widely scattered; they might or might not be dragged, they were certainly never hoed; and yet before the frost came they would cover the ground with their leaves, and the roots would vary from the size of an apple to that of a cricket ball, and so on up to four inches diameter, and they would help the ground and also the stock greatly. Such a crop as is now spoken of, would answer all purposes, and be the cheapest green crop that could be raised.

"Vectis" trusts that the important matter thrown out for consideration will not be allowed to drop. He has received much useful information privately from all quarters, and he is quite sure the readers of the CANADA FARMER will have been amused, if not instructed. It is quite possible that he may start some other heretical doctrine before long, and in the meantime will take leave of the present subject.

"VECTIS."

A Discouraging Balance Sheet.

To the Editor of THE CANADA FARMER :

Sir,—I am a constant reader of your most valuable paper, THE CANADA FARMER,—and which, by the way, I find to be the most useful publication a farmer can have; and, among other matters, you strongly advise farmers to keep a strict account of all their receipts from and expenditure on the farm. Having had the benefit of a commercial education,—for I am not a farmer by profession, though I have been led to adopt farming as my present, and I believe also my future business—I have kept a correct account of all I have received from the farm and laid out upon it, and herewith I beg to enclose you a copy of my balance sheet up to December 31st, and I doubt not you will agree with me in styling it a very miserable affair. I should premise, however, that the past sixteen months have been of a very exceptional character. I bought the farm on the 10th August, 1866; it had been lying idle for a year, and the land being a strong rich clay loam, you may easily imagine what a crop of thistles it would yield; and indeed it produced a heavy crop, and one that we shall not get rid of for years to come. This crop of thistles has, I believe, very materially lessened the yield of my crops proper; added to which, a bad threshing machine, which left a good deal of wheat in the ear, and the generally deficient harvest, in which I necessarily participated, all combined to make my returns for the past season less than I expected. Notwithstanding all these drawbacks, I am not altogether discouraged; but, by the application of manure, which I am drawing from the County town, some five miles off, and of which I am raising as much as I possibly can on the farm, and by a judicious system of cropping, which will include a larger proportion of roots than is generally grown about here, I trust that my balance sheet for next year, if I am alive and well, will be a much more satisfactory one, and which I shall be glad to send you, if you care to have it.

I keep, also, a regular diary of farming operations, and notetwice, sometimes thrice a day, the state of the thermometer, wind, weather, and in summer time, that of

a home-made barometer, made after your own recipe—it is pretty correct, indicating atmospheric changes some hours in advance—but, unfortunately, I cannot use it in winter, for the difference of temperature between night and day affects the density of the air in the inverted bottle so much that it cannot be depended on. This diary, though perhaps not quite perfect in its arrangements, is nevertheless especially useful, as if I sow too early or too late, and the results are not satisfactory, these are all noted, and on consulting the record the error can be avoided in future operations. The arrangement of the diary is as follows:—the size of the book should be a small folio—one page occupied with meteorological notes and "transactions and occurrences," and the other with "remarks and results," and I would like it very much if some of your numerous correspondents would give me a hint by which the diary would be made more useful and complete. But I must not occupy any more of your valuable space. I therefore beg to remain, Sir,

Yours truly,

ULMUS.

BALANCE SHEET OF FARM PRODUCE. FOR 1866 '67. (From 10th August, 1866, to Dec. 31, 1867.)

DR.		1866-'67.	
Dec	To labor, &c., preparing land	\$264	30
	Feed to Stock	191	54
	Repairing and Blacksmith's work	108	88
	Feed	106	35
	Expended on Vegetable Garden	17	56
	Threshing 21 days at \$4	15	00
	Lumber	13	11
	Taxes for 1866	6	00
	Sundries	34	11
	10 per cent. depreciation on implements, the first cost being \$222 85	22	28
	Total expenditure, exclusive of rent and labor of self and four sons	779	15
	Balance gained, carried to 1868	3	36
		\$782	51

CR.		1867.	
Oct.	By 43 bus. 23lbs. Barley at 60c.	\$26	11
	" 97 bus. Gibs do 65c.	63	11
		89	22
	Less Market Tolls	00	5
		89	17
	By 292 bus. 46lbs. Scotch Wheat at \$1.50	438	65
	" 25 bus. 50lbs. Peas at 70c.	18	68
	" 43 bus. 23lbs. Oats at 32c.	13	95
	" Butter and Eggs sold	4	3
	" Garden Produce sold	17	92
		492	38
	" Teaming Sundries	112	37
	" Cutting Wood, &c.	15	57
		127	94
	" Present value of Stock	440	00
	" Used for home consumption	25	90
		465	90
	Deduct first cost	393	71
		72	19
	Gain in value of Stock	782	51

1868.
January 1, By Balance from 1867..... \$3 36

NOTE by Ed. C. F.—We publish the foregoing candid statement of a "miserable" failure, both because we do not wish to suppress the unfortunate experiences of farmers, for useful lessons can be drawn from them, and because we would have all engaged in Agriculture keep a correct account, and thus learn the actual state and result of their farming, and also because we hope our correspondent will send us a better balance sheet at the end of the next season. Some of the above expenditure might certainly be diminished—for example, the amount for blacksmith's work, and probably the cost of preparing the land. Two items of "feed" are also rather ambiguous. Is it extra "feed" bought, or the value of "feed" consumed from the produce? Further, there is no account of any "home consumption" except the item of stock. We notice, also, one important omission, namely, making no mention of the number of acres under cultivation. We sincerely trust that the coming season will turn the tables, or we should advise our correspondent to quit farming. His hopefulness under difficulties is most exemplary and praiseworthy.

Oats and Hay.

THESE products, formerly so cheap, have been for some time past among the highest priced articles in the market. They are now so dear as to cause constant grumbling among those who keep stock and have to buy all their fodder. Both crops are easily raised, and on rich, well-drained land, are pretty sure to give a good yield. Farms that have facilities for irrigation, may be so managed that these products may be relied on as little short of absolute certainties. Sixty bushels of oats per acre, selling at fifty cents or more per bushel, and two tons of hay, fetching fifteen dollars and upwards per ton, are yields and prices that ought to make farmers cheerful, and abolish the chronic tendency to grumbling. The experience of successive seasons goes to prove the wisdom of a mixed system of husbandry. When one product yields poorly or brings but a low price, something else will help to make up, if it is on hand. The tendency, when a particular crop sells high, is to go largely into it, and thus there comes to be over-production in one direction and under-production in another. We anticipate that a large breadth will be sown to oats the coming spring, and that, consequently, prices will rule much lower next season than they have done this. But these products always pay if fed to stock on the farm. Whether turned into beef or into the increased value of thriving young animals, it is profitable to use them for home consumption. We fear the temptation with some farmers the present season has been irresistibly strong to stint their own stock, in order to have a larger quantity of these high priced products to send to market. This is always poor policy.

Platt Midge-proof Wheat.

To the Editor of THE CANADA FARMER :

SIR,—There have been several communications through your columns from correspondents in regard to, and setting forth the superior quality and extraordinary yield of, a wheat to which they give the name of "Platt's Midge-proof." A farmer, of this township having last season procured a quantity from Mr. W. H. Boulton, of Demorestville, and my curiosity being excited by what had been said regarding it, I went last harvest to see this celebrated wheat, and what was my surprise to find it identically the same variety as I had previously grown for three years. As far as my experience went after a fair trial, I found it to yield about the same as the Fife wheat; but as it was a bearded variety, much coarser in quality, and not so well liked by buyers as the Fife, I gave up sowing it. In the spring of 1864 I procured a small quantity from a merchant in Guelph, who got it, I believe, from some person in Toronto, who gave it the name of Poland Wheat. There were other farmers in this township who got some at the same time, and after giving it a trial, also gave it up. However, at that time we were not troubled here with the midge; and I am now of opinion that it might be advisable to sow this wheat in localities where the spring wheat is liable to be injured by the midge, it being well known that all coarse bearded wheat is not so liable to injury from the midge as wheat of finer qualities.

W. WHITELEAW.

Guelph, March 25, 1868.

SORGHUM TARTARICUM.—In answer to numerous applications, Major Bruce has sent us the following directions for the culture of the *Sorghum Tartaricum*:—Soak the seed to be planted about twelve hours, roll it in plaster, make shallow drills, two feet six inches apart, and only just cover the seed with earth. When the plants grow to six inches high, thin out, to one foot apart, in the rows. Hoe frequently, but do not hill; remove suckers as they appear, in order to give full vigour to the plants. Poor clay is recommended to plant in, but it will do well on any land, if not too rich. When the seed-leaves first spring up they resemble Indian corn leaves, on a small scale.

Stock Department.

Hillhurst Farm, Compton, Quebec.

We must confess to a large amount of ignorance in respect to the style of farming in vogue in that part of our Dominion formerly known as Lower Canada, and now designated Quebec. The opportunity of making extended personal observations there has never been within our reach. We hope it may be at some future day. Meantime we are glad to be able to say that we have seen, if not a Quebec farm, — the ground being all covered with snow, — a farm-house, the extensive steading, and a lot of choice animals, such as can hardly be equalled, certainly not surpassed, anywhere in the Dominion of Canada.

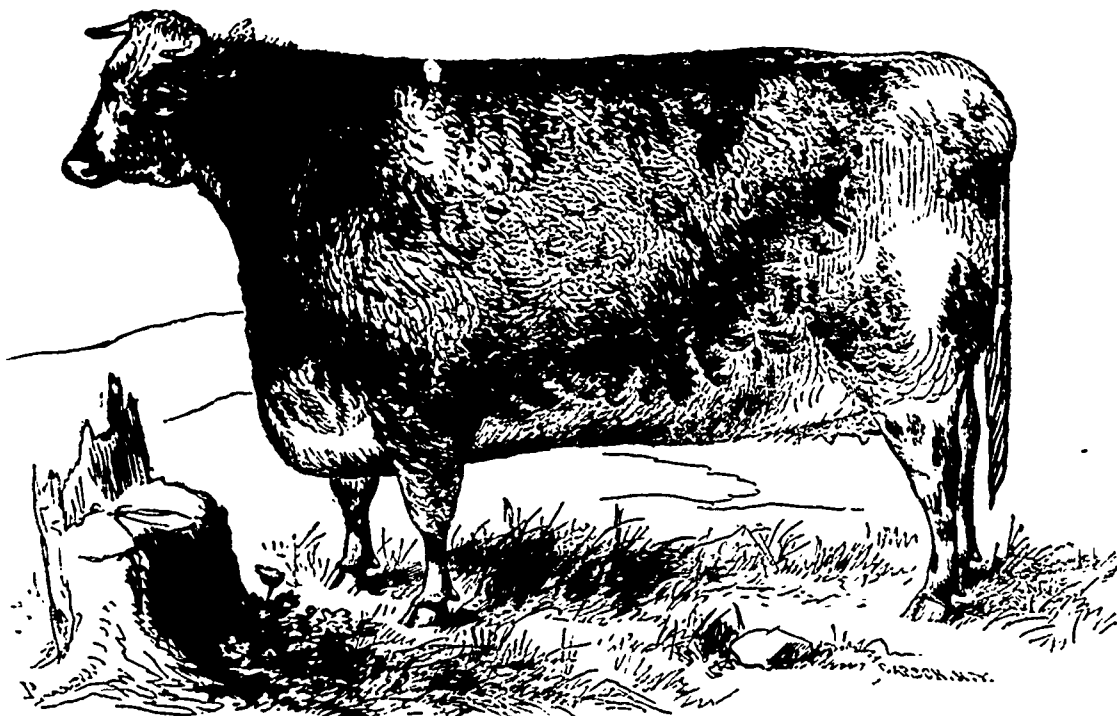
By invitation of its proprietor we lately made a flying visit to Hillhurst Farm, near Compton Village, the estate and country seat of M. H. Cochrane, Esq., a prosperous Montreal merchant. This gentleman having made money in the city wisely determined to invest a portion of it in the country, and made choice of his native place, though at some distance from the scene of his business operations, as the spot where he would have a farm. Accordingly he purchased, one after another, a number of small holdings, until he had secured 750 acres, nearly all of which is consolidated in a convenient block, with a public road on three sides, and a private road on the fourth side. To this estate the name of "Hillhurst Farm" has been given. It lies about a mile and a half from Compton, a pretty little village of some 500 inhabitants; and three miles from the railroad station called by the same name, which is 110 miles distant from Montreal on the line of the G.T.R. to Portland. The locality is evidently one of the most lovely and picturesque in the Eastern Townships. Even in winter it is impossible not to admire the widely extended landscape, diversified as it is with hill and dale, belted by wood-crowned and snow-clad heights, and dotted with snug-looking farm-houses. Imagination supplies the river that flows through the valley when the ice and snow have melted, while the railroad that skirts the stream is a

visible reality, that with its thundering trains and shrill engine-whistles rouses the echoes and gives vivacity to the scene, all the year round.

Hillhurst consists of a noble stretch of fine rolling land, the soil a light loam of good depth, with a variety of sub-soils, gravelly, rocky, and blue clay. The several buildings which were on the small holdings of which the farm consists, make convenient dwellings for the men employed on the estate, as



BEST SHORT-HORN COW AT THE LAST PROVINCIAL EXHIBITION.



"ROSEDALE," THE PROPERTY OF M. H. COCHRANE, ESQ., COMPTON, QUEBEC.

central position on the estate, and is at once adorned and sheltered by some ancestral maples, the like of which we could wish embowered every farm-house in Canada. The accompanying illustration has been drawn and engraved from a photograph of Hillhurst farm house and surroundings.

It is Mr. Cochrane's ambition to distinguish himself as a breeder of choice stock, and especially of Short Horns. Already he has attained no small eminence, as the Prize List of our last Provincial Exhibition testifies. The best aged cow, the best three-year old cow, the best two-year old heifer, and the best one-year old heifer among the female Short Horns, were, to say nothing of Hereford cattle, sheep, and hog prizes, surely glory enough for one show, and must

have taken our older stockmen very much by surprise. We candidly own that, notwithstanding the honours won at the exhibition in question, we were not prepared to find so noble a collection of animals as we lately inspected at Hillhurst. The Short Horn herd already collected comprises no fewer than thirty-three pure-bred animals of various ages, and ten high grades. Among the pure Short Horns, are at least from six to eight that will be hard to beat on the continent of America. The aged cow "Rosedale" is of world-wide celebrity, having won all possible distinction in the British showyards, and retired from competition at the early age of two years and a half. "Snowdrop" and "Margaret III." have

twice carried off the highest honours at our Provincial Shows. The "11th Duke of Thorndale," recently added to this herd at a cost of \$3,000, has no superior as a two-year old bull of Bates or Duchess blood. "Baron Booth of Lancaster" is

of equal merit as a representative of the strain of Short Horns, that rivals the one just named. "Maid of Athol" is another first-class two-year old, and beside her there are some yearlings of highest excellence.

Not content with thus mounting the highest pinnacle as a Short Horn man, Mr. Cochrane is hardly less distinguished in the Hereford class. He had the best one-year old bull, the best cow, and the best one-year old heifer of this breed at the last Provincial Show. The young bull "Compton Lad" was a close competitor with his father, "Guelph," for the

diploma awarded to the best Hereford bull of any age. From our late inspection of him we predict a career of distinction for him, if no harm befalls him. He not only holds his own, but has improved greatly since the Show. The Hillhurst herd of Herefords, comprising now thirteen animals, are a very choice

lot, and will contend bravely with the notabilities of Moreton in days to come for prize honours

We must not omit mention of the beautiful Suffolk Punch Stallion that won the second prize for the best agricultural stallion and the diploma for the best stallion of any breed, nor the first prize three-year old filly of the same breed at the last Provincial Exhibition. Both these valuable animals are thriving finely, and bid fair to bring their owner something more substantial than the honours of the show-ring.

Next to the Short Horns, it must be fairly conceded that the sheep are the chief distinction of Hillhurst. No fewer than fifty-seven picked animals were imported last year from noted flocks in Britain. Eight of these were sold at high figures, and seventeen added from the best flocks in Canada, so that there are now sixty-six in all. Of these forty-three are Cotswolds, ten Oxford Downs, and seven Lincolns.

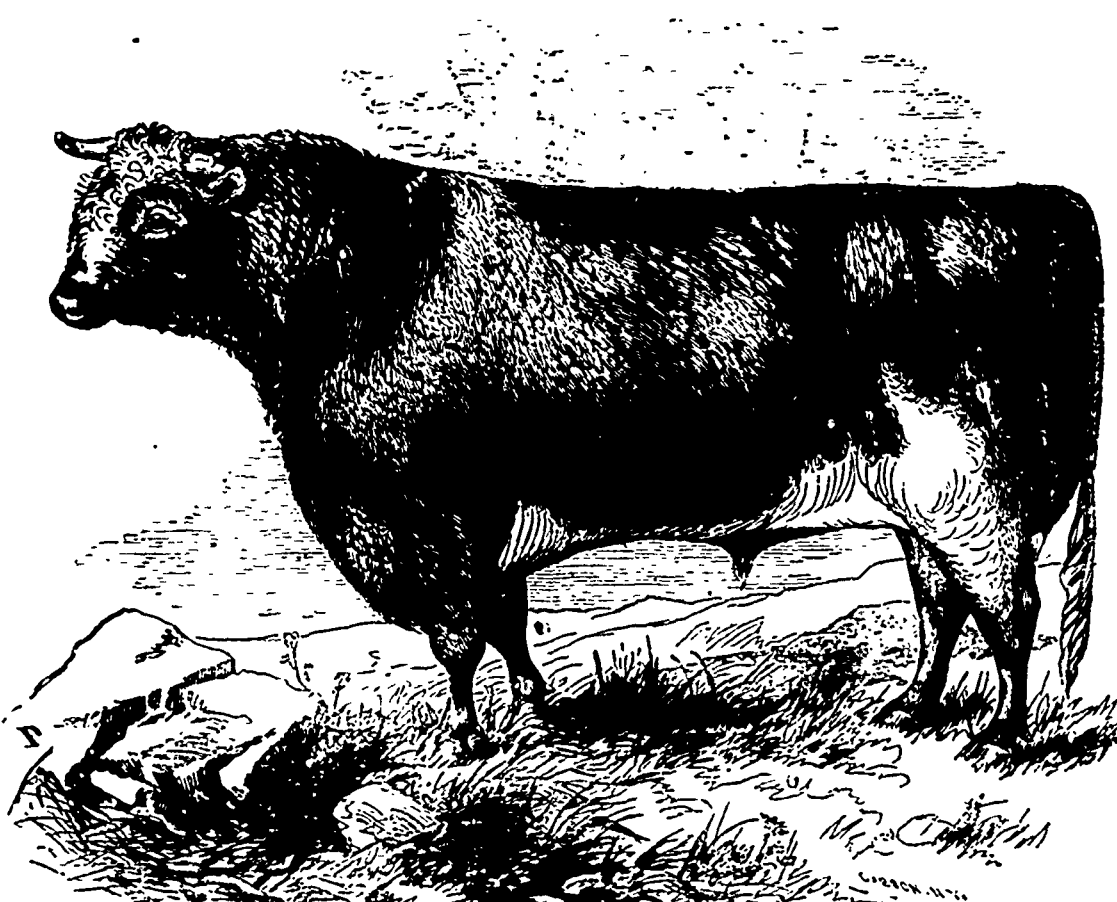
Ten prizes were taken by this flock at the recent Provincial Show. Of these prize-takers the Oxford Downs and Lincolns were especially excellent—the shearing Oxford ewes taking first, second, and third prizes. Of the forty-three Cotswolds above named, forty are breeding ewes, all of which are in a healthy condition, and apparently with lamb. Seven of the Oxford Downs and five of the Lincolns, are ewes with lamb. At the date of our visit (Feb. 21), a number of the ewes were daily expected to drop their lambs.

We also found a choice lot of Improved Berkshire pigs, comprising two distinct strains, so as to furnish pairs not akin. Three first prizes were taken by as many of these animals at the recent Provincial Fair. Three litters have come during the present winter, and three more are expected soon.

We present herewith engravings of three of the best Short Horns in the Hillhurst herd. They are from drawings taken by the able and well-known pencil of Mr. J. R. Page, whose life-like delineations our readers will be glad to see again adorning the

pages of the CANADA FARMER. "Rosedale," now seven years old, worthily carried off the first prize as the best aged Short Horn cow, at the last Provincial Exhibition. For a full account of her pedigree, and the honours earned by her in Britain, we refer our

IMPORTED TWO-YEAR OLD SHORT-HORN BULL,



"RITH DUKE OF THORNDALE," THE PROPERTY OF M. H. COCHRANE, COMPTON, QUEBEC.

readers to our issue of Oct. 1, 1867. When shown last fall, she was only a fortnight off a long sea-voyage, during which she calved, and therefore did not appear to the best advantage, and when we saw her the other day

IMPORTED ONE-YEAR-OLD SHORT-HORN BULL,



"BARON BOOTH OF LANCASTER," THE PROPERTY OF M. H. COCHRANE, COMPTON, QUEBEC.

she was getting only turnips and hay, without grooming or special attention, yet at both the times referred to, even an uninitiated spectator could not fail to be

struck with her beautiful proportions, perfect symmetry, and great beauty. But better than any eulogy of ours is the following testimony to "Rosedale's" excellence by one of the best judges in Britain, Mr. William Carr, of Stackhouse, Lancaster. In his

"History of the Rise and Progress of the Killerby, Studley and Warlaby Herds of Short Horns," which has just been published, Mr. Carr says, p. 26. "To enumerate all these prize-takers would be impossible and superfluous, but one we must mention. ROSEDALE—a name which must last as long as Short Horn records may endure; ROSEDALE, perhaps the most beautiful heifer England had ever seen in her show-yards since the time when Queen of the May electrified them, and whose many victories recalled the memory of the proud triumphs of Necklace and of Bracelet. Descended from a celebrated Booth cow of Mr. Maynard's, and herself a daughter of Velasco, to whom her dam, Rosey,

was in calf when transferred from Stackhouse to Branches Park, this lovely heifer was wholly Booth, with the exception that one-eighth of her blood was derived from the never-beaten prize bull

Belleville. All her victories were won before she had completed the age of two years and a half, while nothing can show more positively the strength and stamina of the Booth cattle, than the circumstance that ROSEDALE, now the property of the Duke of Montrose, notwithstanding all her training, has since bred with the greatest regularity, while her dam, Rosey, the property of Rev. Mr. Storer, of Hellidon, though now between fourteen and fifteen years old, continues to give birth annually to a living calf, and after her last, milked well for eight months, the last five of which she was again in calf." Not only her present enterprising owner, but the stock-breeders of Canada, may well be proud of this valuable addition to the Short Horn celebrities

of our prosperous Dominion. We will only add that Rosedale is supposed to be in calf to the splendid bull who forms the subject of our second engraving,

and a brief account of whose characteristics and pedigree we now proceed to give.

11TH DUKE OF THORNDALE is an equally valuable accession to the thorough-bred stock of this country. This choice animal is of pure Bates or Duchess blood, without the slightest admixture that can mar his reputation in the slightest degree. In all the Short Horn points, colour included, he is unexceptionable. It were too much, perhaps, to represent him as a paragon of perfection, but it would be difficult for the most experienced critic or connoisseur to say wherein he needs to be improved. But without further particularization, we add his pedigree, and leave that, together with our engraving and his future history, to tell their own tale. We quote the following from the American Short Horn Herd Book, Vol. VII, p. 79: "11th Duke of Thorndale, red and white, bred by Samuel Thorne, Washington Hollow, New York. Calved Oct. 15, 1865, got by 6th Duke of Thorndale 4752, out of 3rd Duchess of Thorndale by Duke of Gloster (11382),—Duchess 66th by 4th Duke of York (10167),—Duchess 55th by 4th Duke of Northumberland (3649),—Duchess 38th by Norfolk (2377),—Duchess 33rd by Belvedere (1706),—Duchess 19th by 2nd Hubback (1423),—Duchess 12th by The Earl (646),—Duchess 4th by Ketton 2nd (710),—Duchess 1st by Comet (155), by Favorite (252),—by Hubback (319),—by J. Brown's red bull (v7)."

"BARON BOOTH OF LANCASTER," the subject of our third illustration, is a young bull of great promise, and from the purity of his Booth descent, represents the other popular family of Short Horns, as faithfully as the preceding animal does the Bates or Duchess tribe. He was imported in company with Rosedale, being only five months old at the date of his purchase by Mr. Cochrane. Though of so tender an age, he bore the voyage well, and has greatly improved since his residence at Hillhurst. At the date of our visit he had just reached one year old. He is of a beautiful red colour, and remarkably developed for an animal of his age. He bids fair to attain great size. He is evenly fleshed, with upper and under lines perfect, soft and silky to the touch, and of very fine carriage. He is certainly a bull of no ordinary character, and unless we greatly mistake will make his mark at the exhibitions next autumn. His pedigree is as follows:

"BARON BOOTH OF LANCASTER, bred by G. R. Barclay, of Keavil; Calved Feb. 21, 1867; got by Baron Booth (21212); dam (Mary of Lancaster), by Lord Raglan (13244); g.d. (Lancaster 25th), by Matadore (11800); g.g.d. (Lancaster 16th), by The Marquis (10938); g.g.g.d. (Lancaster 12th), by Will Honeycomb (5660); g.g.g.g.d. (Lancaster 10th), by George 3rd (7038); g.g.g.g.g.d. (Lancaster 9th), by Spectator (2688); g.g.g.g.g.g.d. by Albion (1619); g.g.g.g.g.g.g.d. by Lancaster (360); g.g.g.g.g.g.g.g.d. by Son of Windsor (698); g.g.g.g.g.g.g.g.g.d. by Comet (155)."

The prosperous condition of the Hillhurst flocks and herds, though chiefly attributable to the energy, intelligence, excellent judgment and liberal outlays of capital on the part of the proprietor, is also largely due to the co-operation of Mr. Simon Beattie, the farm and stock manager, whose knowledge and experience enabled him to make most advantageous purchases in Britain on behalf of his employer, as well as most efficiently to superintend things on the estate, during the necessary absence of the owner. Mr. Cochrane is fortunate in having so able a right hand man, and one so competent every way to second his plans and efforts as a breeder of choice cattle and sheep.

Did space admit of it, we should like to give some account of the farm steadings, especially of the main buildings in the central part of the estate. Suffice it to say, they are spacious and convenient, well contrived for labour-saving, and nicely adapted to the requirements of stock raising. Exteriorly they are

neat though plain, while interiorly they are admirably planned. There is ample root cellarage in close proximity to the cattle stalls, and arrangements not yet fully completed for cutting straw and hay, crushing oil cake, chopping coarse grain, and pulping roots by machinery, will add greatly to the conveniences of the establishment. In the management of the farm it is intended to keep about a hundred acres under the plough, and alternate the rest with meadow and pasturage. It may not be amiss to mention that there are several sugar bushes on the estate, in which maple sugar is annually made on the most approved method. We indulge the hope of being able to visit Compton at a more propitious season of the year, when we may be able to give some general account of the farms and farmers in that region. Meantime the laird of Hillhurst has our best wishes for his continued prosperity, both as a merchant and a farmer.

PRIZE OX "ABE LINCOLN."—We had the opportunity of seeing, in this city, on Saturday morning, one of the largest and finest fat beasts that have ever been shown in this country. This was the prize ox "Abe Lincoln," exhibited some weeks ago at the Buffalo fair, and purchased at that time by Mr. West, of Guelph, from whom it was again purchased by Mr. G. Frankland for Messrs. Morse Brothers, of this city. This firm has again sold it, we understand, to Satchel Brothers, of Ottawa, for the large sum of \$400. He is really a magnificent animal, well proportioned, and of extraordinary dimensions. His weight is 3,000 lbs.

The Dairy.

The Cost of Making Cheese.

To the Editor of THE CANADA FARMER:

SIR,—Much discussion having for some time past been called forth respecting the cost of making cheese, I have deemed the subject worthy of serious consideration, and would request the favor of a little space in the columns of your valuable paper. Some years since, I made dairy cheese, but for the last three years, have been a patron of one of the principal factories in Canada; and by frequent discussion, in the meantime, with factory men and others, have tried to post myself on the subject, and now wish to give the result of my investigations, which I hope will not be altogether uninteresting to your numerous readers. It is well known that in this country the factory system of cheese-making, though of comparatively recent date, has been the means to a great extent of supplanting the old method. The reason for this is obvious to all. The cheese business has now assumed such a proportion that we are obliged to look to foreign markets to dispose of our products, and factory-made cheese is adapted almost entirely to export. We are thus enabled to realize from one to two cents a pound more than if we depended altogether upon home consumption.

But the question arises with us patrons: cannot manufacturers in Canada work up our milk into cheese, cheaper than two cents per pound, which is the usual price. It is made up cheaper in the States, but this is easily accounted for. They have been much longer in the business, have become better acquainted with the peculiarities of milk, and learned better how to deliver it in good condition, which enables them to make it up but once a day. This saves almost the expense of one lot of hands, and the benefit is given to the patrons. But in most cases we are obliged to make twice a day. Now is there no means or method by which our manufacturers can be enabled and induced to work cheaper? Observation and experience, with information gained from other sources, has led me to the conclusion that much depends on circumstances in this matter. In regard to the opinions of patrons and factory men, I think

both are right in some things, and both are wrong in others. But we have to decide this question, are two cents a pound too much for making? If so, we ought not to pay it, and yet we do not wish the commission reduced below a paying margin to the manufacturer; for, doubtless, the factory system is the right one, and we want our cheese made on that principle, at a fair remuneration to manufacturers.

There are, of course, two sides to this question, and few men have watched the workings of the business, since the introduction of the factory system into Canada, with greater interest than the writer; and I am forced to the conclusion that to work cheaply and succeed requires that the business should rest upon a healthy basis. And I believe there is no business that, in order to succeed, more needs the confidence, forbearance, and mutual co-operation of all concerned, than cheese-making. I furthermore believe, that if properly conducted, it will yield a larger return to those engaged in it, and to the country generally, than any other business now in progress.

But we patrons call, and call earnestly, for a reduction in the cost of manufacture. We must have our cheese made as cheaply as possible, and yet the manufacturer must receive a fair remuneration. How can this be done? So far as I can see, only by the supply of milk. It seems to me that if the milk, of say 500 or 600 cows, were furnished to a factory, a smaller percentage would pay; but I am fully satisfied that with a more limited supply, it would not.

The plea of factory men is, their outlays and expenses in buildings, furniture and starting, are large, and incidentals continually accruing in repairing buildings and replacing worn-out furniture, besides current expenses, curing cheese, etc. Of all this we are fully aware; but against this, on our side we place the cost of the purchase and care for the cows, their winter and summer keep to furnish milk, which is the foundation of the whole thing; and as cheese has sold the past season, our margin has been, after deducting cost of cows, care and keep, but small; and if something could be done to induce manufacturers to reduce their rate of commission, I think the chief point would be gained, to our advantage.

We justly demand of them a prime article, that will sell at highest prices, as the product of our milk. There must be no culls. To fulfil these demands they must employ, at whatever cost, the most skilful and best qualified workmen, and conduct everything in the most cleanly and appropriate manner.

Doubtless cheese could be made cheaper by inexperienced hands. But that will not do, for prices will be graduated by quality. What if the cost of manufacture were to be reduced one cent upon this principle, and we should lose two cents at the time of sale; we should sustain a heavy loss, and the standard of our cheese would be proportionately lowered, both in the home and foreign markets. In my opinion we have commenced wrong in demanding, under present circumstances, of the factory men a reduction in their rate of commission, and still requiring them to produce a prime article. I think that the call for lower commission should be followed by a larger supply of milk. Then we shall act consistently, and there will be force and propriety in what we say; and this will be the most powerful motive we can present to induce the change we ask for. It will then be the manufacturers' interest to grant our request.

There is another consideration which I think worthy of notice, viz.: the change factory men have been obliged to make the past season, in order to adapt their products to the foreign market, and meet the demands of the business. Two years ago cheeses were pressed in hoops eighteen inches to twenty inches in diameter, and setters accordingly. Last season they were pressed in hoops only fifteen inches to sixteen inches diameter, which required a new set of hoops and setters, additional presses and increased storage and room for curing. It is clear that we patrons receive a benefit from these outlays and improvements which we highly appreciate.

We should also give weight to the fact, which is well known, that in making on a large scale there is an advantage over small factories. In the large ones there are facilities and improvements combined so that a better and more uniform article can be produced at a cheaper rate than could be done on a smaller scale. Dairymen would, therefore, in my opinion, greatly benefit themselves by patronizing the principal factories throughout the country. These, if encouraged, can afford and will take special pains to avail themselves of experiments and improvements which will enable them to bring out the best article at the cheapest rate. The principal factories give character to the business.

Much more might be written on the subject, and I hope these few suggestions may induce others to take the matter up, and that it may be treated by an abler pen than that of an humble PATRON.

Veterinary Department.

Toronto Veterinary School.

EXAMINATION FOR DIPLOMAS.

The annual examination of students for the Diploma of the Toronto Veterinary College, took place in the Agricultural Hall, Toronto, on Thursday, March 19th. The examination was conducted very carefully and faithfully by the various gentlemen appointed to this important duty, and the manner in which the successful candidates passed through the trying ordeal, reflected great credit on their diligence and acquisitions, besides furnishing good evidence of the thorough and practical character of the instruction given in this useful institution. Each student was examined singly, before first one and then another of the examiners, and the acquisition of the Diploma is evidence that in each and all the departments of veterinary science, the candidate had acquitted himself satisfactorily, and proved himself qualified to undertake the serious responsibilities of his profession.

The examination was conducted in Anatomy, Physiology and Diseases, by — Varley, Esq., of the 13th Hussars; Lang, Esq., of the Royal Artillery; and — Hagyard, Esq., V.S., of Brampton; in Anatomy by Drs. Bovell and Rowell; and in Materia Medica by Dr. Nicholl, of Toronto.

Out of nine candidates for the Diploma, eight succeeded in attaining this distinction, namely:—Robert P. Gemmel, of Islington, H. O. F. Coleman, Toronto; Jas. H. Wilson, London; J. H. Sanderson, Richmond Hill; S. M. Wells, King; William Cowan Cloghmoor, Galt; John Upsall, Clinton; and G. W. Thomas, Arran.

We are glad to learn that this very important institution is steadily progressing. The number of students who have attended the classes during the past session exceeds that of any previous year since the establishment of the school. They come from all parts of the Province, and their future spheres of practice will doubtless be equally wide. The following are the names of the students, in addition to those already mentioned, as having completed their course and obtained their license to practice:—William Stubbs, Charleston; John McDonald Zorra; John Everley, St. Thomas; John Richardson, Ailsa Craig; Thomas Baker, Galt; Robert Hales, Markham; D. G. Sutherland, Staines; Thomas Hope, Ayr; C. H. Sweetapple and Adam Hunter, Toronto; John Fishburn, Stouffville; Donald Mackintosh, Elora; S. Hawkins Oxford; and John Douglas, Durham.

The school affords ample opportunities for the acquisition of a thorough knowledge of the Veterinary profession, the students having access to the agricultural and other classes at the University, besides attending the instructions of the regular teachers; Mr. A. Smith conducting the principal studies of Anatomy, and Veterinary Surgery and Medicine, while the department of the Rearing and breeding of animals is taught by Professor Buckland; Physiology by Dr. Bovell, and Materia Medica by Dr. Thorburn.

In the evening the annual dinner of the College was held at Mr. Thomas's English Chop House, King street. Mr. R. D. Denison, Treasurer of the Agricultural Association, occupied the chair. The Vice-chairs were ably occupied by Professor Smith, of the College, Professor Buckland and Dr. Thorburn, while among those present besides the graduates and undergraduates of the College, were Drs. Lizars, Richardson, Hampton, Rowell, Pollock, Captain Joice, 13th Hussars, Messrs. Kingsmill, Scott, Morris, and a number of others, the entire company numbering about fifty persons. After full justice had been done to a substantial and well prepared repast, the usual loyal toasts were proposed and received in the most enthusiastic manner.

The CHAIRMAN, in giving as a toast "The Veterinary School," adverted to the circumstances that led to the formation of the College. This was owing to the

energy of the Hon. Adam Ferguson, a gentleman who thoroughly believed that young men could be as successfully educated here as in the Edinburgh school. This led to Mr. Smith being appointed to the school, and since that time its results have been in the highest degree beneficial. There is more valuable stock in a range of three miles now than in the whole of Canada five-and twenty years ago, and thus the necessity for the Ontario Veterinary School is apparent.

Mr. SMITH responded, returning his sincere thanks for the honor done him and the institution. He then traced the formation of the College, the results of which had proved eminently successful. Some of those who had passed are now successful practitioners; but there was still a wide range. As agriculture extended so would the demand for the services of a Veterinary Surgeon. Some of the herds of Canada would now compare favorably with those of the old country; our farm horses are in demand, as is shown by the large numbers exported; and these facts proved the benefits of the school. He took the opportunity of thanking the medical men of the city for their assistance, and the various members of the Board of Agriculture who had given their encouragement and support to the institution. In concluding, he proposed "The Agricultural Association of Ontario."

Professor BUCKLAND thanked those present for the compliment they had paid the Board of which he had been a member since its organization. At the same time he referred to the progress of the school, and concluded by proposing the health of the gentlemen conducting the examination.

Dr. NICHOL responded, complimenting the pupils on the aptness displayed in their examination, followed by Mr. Lang in similar sentiments.

Entomology.

The General Structure of an Insect.

THERE is one peculiarity about insects, which they have in common with many other classes of the lower animals, and which we did not, therefore, refer to when describing what an insect is, and showing how it differs from those animals most like it. This peculiarity is, that they have no internal framework of bones, but carry their skeleton on the outside of them. We, and all the higher animals, such as horses and cows, birds and fish, frogs and snakes, have a jointed spine running through us, to which is appended the bony framework of the body, the whole being concealed from view by flesh, skin, hair, scales, etc., as the case may be. But insects are quite different. They have no bones at all,—no spinal column. How, then, are their bodies supported and kept in shape? What prevents their collapsing into a state of jelly? Take up any common insect, and you will see. Look at a beetle, for instance; feel how hard its body is; it requires some force to crush it. Now, this outside shelly covering is its skeleton,—at least it is the nearest approach to a skeleton that it has. To it are attached on the outside the legs and wings, and the other organs used in obtaining food, defence, etc.; and on the inside the muscles, while the whole forms a protection for all the delicate internal organs. The substance of which this external skeleton, as we may term it, is composed, is a horny material called *Chitine*, which is found only in animals of this kind; to this are added a few other substances, in particular a certain kind of oil of variable color, which being disposed near the surface, gives to these animals their wonderful variety of beautiful color.

The subdivision of this outer framework into a number of sections—its being notched or almost cut in two—is one of the chief characteristics of insects, as we have already stated. These different sections form a continuous series of rings or segments, as they are termed, each one being connected with the next by a sort of ball and socket joint; the motion of this joint, however, is more or less modified in different kinds of insects, and in the different parts of the same individual. Sometimes all these segments are very distinct, and can be readily distinguished from each other; this is especially the case in the caterpillar or grub state; but sometimes, as in the perfect state,

they are not so apparent, the body then being generally divided into three very marked portions, which are called the head, the thorax, and the abdomen,—of these we shall presently speak more particularly. Thus, then, the number of segments seems at first sight to vary very much; but this variation is more apparent than real; some segments being so closely connected with others that the distinction between them can hardly be detected, while others acquire so great a development that they dwarf, or almost absorb those adjacent to them.

Until recently the typical number of segments has been considered to be *thirteen*, of which the head took up one, the thorax three, and the abdomen the remaining nine. But late observation, coupled with more elaborate dissection and study, have decided upon *twenty* as the number of segments,—seven in the head, three in the thorax, and ten in the abdomen. Of the seven head segments, four are grouped in front of the mouth opening in perfect insects, and three behind. The four in front bear the organs of sight and sensation, such as the different pairs of eyes, and the antennae; while the three behind bear the palpi or feelers, and the two pairs of jaws. No single segment, however, is fully developed in the head, the foremost rings being especially reduced in size, and incomplete. Thus, in the words of Mr. Packard, "it is by the diminution in size, or the entire absence of useless parts, and the presence and increased size of the more important parts of the ring which are to support these organs during growth, that the head is shaped and acquires its finished form in the adult."

These, we fear, are but dry details, yet it is necessary to have some knowledge of them in order that we may properly understand the wonderful symmetry and adaptation of means to ends that exist in these minute creatures, and be able further to appreciate the outlines of their classification, without which our notions of them will be confused indeed.

Entomological Society of Canada; Annual Report of the London Branch for the year 1867.

THE Committee of the London Branch of the Entomological Society of Canada have much pleasure in presenting their third Annual Report.

The number of members is now sixty-one, though several losses will occur this year, owing to a change of residence, etc. There have been held during the year, one special, and ten monthly meetings; the average attendance being eight. The Committee deem it a matter of great congratulation to members that, owing to the liberality of the City Council, the Society has now permanent rooms of its own in the City Hall, with the privilege of using the Hall when required.

The oxyhydrogen apparatus, purchased during the past year, has been the means of inducing a good many members to join the Society. Four public entertainments were given by the Society during the year, and, although the result was not so satisfactory in a pecuniary point of view as had been anticipated, still your Committee feel that a great success was achieved in bringing the Society more prominently before the public, and in tending to promote some slight interest in Natural History, and our own particular portion thereof.

The Committee trust that before long they will be able to discharge the debt now due on the apparatus. A most satisfactory arrangement has been made in the payment of subscriptions to the Parent Society, and the thanks of the Branch are due, and are hereby tendered to the Parent, for so kindly acceding to their wishes.

A great aid has been given to collectors in the publication of the "List of Coleoptera" by the Parent Society.

The Committee, in conclusion, would desire to impress on members the importance of making every effort to forward the Society's interest, more especially in inducing persons to join the Society, and take some interest in its objects and designs.

All which is respectfully submitted.

JOHN M. DENTON, President.

EDMUND BAYNES REED, Sec'y.

The Apiary.

How to Make Artificial Swarms.

THERE are several methods practised in artificial swarming, and any bee-keeper who understands the nature and habits of the bee will readily perceive how to make artificial swarms. For the benefit of those who do not understand the process, we will give a method simple in its operations and certain in its results. Even a novice may practise it successfully with the use of movable comb hives. Artificial swarming should not be commenced until after drones appear, and stocks are strong, or near the time of natural swarming. Then proceed as follows: First remove from the stand the stock you wish to divide or make a swarm from, and blow in a little smoke; then look for the queen by removing each card of comb carefully. When you discover her, put the card she is on into an empty hive, with all the bees that adhere to it; now take another card from near the centre of the hive, and put that into the empty hive also, with all the bees that adhere to it. Now put two empty frames into the full hive, in place of those taken out. The combs, however, should be placed in the centre of the hive, allowing the two frames to be put on the outside next to the walls of the hive. When this is done, fill the empty hive in which you have just put the queen with frames, putting one frame between the two cards of comb; then set the hive on the stand where the old hive stood, and remove the old hive to a new stand. The result will be that the bees will leave the old hive for the field, and in returning will go to the old stand and enter the hive which has been placed there, and finding the queen, will remain, making a good swarm. The old stock from which the queen was taken will be in the same condition as if a swarm had issued naturally, except that it will not have a queen-cell as far advanced, or may not have queen-cells started; but the bees, finding that the old queen is gone, will at once commence queen-cells, and in twelve or fifteen days will have a queen. It is well, however, when dividing, if any queen-cells are observed, not to take them out on the two cards of comb that are taken away, but select such cards as have no queen-cells on them, leaving the cells in the old or parent hive. The old stock will for a few days appear quite deserted, until the young bees that are in the combs hatch out and commence to fly, when it will frequently appear stronger than the new swarm, and even cast a second and third swarm, as in natural swarming. To prevent this, it is necessary to examine, after the queen-cells are capped over, and cut out all but one, leaving the one farthest advanced; or if a swarm has been made early, some time before other stocks are ready, the queen-cells may be put into small hives with a quart of bees, and allowed to mature, and then they can be given to other stocks, when the old queen is removed.

With box hives, artificial swarming is more difficult. To practise it successfully requires considerable apiarian knowledge. The bees must be driven out, and having ascertained that the queen is with them, put them into an empty box and place them on the old stand, putting the old stock on a new stand. Care should be taken that all the bees are not driven out, as in that case the brood would perish for the want of heat. Then, too, the old stock may cast a second swarm, because it is impossible to remove the queen-cells. It is better for all who intend to practise artificial swarming to inform themselves of the nature and habits of the bee. If they do this all difficulties will disappear.

Several communications have reached us making enquiries regarding the best method of effecting artificial swarms, and also the method of proceeding in order to introduce Italian Queens. The above will be accepted as a reply to the communications on the first head; and with regard to the last, our readers are referred to the apiary department of the CANADA FARMER, of March 22nd of the present year.



The Divining Rod at Fault.

To the Editor of THE CANADA FARMER:

SIR,—Having observed in a January number of your very valuable journal an account of the use of the "divining rod," accompanied with an enquiry in reference to the same, I thought it might be interesting to some of your numerous readers to state some facts in regard to the use of this rod in Nova Scotia, and the ultimate result. Many years ago, when the writer was quite a lad, it became evident that the log hut, in which the old gentleman and his spouse had spent many happy years of bush life, had grown too small for longer occupation. The sturdy pioneer accordingly began judiciously to scan his large estate with a view to fix upon a suitable site upon which to erect his castle. There were a number of lovely raises of ground, which would answer very well, but one was especially beautiful—so much so, that the little ones thought it the best adapted for the future dwelling to stand upon. Consonant with his usual forethought, the hale sire began to enquire about water. And while the shrewdest neighbors were consulted, and their views attentively listened to, there happened to come along one of those mediums, under the name of a tin pedler, of whom there were not a few in those days, in whose hand the "divining rod" would act to perfection, never erring, but leading with the greatest possible precision and accuracy to the desired treasure (for certainly good water is an invaluable treasure). Accordingly the "prong" was secured, and in good faith the aged pioneer accompanied the pedler across his fields, tracing large veins in various directions, one of which ran exactly through the proper spot, provided one of the chief, but not the choice site, were fixed upon. Here a stake was carefully planted: then, the search was prosecuted, and the choice site carefully examined and re-examined. The pedler pronounced it a most lovely one, but destitute of the one thing needful. With great reluctance the spot was abandoned as unsuitable, and the choice fell upon the one where the stake had been previously planted. The castle was erected, and the writer put down the well, and sure enough there was plenty of good water. A few years later I put down another where the rod indicated a good supply, and there also found an abundance of the desired liquid. But in the process of time it became expedient to erect a second dwelling. I at once chose the site pronounced by the pedler, with his "rod" in his hand, "desert," and as in my opinion a good convenient farm kitchen requires the well inside, I made preparations last fall for sinking the well to suit the building, when lo! to my great surprise and discouragement, I was informed that, by the indications of the so-called "divining rod," there was no water there. Not content, however, to be so frustrated in my calculations, I began the well, and having perforated the crust so common in this neighborhood, and reached the proper depth, there were flattering indications of water. Thus encouraged, I proceeded, and notwithstanding the extreme dryness of the season, I obtained an abundance of excellent water, running over a bed of gravel, as large as goose eggs—the other two wells having yielded gravel only about the size of pigeon's eggs. By the unusual settling of the hard crust above the quicksand, I am soundly convinced that not far from the well there is a flowing subterranean rill, with which, had I struck it, I could (despite the drought) have done nothing in the shape of a well. I have now a well promising to be, perhaps, as good as any on the road between Windsor and Toronto, "the divining rod" to the contrary notwithstanding.

E. J. YORK.

Wardville, March 22nd, 1868.

Another correspondent, Mr. George Doidge, writes on the same subject as follows:

Having in every article which has appeared in your columns concerning the Divining Rod, allowed me here to make a remark or two respecting the

communication from your Lakesfield correspondent. I think your correspondent goes a little too far when he says that Dr. Hutton published a recantation. From reading what the Doctor says about it, I am led to the conclusion that, if he had been a thorough believer in its power, he would have set to work and endeavoured to prove, to a mathematical demonstration, the truth of what its advocates say about it. Why does not your Lakesfield correspondent sit down and reduce his theory to an absolute certainty? He surely can invent some instrument by which he can measure the rotations of the rod, and then, by actual experiment, prove at what depth water can really be found. The whole thing seems ridiculous when parties attempt to explain it on the principles of electricity. So far as anything I ever heard or read, there is little or no attraction between any kind of wood and water, especially when separated by a thick mass of earth or rock. Let the believers in its power try it over the mouth of a well when there is a plentiful supply of water, or over the side of a vessel at sea, and see whether its motions are more violent than when tried otherwise. As regards its use in Cornwall and other parts of the old country, allow me to say, there was a time when parties did believe in its virtues far more than at present, as is evidenced in the number of places where they have sought in vain. In my school-boy days I have wandered over scores of places where parties, trusting to its directions, have sought in vain for that which they most ardently wished for.

And here in Canada parties are no less disappointed very frequently who attempt to follow its dictates. I could take you, Sir, to places in this Township where parties have dug to the depth of seventy feet, who were directed to the particular spot, they say, by its motions, and then did not find water.

On the farm on which I now live, some thirty years ago, the then owner wished to dig a well, and fearing it would be a rather expensive affair if dug where it would be convenient to the house, consulted a celebrated Medium, who decided that in order to get water at all they would have to go to a considerable distance from the house; as a consequence, parties have had to fetch the water several rods from the house ever since. Repeated experiments made since that time leave no doubt whatever that water is found at a uniform depth, and plenty of it, all over the village, notwithstanding the prediction of certain parties to the contrary. Lord Bacon once said that the Englishman's nature prompted him to require a reason for everything; and until I am convinced that the motions of the Divining Rod can be turned to some practical account, I see no reason why I should not dig for water (as I have done three different times) where it will best suit my purposes, advising those who are contemplating the digging of a well to do likewise.

Wild Lands. Farmers' Clubs.

To the Editor of THE CANADA FARMER:

SIR,—I should be very glad if you could inform me how far north the public lands of Ontario and Quebec (fit for cultivation, especially for wheat growing) reach, and what is their extent, not including Red River Settlement; also if the land lying on the northern and western shores of Lake Superior is fit for wheat growing, as this is a subject on which I have been unable to get any information from any source whatever. I have just been reading an extract from Mr. George Laidlaw's pamphlet on narrow gauge railways, in which he speaks of "illimitable forests of magnificent timber, a vast mineral region of ascertained wealth, and a boundless extent of rich fertile soil, equal if not superior, two hundred miles north of Lake Nipissing, to that which fills the granaries of the Baltic with the choicest cereals." Now, he cannot surely mean two hundred miles direct north of Lake Nipissing: for in that case he would cross the water-shed lying between Hudson Bay and the Canadian lakes; and although that may be a country of "illimitable forests," and even of great mineral wealth, it would be a country in which I should suppose no one would like to live; and if he

means the Valley of the Saskatchewan, that is a country I have always supposed to consist of nothing but prairies.

I would ask you another question, a little nearer home. Would you please to give us (us, for there are others besides myself) your opinion of Farmers' Clubs, their utility and desirability, in as lengthy and elaborate an article as your columns will permit. I intend to establish a club in this section as soon as possible; but as I know little about their rules and regulations, I will abide by your opinion on the subject.

BRUCE.

Langside, March 2, 1868.

ANS.—Our correspondent should apply to the Crown Lands Department for information as to the extent and whereabouts of the public domain that is yet for sale. Wheat requires, for at least two months in the year, a mean temperature of 65°, in order to its successful culture. This temperature is not attained on the Atlantic coast of Nova Scotia, but it is almost throughout the interior of New Brunswick; and as the isothermal lines tend northward toward the interior of the continent, we should imagine wheat might be grown as far north as Fort William, but we have no facts at hand to verify this opinion. We doubt if wheat can be raised more than one hundred miles north of Lake Nipissing. It is a mistake to suppose that the Saskatchewan Valley is one vast prairie. There are stretches of timber land interspersing the prairie.

The subject of Farmers' Clubs must be deferred to another issue.

Buckthorn for Hedges.

To the Editor of THE CANADA FARMER:

SIR,—Seeing from time to time, in your publication, notices of various methods of raising a hedge for the purpose of supplying an expected deficiency in fence material, I would draw special attention to one which, so far as I know, has been overlooked, that is what is called the buckthorn here. It very much resembles the hawthorn in blossom, and haw or berry, but the berry is a great deal larger. It is indigenous in this neighborhood, not easily killed, and from what I have seen of it, I have no hesitation in saying that it would answer the purpose admirably; and if cared for and attended to with the hedge bill, no pigs will ever attempt going through it, nor cattle either, as it has very long prickles.

There are quantities of berries here every fall; but I do not understand the raising of quicks; some of the nurserymen, however, in the country, might find it to their advantage to commence operations in that line, or let it be known how the thing can be done.

I am going to begin, this spring, to transplant some of the youngest that I can find, for a garden fence; they are very plentiful all over the fields here, and very troublesome also.

Dunville.

T. HUMBURGAN.

NOTE BY ED. C. F.—The buckthorn has been found to answer perhaps as well as any other shrub for a hedge plant, in this section of the Province.

COST OF BOILER.—A subscriber from Lanark wishes to know the "cost of a four horse-power boiler, to build into stone-work." A boiler, such as we presume is referred to, would cost, we understand, about \$100; but we recommend our correspondent to apply to some manufacturer for full and specific information. Mr. Neil Currie, Boiler-maker, of this city, would no doubt answer his enquiries in this matter.

CANADIAN HERD BOOK.—W. C. Smith writes, "Please let me know, through the columns of the CANADA FARMER, if the Canadian Herd book has ever been published, and the price."

ANS.—The Canadian Herd Book is now ready, and may be had on application to H. C. Thomson, Esq., Secretary to the Provincial Association, Agricultural Hall, Toronto. The price is \$4.

TAXIDERM.—A subscriber asks:—"Would you, through the medium of your valuable columns, inform me what is the best work on taxidermy?"

ANS.—Captain Thomas Brown's work on this subject is a good one. The price is about seventy-five cents. Samson's also (price one dollar), is perhaps equally good. They may be procured through the principal booksellers in any of our large cities. The Messrs. Chewett, to our knowledge, can furnish them.

SHELL MARL.—A "Constant Reader" sends us a specimen of shell marl with the following note:—"Will you be good enough to examine the specimen of limestone herewith, and to say in your next issue if you think it would be valuable as an agricultural manure or dressing; also in what soils it would be most useful, and with what kind of fruit and plants? Would it make a good dressing for grape vines in light sandy soil?"

ANS.—Shell marl consists principally of carbonate of lime, with slight traces of phosphate. It is of some utility as a fertilizer, especially on stiff clay soils. See CANADA FARMER, Vol. 4, page 153.

DETERMINATION OF SEX IN BREEDING.—A correspondent wishes to know if there is any trustworthy method of influencing and controlling sex in breeding stock.

ANS.—Not that we are aware of. Several theories have been propounded, and supposed proofs of their soundness furnished, but thus far all have proved imaginary. It would often be a great advantage to the farmer and stock-breeder if he could take this matter into his own hands, but we are not as yet competent to do it. Intelligent stock men are continually experimenting and investigating on this point, and possibly at some future day perseverance may be crowned with success.

The Canada Farmer.

TORONTO, CANADA, APRIL 1, 1868.

The Agricultural Statute.

WE published in our last the new Agricultural Bill, recently passed by the Legislature of Ontario, thinking that so important a document should find a permanent record in the CANADA FARMER, for the information and convenient reference of our numerous readers. We now proceed to make some remarks, chiefly of an illustrative character, in reference to what may be termed the new and more prominent provisions of the statute.

For the last quarter of a century the Government of Canada has evinced a growing liberality in promoting, chiefly through the instrumentality of societies, the great interests of agriculture, as constituting the basis of our wealth and prosperity. No one practically acquainted with the history of Canadian agriculture during this period, but must deeply feel that much of the progress that has been achieved can be traced to those numerous agencies which the public grant first called into existence, and afterwards, in conjunction with voluntary individual support, in many cases so efficiently sustained. The progress made in the art of agriculture, the increase and improvement in stock, the Provincial Exhibitions, from a very humble beginning to the high position which they have now for several years occupied among similar institutions both in the old world and the new, afford demonstrative evidence that their efforts have, on the whole, been signally successful. Notwithstanding, as is the case, more or less, with all human arrangements, imperfections and shortcomings were apparent to close observers; and when, under Confederation, this wealthy and prosperous Province of Ontario became invested with a separate Legislature, it was thought to be a fitting time for taking a

calm and impartial view of the past, and adopting such changes and improvements as would better meet the growing wants of the future. Accordingly, a convention of leading agriculturists and others was held in Toronto, in the beginning of winter, when most of the questions affecting this great measure were pretty fully discussed. And although the Government and Legislature did not subsequently adopt all that was carried by this convention, yet the results arrived at by that respectable body formed the basis of the new Bill, modifications and additions being made, with the view of bringing it into closer harmony with the growing wants of all the great industrial pursuits of our people. One of these modifications will, no doubt, be generally approved, namely, the retaining of the Township Societies in their former position, as regards the grant, three-fifths being apportioned to the Township, and two-fifths to the County Societies.

Among the most striking characteristics of the present statute, as compared with the past, is the enlarged basis on which it is constructed. The old statute provided for the organization of Horticultural Societies, but made no provision for granting them pecuniary aid. Agricultural Societies, it is true, from the Townships to the Provincial, have in practice, more or less, patronized horticulture and the mechanical arts; but the present law puts Horticultural Societies, organized in accordance with its provisions, in the same position as Township Agricultural Societies; and it also provides a money grant to the Fruit Growers' Association. This is undoubtedly an improvement; for we find almost everywhere, at least in all the older settled portions of the Province, a constantly increasing desire for those comforts and embellishments which horticulture, in its widest acceptance, can alone supply. The cultivation on approved principles of the best varieties of fruit adapted to the different sections of the Province, is a matter of daily increasing importance, and there is good reason to hope that this valuable object will be materially promoted by the substantial aid now first offered by the Government to the Ontario Fruit Growers' Association. When the Executive deemed it expedient to discontinue the grant to the Board of Arts and Manufactures, they wisely provided in the new Bill for the recognition of Mechanics' Institutions, and for granting them aid under certain defined conditions, to put within the reach of our artisans such books and instruction as will better enable them to understand and practise the principles on which their respective arts are founded. The Board of Arts, we believe, made a wise and economical use of their small annual grant, in diffusing, particularly through its monthly journal, valuable information to the mechanical and manufacturing classes, and we trust that under the new regulations those important interests will be still further fostered and promoted.

It is possible that some of our readers may grudge this extension of aid, and argue that, however desirable it may be to encourage horticulture, arts and manufactures, yet if the Bill does this at the expense of agriculture, the origin and basis of our wealth, the result, instead of being beneficial, will be most disastrous. Happily there is no ground for doubt and suspicion on this head; the Government, unanimously sustained by the Legislature, evinced an enlightened and discriminating liberality in constructing and carrying the measure. At, and subsequent to the convention, it was assumed that the accustomed amount of the public grant would not be increased, and a serious practical difficulty was felt—when it was considered that under the Act of Confederation seventeen new Electoral Divisions had been made in Ontario. After due deliberation, the Government decided to include the additional Electoral Divisions, fixing \$700 as the maximum to each society; an amount to most of the societies quite equal to that they received under the old statute. Heretofore a

discount of ten per cent. from all grants has been made for the Provincial Association, a practice that will for the future be discontinued; \$10,000 having been granted the Council of the Association for that and other purposes.

For a few years past, more or less dissatisfaction has been evinced in some quarters in reference to the Board of Agriculture, not charging that body with any particular dereliction of duty so much as taking exception to the mode in which its members were elected, and desiring a broader and more popular basis. Accordingly, in January, 1869, an entirely new body will be chosen by the several Electoral Societies, designated by the statute, "The Council of the Agricultural and Arts Association," whose duties are clearly defined, the principal being the management of the Provincial Exhibitions, and the sustaining and oversight of the Veterinary School. The Province being divided into twelve districts, the Electoral Division Societies of each district will elect their own representative at the Council; which will consist, in addition to the twelve elected members, of the Commissioner of Agriculture, the Chief Superintendent of Education, the Professors of Agriculture in chartered colleges, and the Presidents of the Association of Mechanics' Institutes and the Fruit Growers' Association. Thus it will be seen that in this Council the leading industries of the country will be represented; and we trust that when this new body meet next February, its members will give an earnest and practical tone to their proceedings.

We can only very briefly refer to that portion of the Act which establishes the Bureau of Agriculture. Hitherto that department, when the two Canadas were united, was but of little practical account. There are now, however, good reasons for hoping that matters in this respect, so far, at least, as Ontario is concerned, will improve. The Commissioner has already made a good beginning, and, we are told, means to give his department a working, practical character. All the Societies receiving aid under the Act, will report to, and receive their grants directly from, the Bureau. These reports, it is intended, shall be carefully collected, and abstracts made and published in the Commissioner's Report, to be annually presented to Parliament. The public will thus have ample opportunity of seeing how the money granted to the various societies is spent; and this periodical publicity will, we trust, operate as an incentive among the societies not only to economical management, but also to the embodying in their reports much valuable material for publication. Considering the extent of the agricultural and other resources of Ontario, the number of societies whose industries are stimulated by a liberal public grant, the people have clearly a right to expect from the responsible authorities an annual report of what has been done, that will compare favorably with similar publications in other countries. The circulation of a document of this character among different societies, both at home and abroad, would, in several ways, be highly conducive to the interests of this Province.

We learn with much satisfaction that Mr. Carling is already making arrangements for the commencement of an Industrial Museum, which will comprise the various productions of our soil and workshops. Such a collection will be highly interesting, and, in several ways, of practical utility. It will assist strangers and intending settlers visiting Toronto in forming their opinions of the industrial state and capabilities of the Province, and by procuring characteristic specimens of implements and machines from abroad, our artisans will obtain many valuable hints which they can turn to a good practical account. There are, we understand, some large unoccupied rooms in the Parliament Buildings, in which this intended Museum is to be located, in connection with a select technical library of reference; several hundred volumes, procured by the late Board of Arts, are already to be found on the shelves. Access to the public will, of course, be free. With the active co-operation of the various societies organized under the statute, the Commissioner will be enabled to do in this way a vast amount of good at a comparatively trifling expense.

We have heard it intimated that the Department is about making arrangements for the importation of seed grain of different varieties, in the first place in small quantities, for trial purposes, as preliminary to subsequent operations on a larger scale, as soon as reliable data can be obtained. If this is done with care and judgment, very valuable results may be confidently anticipated. We would suggest to the Commissioner, in carrying out this object, the great desirableness of enlisting in the service of testing the suitability of imported grain to our soils and climate, a few of the best practical farmers in all sections of the Province.

We will only add, for the further information of our readers, that the new Statute has come into operation; but that all societies previously existing are unaffected by it as regards their continuance; but in new Electoral Divisions, and in Counties sub-divided for electoral purposes, new organizations must take place, in accordance with the requirements of the Act. This can be done any time before the first of May, and the representative of the division is the proper party provided by the Act, to call a public meeting for such purpose.

The New Post Office Regulations.

With the date of our present issue a new postal law comes into force. Under its provisions, ordinary letter postage between any two places in the Dominion of Canada is reduced to three cents, if prepaid, or five cents if posted unpaid. United States letters will be six cents if prepaid, and ten cents if posted unpaid. Letters to Britain by Canadian packets will continue to be twelve and a half cents, but by New York packets fifteen cents, instead of seventeen cents as heretofore. Weekly newspapers, five cents per quarter, and dailies thirty cents per quarter, if paid in advance either by the publisher or subscriber. When not paid in advance, the papers are to be charged one cent each on delivery. Exchange papers, mailed by publishers to each other, are to be free, whether within the Dominion, or between it and the United States. Newspapers between Canada and the United Kingdom, will be free of postage; printed papers, circulars, prices current, handbills, books-pamphlets, one cent per ounce, to be prepaid by postage stamps. Periodicals, one cent per four ounces, except when weighing less than one ounce, when they will pass singly for one half cent per number, payable by postage stamp.

Two clauses of the new Act being of special interest to the readers of this journal, we quote them entire. "As the postage rates on periodicals, other than newspapers, will be payable in advance, and as certain classes of such periodicals, printed and published in Canada, and sent from the office of publication to regular subscribers, have for some time past been exempted from postage, when exclusively devoted to the education of youth, to temperance, agriculture, and science, or for other reasons, it is ordered, that with respect to periodicals which do now enjoy this privilege of exemption, the exemption shall continue until the expiration of the current year,—that is, until the 31st December, 1868, and that from the 1st January, 1869, all such special exemptions and privileges shall cease."

"On book and newspaper manuscript (meaning written articles intended for insertion in a newspaper or periodical, and addressed to the editor or publisher thereof, for insertion), printers' proof-sheets (whether corrected or not), maps, prints, drawings, engravings, music, (whether printed or written), packages of seeds, cuttings, roots, scions or grafts, and botanical specimens, the rate will be one cent, per ounce, when posted for any place in Canada, or the United States, and prepaid by postage stamp."

From the above it will be seen that, from and after the 1st January next, this paper will be liable to postage, at the rate of half a cent for each number or twelve cents per annum; also that the question respecting newspaper manuscript, which was left debatable under the former law, is now settled in favor of the cheap transmission of printers' copy and proofs. Such mail matter will be charged at the rate of one cent per ounce, prepaid by stamp. Seeds,

cuttings, roots, scions and grafts, also come under this regulation, and may be sent to any place in Canada or the United States, at one cent per ounce, prepaid.

To render prepayments convenient at the foregoing rates, a new set of postage stamps has been prepared, of the following denominations: half cent, one cent, two cents, three cents, six cents, twelve and a half cents, and fifteen cents: all bearing as a device the effigy of Her Majesty.

A system of Post Office Savings Bank will be at once instituted, and extended as quickly as possible throughout all parts of the Dominion.

The new law, of which the chief provisions are summarized in the foregoing paragraphs, though not all that could be wished, is an improvement on former legislation in regard to this subject, and marks an era of national progress. We could have wished that letter postage had been put down another cent—it would then have been about the British rate. We also think all newspapers ought to be free. The newspaper is a great educator of the people, and its free transmission would tend to promote public prosperity by enlightening the minds and sharpening the wits of the population. We hail the liberal features of the new order of things, and hope for yet further reform in time to come.

ARTIFICIAL FERTILIZERS.—Messrs. J. Fleming and Co., of this city, have for sale Parker's Superphosphate of Lime, a very valuable manure, and a superior quality of Bone Dust. For particulars, see their advertisement in our present issue.

NURSERY STOCK.—Messrs. George Leslie & Son, advertise a large supply of Trees, Plants, and Flowers, for spring planting. We can confidently recommend them and their stock to intending purchasers in their line.

Literary Notices.

PROCEEDINGS AND TRANSACTIONS OF THE NOVA SCOTIA INSTITUTE OF NATURAL SCIENCE.—We have received the first part of the second volume of this publication, which contains the proceedings and transactions of the Institute for the first six months of the year 1867. The proceedings consist of brief records of the Society's monthly meetings, which were of a very interesting character. The remainder, and indeed the bulk of the volume, under the head of "Transactions," contains the various papers read before the Society at these meetings. These papers are able and valuable productions, deserving publication, and well repaying perusal by all persons interested in natural science and kindred departments of study. The following are the subjects comprised in this collection:—The Mammalia of Nova Scotia, (a portion only of a series); The Beaver in Nova Scotia; The Minerals prepared for the Paris Exhibition; The Tides of the Bay of Fundy; On Trichina Spiralls; A Fortnight in the Backwoods of Shelburne and Weymouth; Notes on the Weather in Halifax; The Fishing Grounds and Fish of St. Margaret's Bay; The Geology of Gay's River Gold Fields; The coal trade of the New Dominion; The Pictou Coal Field; The Food Fishes of Nova Scotia; The Geological Features of the Londonderry Iron Mines. The above are interesting papers, the two on Coal by R. G. Haliburton, especially so, which, however, we should have read with greater pleasure, if they had lacked certain evidences of annexation proclivities, which come with ill grace from either British subject or citizen of the Dominion of Canada. The compilation is a welcome addition to the literature of the country. The price of the volume is three shillings and six pence. It can be procured from the Secretary of the Institute, William Gossip, Esq., Granville Street, Halifax, N. S.

THE COTTAGE FLORIST.—Under this title Mr. James Bain, of Toronto, has published a small but useful compendium of Canadian Floriculture, which will be found an excellent help and guide to the amateur in the cultivation of flowering plants. This little work is especially adapted for beginners in the pleasing and healthful pursuit of horticulture. It briefly treats of the general arrangement and management of the flower garden, followed by simple directions for the cultivation of shrubs, perennials, annuals, bulbs, &c., and concludes with a concise calendar of monthly operations for the year. The price is twenty cents.

Agricultural Intelligence.

Esqueuing Farmers' Club.

A MEETING of the members of this Club was held in Georgetown March 6th, and, considering the very unfavourable state of the weather, was well attended. Mr Wm. Clay, of Norval, occupied the chair. The meeting was called principally to hear Professor Buckland deliver an address on the means of improving Canadian agriculture. Mr. B. commenced by stating the great interest he felt in societies like the present, and that he had urgently recommended the members of agricultural societies in all parts of the country to meet occasionally, especially in winter, for comparing the results of experience, and discussing subjects, both practical and scientific, bearing on the advancement of the agricultural art. He then adverted to the new statute, explaining such provisions as required the immediate attention of farmers, horticulturists and mechanics, and pointed out the manner in which the various industries of the Province may be promoted by this Act. The chief thing required to render it a powerful instrument of good was the hearty co-operation of the people. The Government and Legislature had evinced an enlightened liberality in preparing and passing this important measure, and he knew that the Commissioner of Agriculture was earnestly desirous to make his department as efficient as possible in carrying out the great objects of the Bill. The speaker then adverted to several topics, of which he was in the habit of treating at meetings of this character: such as the composition and management of the different soils; how to prevent their deterioration and improve their productive power; better cultivation; the economising of manure; rotation of crops, as far as practicable; more attention to correct principles of breeding; the keeping of more stock of improved kinds, and generally the cultivating of less land but more thoroughly,—contending that, under such management, a larger amount of grain would be produced and a greater number of cattle and sheep sustained. After the address a very agreeable hour was spent in asking and answering questions. Many useful observations and suggestions were offered in reference to matters brought forward in the address by the chairman, and Messrs. Murray, Stewart, Fraser, and Bessey. Hop culture also claimed some attention. There are seventy acres of hops in full bearing in this immediate neighbourhood, and thirty more will be added the present year. Lime, it was contended, acted most beneficially on stale, heavy lands, and the practice of ploughing under clover, as a manure, was much commended. The Club, which has been in operation about two years, has published several valuable papers read before it on the breeding and management of horses, cattle and sheep, in the local press, and is evidently doing a good work. A cordial vote of thanks was given to Professor Buckland, who remarked, in responding, that the department with which he was now connected would study to do whatever is practicable in advancing the great interests with which it was entrusted. He might mention that the importation and testing of new and improved varieties of seeds would receive early attention; and he trusted that farmers, mechanics, and manufacturers in all parts of the Province would cheerfully contribute specimens of their various productions to the industrial museum, which it was intended to establish in the Parliament Buildings.

Liberal Wheat Prizes.

We clip the following from the March number of the *American Agriculturist*. The generous offer made by the proprietor of that journal, while worthy of all commendation as a display of public spirit, will doubtless prove a good stroke of business policy, increasing his already mammoth subscription list. As the competition is open to both Canada and the United States, we hope some of our readers may "go in and win!"

"\$300 WHEAT PRIZES.—INTERESTING TO WHEAT GROWERS IN THE UNITED STATES AND CANADA.—At the suggestion of wheat growers in Western New York, who desired to have special attention called to this subject at the annual meeting of the N. Y. State Agricultural Society, Feb. 12th, Mr. Judd, of the *American Agriculturist*, brought the matter before the Executive Committee, and placed \$300 at their disposal for prizes. The committee accepted the offer with a vote of thanks, and they will announce the prizes for the next annual fair, probably in the form below, with perhaps slight variations that may be suggested while making out the official premium list. We call attention to the subject now, and give the preliminaries, that farmers may have an eye to the prizes in preparing for their spring wheat crops, and also in looking after their winter wheat now in the ground. The prizes themselves are large, but aside from these, the credit of carrying off the premium at the hands of the Empire State Society, the largest one in the country, will be worth competing for.

THE "ORANGE JUDD WHEAT PRIZES."

Open to the United States and Canada.

- Best two barrels of white winter wheat... \$100
- Best two barrels of red winter wheat..... 100
- Best two barrels of spring wheat..... 100

To be exhibited at the next annual fair of the New York State Agricultural Society (1868) under the rules and regulations of the Society. The committee of award to include at least one experienced, practical miller. Each sample to be accompanied by 100 stalks from the same field, with heads and roots complete, and also by a reliable written statement, properly verified, and confirmed by two credible witnesses, giving the name of the variety and source of the seed; the size of the field, the character of the soil and the crops and manures on the same for four years past; the depth and mode of preparing the ground, and the time and mode of sowing and harvesting; the precise method of selecting and cleaning the samples; and any other particulars that may suggest themselves to the exhibitors. The written statements to be taken into account in making the award. The written statements, and the three samples receiving the prizes, to be the property of the Society. All other samples to be sold at auction during the fair, for the benefit of the exhibitors, when desired."

Officers of Agricultural Societies for 1868.

DERBY—President, James Webster; Vice-President, Edward Tate; Secretary and Treasurer, Donald Fleming. Directors—David Johnson, James Cochrane, David Hiltz, John Fleming, Lauchlin Beaton, Wm. Mundle, Adam Kaake, James R. Todd, Alex. Garvie.

BRIGHTON—President, John Chapman; Vice-President, Monroe Morden; Secretary and Treasurer, A. A. Becker. Directors—Simon Terril, A. J. Wright, Robert Macklam, W. Brooks, C. B. Kemp, Andrew Piestren, R. J. Morrow, Anthony Terril and John Bowles.

HOPE BRANCH—President, Wm. Inch; Vice-President, A. T. H. Williams, M.P.P.; Secretary, J. H. Delamere. Treasurer, R. Dickson, Esq. Directors—M. Bragg, J. Foott, G. B. Salter, S. Caldwell, Jr., H. Adams, W. Douglass, Jas. Elliot, Sr., W. Moon, J. McMurtry, Sr.

KITLEY AND ELSLEY—President, John Ballantyne; Vice-President, Henry Arnold; Treasurer, Reuben Giles; Secretary, Simon Chalmers. Directors—Sanders Frayn, Wm. Robinson, J. B. Andrews, George Rutherford, Francis Ballantyne, John A. Whitson, Walter Hyslop, Sr., John Marshall, and Robert Hunter.

GALT MARCH CATTLE FAIR. The regular monthly cattle fair for the town of Galt was held on Wednesday, March 11, and was in every respect a most splendid success. From an early hour in the morning drove after drove of cattle entered the town, and proceeded to the fair grounds, and in many cases were no sooner there than they were bought by the crowd of buyers who were present. It was estimated that between 400 and 500 head were on the grounds, and most of them splendid animals, fit for the shambles at any time. We heard many drovers and others state that the fair had never been equalled by any in the Province. The great wonder among the immense crowd of people present, was where all the stock came from, but their amazement came to an end when they recollected that Galt is surrounded by such first class stock-raising townships as Dumfries, Beverly, Waterloo, Grant, Blenheim, Wilmot, and others equally good; but still nobody expected such a turn-out. Two of the finest droves on the ground were owned by Mr. Crombie, of Galt, and Mr. Deans, of Paris, and were sold at high rates. Prices ranged higher than they did at last fair, and consequently sales were quickly made, and by twelve

o'clock over 300 head had changed hands, which, at a low average of \$40 per head, would place over \$12,000 in the hands of our farmers—a nice little sum! Besides the heeces on the ground, sheep were pretty numerous, one buyer, Mr. Shiells, having bought over fifty, at an average of about \$1.50 a head. Mr. McKillop, of Hamilton, bought sixty head for the Ontario Packing House, and the others went chiefly to Toronto, Montreal, and New York. Such a rush of stock not being expected, the yards for holding cattle in town were found to be too small, and the drovers had a good deal of bother before shipping. We hope to see this remedied before next fair, and also weigh scales erected near the grounds.—*Galt Reporter.*

Forms Prescribed by the New Agricultural Bill.

That our readers may be furnished with the entire Agricultural Bill, the body of which we published in our last issue, we now add the remaining schedules appended to the Act.

SCHEDULE B.

We, whose names are subscribed hereto, agree to form ourselves into a Society, under the provisions of the "Act respecting the Bureau of Agriculture and Agricultural Societies," to be called the (County Electoral Division, or Township, as the case may be) Agricultural (or Horticultural) Society of the County (or Electoral Division of _____); and we hereby severally agree to pay to the Treasurer, yearly, while we continue members of the Society (any member being at liberty to retire therefrom upon giving notice in writing to the Secretary, at any time before the annual meeting, of his wish so to do) the sums opposite our respective names; and we further agree to conform to the Rules and By-laws of the said Society.

NAMES	\$	Cts.

SCHEDULE C.

COUNTY OF _____
TO WIT: }
I, A. B., of the (Township) of _____, Treasurer of the County Agricultural Society of _____, do hereby make oath and say that the sum of _____ has been reported to me by the Treasurers of the Township Agricultural Societies of the said County, under oath, as provided for in section forty-eight of the Act relating thereto, as and for the members' subscriptions for this year; and that the sum of _____ has been paid into my hands, as subscriptions for this year, by members of the said County Society; and that the said sums amount in the whole to the sum of _____; and that the amounts received as subscriptions to the County Society now remain in my hands, or have already been disposed of according to law.
Sworn before me, this _____ day of _____, A. D. 186 _____, A. B.

C. D. }
Justice of the Peace for the County of _____
SCHEDULE D.

COUNTY OF _____
TO WIT: }
I, A. B., of _____, Secretary of the Mechanics' Institute, make oath and say that the sum of _____ has been contributed or appropriated for the special object of Evening Class Instruction in said Institute, (or for the purchase of technical works for its Library, for the current year, as provided for, and on the conditions named in section twenty-five of the Act relating thereto).
Sworn before me this _____ day of _____, A. D. 186 _____, A. B.

C. D. }
Justice of the Peace for the County of _____
SCHEDULE E.

COUNTY OF _____
TO WIT: }
I, A. B., of the Township of _____, Treasurer of the Agricultural Society for the Township of _____, do hereby make oath and say that the sum of _____ has been paid into my hands as and for the members' subscriptions for this year, in accordance with the list herewith returned to the Treasurer of the County Society; and that the said sum now is in my hands, or has already been disposed of according to law.
Sworn before me this _____ day of _____, A. D. 186 _____, A. B.

C. D. }
Justice of the Peace for the County of _____

Canadian Natural History.

The Chickadee.

(Parus atricapillus)

THE Black-capped Titmouse, or Chickadee, is one of the common and resident birds of the colder portions of this continent, being found as far north as the country about Hudson's Bay. That it is truly a native bird may be inferred from one of its synonyms, the Canadian Titmouse, but it is perhaps nowhere more abundant than in the neighboring State of New York. This lively little bird belongs to the order of PERCHERS (*Insectores*), the true bird type, and to the sub-order *Dentirostres*, tooth-billed, distinguished by a more or less distinct notch in the upper mandible. It is a member of the very extensive family of warblers, *Silviidae*. All the species of the group or sub-family (*Parinae*) to which it more immediately belongs are remarkable for their short, stout little bills, compact bodies, slender but strong legs and claws, and quick and lively movements. They are insect eaters, and as such emphatically the farmer's friend.

The length of this bird is about five inches and a half. The upper part of the head and neck, as well as the throat, are black. These two black patches are separated by a triangular white space. The general colour of the upper part of the body is lead or ash colour, tinged with brown. The wing feathers are edged with white. The accompanying illustration very faithfully represents the form and general appearance of this sprightly little bird. Its note can scarcely be dignified with the name of song, but is more fittingly designated as a lively twitter. Its nest is built in holes of trees, either the deserted habitations of the squirrel or woodpecker, or perhaps most frequently, strange though it may seem when we regard their tiny bills, apparently so unfitted for the task, hollowed out with wonderful perseverance and industry by themselves. The female lays six or more white eggs, marked with minute specks of red. The task of constructing the nest is commenced about the middle of April. The first brood of young make their appearance about the end of June, followed usually by another about the end of July, the whole family subsequently spending the winter together in amicable fraternity.

The following account of this bird is taken from the *American Naturalist*, a monthly periodical which we have very great pleasure in thus again bringing before the notice of our readers:

"The Chickadee is a common resident, familiar alike in the woods and the dwellings of man. He fears not the storms of winter, nor the heats of summer. Cautious yet bold, cunning though seemingly simple, he averts all suspicion of the whereabouts of his nesting-place, and when discovered, scolds the intruder. Ever on the alert, the hawk cannot make him his prey, nor the smooth-gliding snake surprise him in his nest. In times of incubation, whenever danger approaches, the male, before unseen, sallies forth and instantly appears before the intruder; hopping from branch to branch, keeping but a short distance from him, and remaining silent until he fears their retreat may be discovered; then he sounds the alarm. At the noise, the female peeps out of her abode, and quickly dodges back to wait the issue. If their nesting-place is not seen, or the male has artfully drawn the person away, the pleasing notes, *Phoe-be. Phoe-be*, are heard; but if the nest is disturbed,

and the female routed, they are clamorous in reiterating the notes, *Pe-dee-dee-dee*. If their nest is destroyed, they linger about a day or two, then go in quest of another suitable place to build again, such as a rotten stump or decayed upright limb of a tree or post, which is easily perforated, and dig a hole in it to the depth of six to nine inches, with a diameter usually of two and a quarter inches.

"They are often many days in preparing their tenement. Their labors are commenced in the morning of each day, both male and female working, and they work until about the middle of the forenoon, when they stop, and are seldom seen about the premises until the next morning. It seems as though the task before them would depress their spirits and discourage them in their undertaking, but energy and perseverance will accomplish much; bit by bit of rotten wood is taken out of the hole, and carried by each bird ten or fifteen feet from the tree, and dropped on the ground. There is no delay in their work except what arises from the difficulty of detaching the particles of wood from the sides or bottom of the cavity; for each bird, after dropping its light load, flies back to near the entrance, and waits for the other to ap-



pear, when it enters the branch instantly. When the hollow is finished the bottom is concave, as usual in birds' nests.

"There is usually in the vicinity of the nest a hollow tree, or cavity made on purpose for the male to roost in during the time of breeding; such retreats are also occupied by them in severe stormy weather in winter, in which they sometimes remain three or four days in succession. They make their nests of different materials; sometimes it is entirely of cow's hair, at others entirely of wool; usually it is composed of various materials, such as those named, together with fine grass, the fine dried roots of the willow, etc., and lined with some soft material. Its inside diameter is one and three-fourths, its depth one and one-fourth, inches. The eggs, which are commonly eight in number, measure in length nine-sixteenths of an inch, and in breadth eight-sixteenths of an inch. They are marked with reddish-brown specks over the entire egg, more thickly at the larger end; sometimes, however, the spots are thicker on the smaller end of some of the eggs of the same brood. They raise two broods in a season. The Chickadee, when compelled from necessity to take up its abode in a cavity not made by himself, selects one with an

entrance not much larger than his body, so that he is not so liable to become the prey of the Mottled Owl, as are the Golden-winged Woodpeckers, and Blue-birds. There are no species of birds that suffer so much from the depredations of the owl as the Golden-winged Woodpeckers. The deadliest foe to the Chickadee is the Great American Shrike, or Butcher-bird. Seated upon some prominent object, the Shrike watches the movement of the little troop as they are busily engaged seeking their food in a variety of positions, unconscious of the sure death that awaits one of their number. While listening to the squeaking notes of the Brown Creeper, which usually attends them, or the shrill clarion voice of the Downy-Woodpecker, you hear a noise like a falling stone through the branches of the tree; it is the Shrike: he has struck his victim, and if he does not devour it upon the spot, it is hung on the crotch of a limb to serve as a meal at some future time."

Re-introduction of the Beaver into Europe.

THE investigations of naturalists are not only interesting, but may often be turned to most important practical account. We have an illustration of this in a proposal to sow the immense marshes which occupy a large portion of the middle (and north of Europe with water rice from the United States, and to stock them with American beaver, which has been recently laid before the Imperial Society of Acclimatization by M. le Docteur Sacc. The beaver was formerly a native of Britain, and widely diffused over Europe. Now, however, it is to be found only along some of the larger European rivers, the Rhone, the Danube, the Weser, and the Nuthe, near its confluence with the Elbe. It is believed that the re-introduction of the beaver into places formerly inhabited by it would be comparatively inexpensive, and would soon yield a large revenue from the fur that would thus be furnished as articles of commerce. The fact of this animal having become extinct in regions where once it was numerous, ought to be a lesson to governments having control of countries peopled by fur-bearing animals, and impel them to take steps for the preservation of such animals. The rigorous enforcement of laws against killing such creatures out of season is an imperative duty, and were it faithfully performed, there is no reason

why, in a country like ours, we should not have a constant supply not only of fur-bearing animals, but also of game and fish in their season.

A BUTTERFLY IN WINTER.—A correspondent sent us, in January, a notice of a strange visitor. He says:—"This was no other than one of the largest species of butterfly I have ever seen. I had noticed and showed the cocoon to one of my little boys one day last fall, whilst walking in the garden. Some time after he brought it into the kitchen. The captive broke through his silken prison on Thursday last, and was so pleased with his advent that he paid us the visit referred to. He is alive now, and flourishing amongst the house plants. Is not this remarkable, to see a most beautiful butterfly in mid-winter?"

The warmth of the winter quarters was, no doubt, the explanation of the premature advent of this summer insect. Under ordinary circumstances the chrysalis would have remained dormant till the return of a more genial season. It was no doubt a specimen of the large and handsome Emperor moth, (*Saturnia Crepeia*), which usually appears about the 1st of June.



Garden and Orchard Robbing.

To the Editor of THE CANADA FARMER :

Sm,—A correspondent asks, in the second number of your present volume, for remedies to prevent garden and orchard robbing. It will require time to eradicate this evil. With most of these thieves it is more ignorant, thoughtless mischievousness than downright vice. These parties do not know the cost of raising fruits and flowers; but seeing the nice things, and having a desire for them, they think it cannot harm anybody to take some. Where there is the least fruit the thieves are the most plentiful, for the boys who cannot get fruit at home feel strongly tempted to find it elsewhere. If the garden or orchard is out of repair, as if no one cared for it, fruit-stealing is encouraged. After a house has been vacated, we see in a short time the windows all broken by thoughtless boys. If the garden or orchard is well kept and tidy, it will prevent all but the baser sort of these robbers from thieving. Another preventive to this evil is to plant fruit trees on the public roads; it would take very little trouble or expense to plant and take care of the trees for a few years. The cherry-tree would require the least care and expense for this purpose. Again, parents should teach their children the sin of fruit-stealing, that it is breaking one of God's commandments—"Thou shalt not steal,"—and that the crime is the same as stealing money or any other article. If parents would keep their children from temptation, let them plant a garden or orchard, for often enough ground is lying waste near the house to make a good one. Let them teach their children to cultivate fruits, vegetables and flowers; they would then know the cost of raising such things, and would be apt to let their neighbours' gardens alone.

I would suggest to your correspondent to post a notice forbidding trespassing on the premises; to use the milder forms of punishment first; if that does not succeed, try an unfriendly cur and various kinds of boy-traps; if still unsuccessful, try what a little legal suasion will do. I these thieves are given to steal apples, send them a basket of the nice fruit; if grapes or strawberries, send them a dish of the delicious fruit as a present; to others give a few young trees or strawberry plants, or some melon seeds; show them how to cultivate them; encourage the culture of fruit generally in your neighbourhood. If they are not greatly degenerated, this treatment will make them cease purloining from your garden or orchard. Heap coals of fire on their heads, and they will shrink from the scorching. Of course there may be a few whom nothing but the bull-dogs and different traps will stop. With some, legal punishment even may be found necessary; but use the milder forms first, and if unavailing, then those who really deserve harsher punishment will be sure to get it.

CULTIVATEUR.

Ontario.

NOTE BY ED. CANADA FARMER.—The variety and number of expedients recommended by our corres-

pondent speak volumes as to the difficulty of preventing the evil referred to. That there is much thoughtlessness about this matter there can be no doubt. The fact is, public sentiment is not right in regard to it. It is too generally viewed as a trifling offence to rob a garden or an orchard; whereas it is just as bad as to steal out of a shop or a till. Last season we were very anxious to test the quality of certain fruit borne by some young trees. Every one of them was stripped by thievish boys, not one of whom probably would have dreamed of robbing us of a dollar in money. Yet a dollar would have been a far less loss. Parental negligence is one great source of this evil; but if parents do not view garden and orchard robbing as a serious crime, it is not likely they will teach their children so to regard it. We are for all kinds of suasion in relation to this matter, and believe that if the legal suasion were more sharp and stern, it would help the moral suasion by leading people to juster views of right and wrong in regard to articles of property which are always worth more than their cash value to their owners.



A Superb Pansy.

A new seedling Pansy, of magnificent size and beautiful colour, was brought to this office the other day, by Mr. Fleming, of Toronto, who has been very successful in the culture of this handsome flower. This new specimen of his skill, however, surpasses, in size at least, anything of the kind that has hitherto been raised in this neighborhood, and probably in the Province. Our artist has very faithfully represented the flower in the accompanying illustration, which admirably delineates its form and markings, though it necessarily fails to show its beautiful colours. The size is no way exaggerated. The smaller diameter was two inches and a half, and the larger somewhat over two inches and five-eighths. We saw other specimens at Mr. Fleming's, nearly as large. This new seedling may fitly be designated "Fleming's Superb," and will, no doubt, be in great demand and much prized by all who love and cultivate flowers.

Why do Farmers Neglect their Gardens?

To the Editor of THE CANADA FARMER :

Sm,—Why do farmers neglect their gardens? There are several reasons which suggest themselves to the mind. First, laziness may be considered as one great cause why the garden is neglected. Spading the garden up in the fall and again in the spring, besides weeding and hoeing during the summer, with the planting and pruning, are considered too laborious for this class of farmers. It is far more in unison with their feelings to be lounging about the house, reading the newspapers, or in idle conversation with some neighbour. Again, the labour is on such a small scale as to be beneath their dignity; but if their hard-working wives and daughters will cultivate the garden for them, they will with the greatest readiness enjoy the fruits of their labours, yet will not soil their own hands with the work.

Another cause is the want of systematic arrangement in their farming operations. They do not consider the garden as coming within their farming operations; hence no provision is made for it in their plan of work, if they have a plan; they consider it a work for leisure hours, when no other particular work is pressing. But the leisure time with a farmer is very limited, especially with one who has not his work planned, for everything is in disorder. In the hurry and bustle of the unsystematic farmer the garden is neglected.

Again, the want of a refined rural taste is sometimes the reason why this branch of horticulture is so neglected. Some men do not know how to appreciate the beauties of nature or art; a beautiful landscape, or a neatly planned garden with its walks, shrubs, and borders with choicest flowers, excites in them no pleasurable emotion. They cannot see how other people can take any enjoyment in such noble work. Say these people: "We can eat, drink and sleep as well without as with a garden." But were these the great ends for which our Creator brought us into the world? Surely men cannot seriously thus degrade themselves to the level of brute beasts.

These are some of the principal reasons why gardening is so much neglected, and in noticing these, the remedies will easily suggest themselves to the mind. "Be diligent in business," and you will overcome indolence. In order to prosper in business, be systematic in your operations. Include the garden in your plan of farm work,—set apart time for planting, weeding, &c., in your garden as you would for your root or cereal crops; and let the work be done thoroughly.

It may not bring as many dollars into the cash-box, but it affords much that renders a family comfortable; and is not this of greater importance than leaving much wealth for heirs to quarrel about? Another remedy for this evil is a more general dissemination of knowledge among the rural community, especially knowledge that has reference to agriculture and horticulture. A man of intelligence is usually a person of refinement, and generally has everything comfortable and pleasant about him. Children especially should be taught to admire the beautiful; and good works and papers, that would give them a taste for gardening, should be placed within their reach. Such impressions made in childhood will be lasting as life, and when these boys and girls come to years of maturity, they will be a blessing to the community and to our beloved Canada.

ONTARIO.

CULTIVATEUR.

Preparations for an Orchard.

To the Editor of the CANADA FARMER.

SIR,—I have a field of about three acres, which I intend to plant with apple trees as soon as possible. The land is in fair order. Two years ago I took off it a crop of barley, seeded down with clover and timothy, which was last year's crop. I should like to have the advice of yourself or some of your correspondents, whether I would be likely to gain time by ploughing the soil, and planting the trees the coming spring, in which case I should seed down with buckwheat, and plough it under as manure. Or would you recommend summer fallow, and defer planting for a year? The only objection I see to the first course is, the extra trouble and care required in ploughing around the trees (at least twice) the first year; but if the work can be done as well, and be a year in advance, the trouble ceases to be an objection.

Much difference of opinion exists as to the distance apart at which apple trees should be planted. Downing, who is good authority, says: "The distance at which trees should be planted in an orchard depends on the mode in which they are to be treated. When it is desired finally to cover, and devote the whole ground to the trees, thirty feet apart is the proper interval, but where the farmer wishes to keep the land between the trees in grain and grass, fifty feet is not too great a distance; in strong soils, forty feet, however, apart, is the usual distance at which trees are planted in orchards."

Acting on the above, I planted an orchard ten years ago, thirty feet apart. Neighbours tell me they have thriven well. I think so myself. Most of them are now thrifty trees, bearing on an average about one half-barrel to the tree. But I have come to the conclusion that trees planted more closely together will pay better, and afterwards planted one tree between each four, leaving a space of about twenty feet between the trees. If ever necessary, these last planted can be cut down.

At 30 feet apart there will be to the acre	50 trees.
At 20	110

I feel confident that these 110 trees will bear, for at least twenty-five years after planting, as much fruit each as an equal number of trees planted thirty feet apart. If so, it requires but little calculation to show the difference between the two modes, in a series of years. Say at ten years from planting, fifty trees at half a barrel per tree, adding an annual increase of one quarter barrel to the tree, at the end of

10 years would be about.....	\$12 barrels.
110 trees at the same rate.....	1757 "

Readers interested can readily figure it up without my occupying your valuable space.

Some of your readers (most likely those like myself who have tried it) may say that the trouble of ploughing around so many trees is great. I admit it; for, from my own experience, and from what I have learned from that of others, I think that an orchard, to have fair play, must be kept in hoed crops for at least ten years after planting. But if it will pay, I suppose the objection will cease to exist. I think it will.

I shall take it for granted that the roots raised and the fruit gathered for the first ten years will pay for thorough cultivation, and yield as good a return from the land as any other portion of the farm.

Take now the case of one acre planted thirty feet apart each way, and reckon the expected profits of the orchard as commencing with the tenth year, when we will suppose it to be seeded down.

The first ten years, as previously estimated, give a return of about

Say at \$1 50 per bbl net, gives.....	\$1218
Deduct twenty per cent for mishaps.....	243

Leaves for the ten years' return.....\$975

Which divided equally, gives an average annual return of \$97 per acre—(I omit fractions).

A similar calculation with an acre planted twenty feet each way gives

1757 bbls at \$1 50.....	\$2635
Twenty per cent, off for mishaps.....	526

\$2144

Or an average annual return of \$214 per acre. No account is taken of the hay raised during these ten years.

I dare say some of your readers may set down the above as a fancy sketch. To the farmer who has been harvesting his twenty bushels of wheat to the acre, and at that would require a liberal allowance for mishaps, it may well seem so. I have tried to keep on the safe side. I think the estimates are moderate, the allowances for contingencies ample, and from the little experience I have had in fruit-growing the last twenty years I don't think I have exaggerated the value of an orchard faithfully cultivated. I leave it for your readers to judge, and will be happy to stand corrected if I have erred in calculation. A SUBSCRIBER.

AVLTONVILLE, Feb. 7, 1868.

NOTE: BY ED. C.F.—In regard to our correspondent's first query, there can, we think, be no objection to his plan of planting this spring, provided the ground is in really good condition—that is, well drained and deeply loosened. With reference to the distance apart at which the trees should be planted, we think, his figures notwithstanding, that thirty feet apart, or at the most, thirty one way and twenty the other, is near enough, as will be found when the trees have attained their full size. We very much doubt, also, the propriety of cropping the ground for ten years, unless, indeed, abundance of manure is supplied to restore what the hoed crops will remove, so as not to rob the soil of the nutriment required by the growing trees.

THE PLUM-TREE CURCULIO.—The following is sent to us from Sarnia, by "a novice":—

Last year, I saved my plums from the above destructive insect by attending to the trees as early as the spring would allow; I used the following remedy:—I put woollen rags round the bottom of the trunk of the tree, first having steeped the rags in tanner's oil. I renewed this application after every heavy shower. I took the best chloride of lime I could get, and put some in a large saucer, which I placed on the fork of the tree. I then spread two white sheets under the tree, and when all was ready, I poured sulphuric acid on the lime, the fumes of which brought down all kinds of creeping things, among which were some curculio.

I also tried the plan of jarring the trees, and by this method I succeeded in getting twenty-four of these destructive pests, and for my trouble I was rewarded with a large crop of the best kind of plums; and I would recommend others to try the same plan.

NOVA SCOTIA FRUIT GROWERS' ASSOCIATION.—The annual meeting of this association was held in January last at Wolfville. Amongst other proceedings it was resolved that prizes of ten, seven and five dollars be offered for the best essays by members of the Association on the pruning of fruit trees; the mode, season, extent treatment of wounds, &c., and with application to the different varieties of apple and other fruit trees. It was further resolved that a gold medal and a sum in cash be awarded for the best collection of apples from any of the Provinces of the Dominion of Canada. The report of the Secretary gave an encouraging statement of the condition and progress of the society, and referred to the excellent display of fruit at the last exhibition. The next annual exhibition was proposed to be held in connection with the great agricultural and industrial exhibition in the city of Halifax, in October next; and the association voted, conditionally, the sum of two hundred dollars towards the prize list of the horticultural department at the exhibition. Reference was made in the report to samples of apples which had been sent to this office for comparison and identification, but which, we regret to say, were so damaged by the alternate freezing and thawing to which they had been exposed in their long journey, as to be past recognition on their arrival here. We should otherwise have had great pleasure in submitting them to the annual meeting of the Ontario Fruit Growers' Association. We trust this accidental want of success will not discourage the Nova Scotia Society from another attempt. We congratulate the association on their very satisfactory progress hitherto, and admire the liberal and energetic spirit manifested in their proceedings.

Poultry Yard.

DORKING EGGS.—J. M. B. wishes to know where he can procure "a dozen or two of pure Dorking eggs." By reference to the account and prize list of the last Poultry Show, it will be seen who were the principal exhibitors. Messrs. Peters, J. Bogue, and Johnson, all of London; Mr. Stone, of Guelph; Hon. D. Christie, of Paris. Our correspondent cannot do better than apply to some of these gentlemen.

PRIZE POULTRY EGGS.—We direct the attention of poultry fanciers to the advertisement, in our present issue, of F. C. Cooper, Limerick, Ireland, in reference to selected birds and eggs, which he offers to pack and carefully dispatch by steamer to Montreal. The prices, for good stock, are reasonable; and this would no doubt, be an excellent opportunity for breeders to import fresh blood of some of the most valuable breeds of poultry.

A TRAVELLING HEN.—It seems by the following that a hen has been travelling for quite a while per express, and has visited the principal cities of the West, and now is on a tour "down East." The *Springfield Republican* says:—"A travelling hen arrived at the office of the Merchants' Union Express Company, recently, bound on an eastern tour. She was started on the 4th of July last, as a joke from the Syracuse, N. Y., office, and has since visited all the principal cities of the West, and has travelled 26,350 miles, which is certainly carrying a joke very far. The box in which she travels is literally covered with express tags and remarks, such as "one more unfortunate," "properly hen-closed," &c., to which something new is added at each office through which she passes. A bag of corn is suspended from her travelling apartments; she has the liberty of the offices for exercise, and seems good for another six months.

SENDING BIRDS TO EXHIBITIONS.—As the Ontario Poultry Association will hold their Spring Show on the 15th April, a few words on the way Fowls intended for exhibition should be treated may not be amiss at the present time.

The birds should, of course, be perfectly healthy. Some good authorities recommend that they should be fed with bread and ale just before starting. Their feet and legs, combs and faces, should be washed clean. If the birds are white, they should be washed some three days before, and kept in clean straw. They should be sent in round baskets, lined inside with canvas or calico; and it greatly facilitates the packing and unpacking if each pair is in a separate hamper. Exhibitors will find that an enormous increase for freight is caused by the heavy cases sometimes used for sending the birds, and besides, it involves no small trouble to get these heavy things up and down stairs to the hall, as many exhibitors must have found out by former experience. We trust that the forthcoming exhibition may be a success, and give evidence of improvement both in the quality of the birds and in the interest taken in poultry raising.

The Household.

Useful Receipts.

A subscriber from Hamilton sends us the following receipts:

TO CLEAN PAINT.—To one pint of soap, add two table-spoonsful of turpentine; then take two quarts of hot water, and one pint of skim milk; put enough of the soap in to make a weak suds. It will leave a fine gloss, and is sure to remove all stains.

TO CLEAN SILKS.—The pulp of potatoes, scraped into water, cleans the finest kind of silks. It will not injure the finest fabric, or color.

A GOOD CEMENT.—To half a pint of milk add half a pint of vinegar to curdle the former; separate the curd from the whey; mix the whey with five eggs; mix well together; then add quick lime until the

mixture acquires the thickness of a paste. With this you can mend a great variety of articles where a good and strong cement is needed.

CORNED BEEF.—Boil young fresh beef in very salt water, and you will acknowledge that it is a better plan than first pickling in brine, and boiling afterwards. It is nicer, sweeter, and more tender than that which has been pickled, you don't know how long, before you got it.

EARLY TOMATOES.—Take a few large turnips, and cut the hearts out. Fill the cavities with good soil, and plant two or three tomato seeds in each. As soon as they sprout up, thin out. Place them where they will get the sun, and as soon as the weather will permit, plant out, three feet apart, and you will be surprised at the results.

KEEPING HAMS THROUGH THE SUMMER.—"A constant reader asks:—Can you, or any of your readers, inform me what is the best way to keep hams or cured bacon through the summer, so as to prevent their becoming rancid or musty in warm weather?"

ANS.—A receipt for this purpose is given in the CANADA FARMER for May 15th, 1867, Vol. 4, page 158. We have ourselves used bran, lime, oats, and dry salt. We have found each of these materials efficient. A cool and dry cellar, or other keeping place, is essential, and the material used for dusting or packing the meat should also be perfectly dry.

HOW TO KEEP FRESH MEAT.—Perhaps all of your readers are not aware that steak, (pork and beef,) sausages, puddings, etc., can be kept fresh the "year round," by frying and seasoning when fresh, the same as for the table, packing down in crocks or lard cans, and pouring hot lard over them, covering about one inch. When needed, scrape off the lard and heat through. This is valuable information to farmers and others, who kill a beef and dispose of a portion at a low rate, and then are unable to procure fresh meat during the summer. I defy any one to detect any difference between the preserved and the recently prepared.—*Cor. Country Gentleman.*

Advertisements.

JUST PUBLISHED,
PRICE TWENTY CENTS,
THE COTTAGE FLORIST!

A COMPENDIOUS AND PRACTICAL GUIDE TO THE
CULTURE OF FLOWERS
AND MANAGEMENT OF
FLOWER GARDENS,
ADAPTED TO THE PROVINCE OF ONTARIO.

JAMES BAIN,
King Street East, Toronto.
Will be sent free by post to any part of the Province, on receipt of the price in postage stamps.
Toronto, March 23. v5-7-31-a-o-t.

TO AGENTS!
GRAPE VINES AT TEN CENTS.

DELAWARES, Concordia, Dianas, Oportos, and Hartford Prolifics, with good roots, at \$10 per 100, if cash, accompanies the order. Address, **W. W. KITCHEN,** Grimshy, Ontario. v5-4-5t

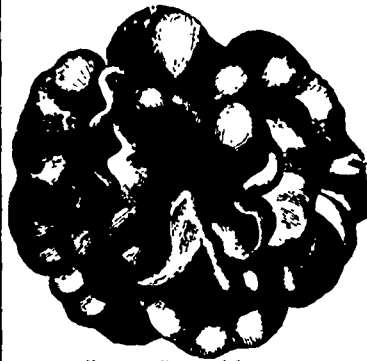
DAIRYMEN.

CHEESE SCREWS, HOOPS, PRESSES complete, and everything required for the manufacture of Cheese, of the best material and workmanship, at the lowest rates. Also, **VATS** of every description supplied to order, by **R. WHITELAW,** Oxford Foundry, Beachville v5-6-2t

S. GOLDSMITH'S

WARRANTED IMPORTED FIELD, GARDEN AND FLOWER SEEDS, are now ready. Descriptive Catalogues free on application.
25 Packages of Choice Flower Seeds by mail for One Dollar.

Also a fine stock of the celebrated Goodrich, Gleason and Harrison Potatoes. Address **S. GOLDSMITH,** St. Catharines, Ont. v5-7-4t



CAMELLIA BALSAM (flower.)

NOW READY!
J. A. SIMMERS'
CULTIVATORS' GUIDE,

Or Illustrated Catalogue of Seeds for 1868.

PURCHASERS OF SEEDS will get a copy gratis, and to parties at a distance it will be mailed on prepaid receipt of five cents.

Address to **J. A. SIMMERS,**
v5-6-2t Seed Merchant, West Market Place.

CANADA WEST FARMERS' MUTUAL & STOCK INSURANCE COMPANY,

Incorporated by Act of Parliament, 1852.
PRESIDENT: THOMAS STOCK, President of the Prov. Agricultural Association.
INSPECTOR: W. A. COOLEY, Superintendent Prov. Agricultural Association.
12,700 Policies in Force.

AMOUNT INSURED, - - - \$8,700,400 00
AVAILABLE ASSETS, - - - \$ 60,300 00
CASH IN BANK OF MONTREAL, \$ 14,600 00

A three years risk on Frame Barns and Dwelling Houses and contents, taken at One per cent. Premium, and no Premium Note required. Losses paid in full without deduction.

RICHD. P. STREET,
v5-6-6t. Sec'y & Treas.

GRAPE VINES BY MAIL PRE-PAID.

THE LARGEST AND BEST ASSORTMENT OF HARDY GRAPES ever offered by any Nurseryman in Canada. All the New varieties of merit, including all the best of Rogers' Hybrids, Nos. 15, 3, 4, 19; these varieties have fruited with me for three years in succession, and their equals for Western Ontario have never yet been offered for sale.
1 plant of any of the above-named sent by mail, pre-paid, on receipt of \$1. 12 plants for \$10. A few strong bearing plants, 3 and 4 years old, of the above varieties, \$2 each.
Many others of Rogers' Hybrids, including Salem, but none that have fruited here, equal those above mentioned. All the old varieties of Grapes at reduced rates, and a general assortment of **Fruit and Ornamental Trees and Plants.**

Also, Early Goodrich, Calico, and Cuzco Potatoes, including either one or all three varieties in one barrel, sent to any Railway Station in Western Ontario, freight pre-paid, on receipt of \$5 per barrel. Address, **CHARLES ARNOLD,** Paris, Ontario. v5-6-2t.

TORONTO, DOVER COURT.

One Thorough-bred DURHAM BULL.
One " HEREFORD,
One " GALLOWAY, and
Two GALLOWAY COWS, FOR SALE by
v5-3-6t **R. L. DENISON.**

JONES & FAULKNER,

(Late J. Jones & Co.)

Dairymen's Furnishing Store!

—AND—
DEALERS IN BUTTER AND CHEESE,
No. 141 Genesee Street, Utica, N. Y.

DAIRY necessities of every description always on hand, particularly **Pure Annatto**, an article in much request among dairymen.
No Duty on Annatto purchased in the United States.
47 Special attention given to Canadian orders. v4-19-1f

THE BRINKERHOFF Corn-Sheller, Separator and Cleaner.

THIS SHELLER is acknowledged by all Farmers who have used it to be far superior to any Corn-Sheller in use. It is the only Sheller that will **SHELL PERFECTLY CLEAN.** It needs no re-adjustment for any sized ears of corn, and will shell dirty corn equally well with that which is perfectly dry. It **SEPARATES** both the **COB** and **CHAFF**

from the Corn, leaving it ready for market. It runs more easily than any other Sheller, and may be run by any ordinary churn-power.

No Farmer who raises Corn should be without one. Send for Circular and read the Testimonials from the highest agricultural authorities.

B. B. SNOW & CO.,
v5-6-2t. Auburn, N. Y.

MILLER'S INFALLIBLE



TICK DESTROYER FOR SHEEP!

DESTROYS the TICKS, cleanses the skin; strengthens and promotes the growth of the wool, and improves the condition of the animal.

It is put up in boxes at 35c, 70c, and \$1, with full directions on each package. A 35c. box will clean twenty sheep.

HUGH MILLER & Co.,
167 King Street East Medical Hall, Toronto. v4-11-1f

J. H. THOMAS'

FIRST PRIZE BEE HIVES!

THE FIRST PRIZE has been awarded these Hives at the Provincial Fairs, and many County Fairs, for the last four years. They also obtained the first prize at the Michigan State Fair, held at Detroit last year. In fact they have always been awarded the first prize wherever they have been entered. During the last four years they have acquired a reputation unequalled by any hive heretofore offered to the public. They are now manufactured by steam-power, which will enable me to supply the increasing demand at the following rates, which include a right to make and use both double and single boarded Hives:

Single-boarded Hive..... \$5.00
Single-boarded Observing Hive—Glass in two sides..... 7.00
Double-boarded Hive..... 6.00
Double-boarded Observing Hive—Glass in one side..... 7.00
Single-boarded Observing Hive—Glass in one side..... 6.00
Double-boarded Observing Hive—Glass in two sides..... 8.00

All persons purchasing a Hive at the above rates, (which always includes the right to make), and preferring to order Hives of me, rather than make, will be supplied at the following prices:—**D. B. \$2.50; S. B. \$2.50;** or if ordered in lots of three to one address, **D. B. \$3.25; S. B. \$2.25;** in lots of six, **D. B. \$3; S. B. \$2.** Hives sent safely as freight by rail to any part of Canada. Three Hives to one address for the same freight as one hive. Bee-keepers would do well to form clubs and order three or more Hives sent to one address, and thereby save freight.

ITALIAN QUEENS AND BEES!

Having secured the services of H. M. Thomas, one of the best practical apiarists in Canada, to assist me in breeding Italian queens, I shall be able to furnish any number at the proper season, bred from the very latest importations. PRICE \$5 each. I will also furnish a limited number of Italian Stocks in the fall, at the following prices:—In the D. B. hive, \$20; in the S. B. hive, \$18; sent by express at the expense and risk of purchaser. The Canadian Bee-keeper's Guide sent to any address post-paid for 25 cents, five copies for \$1. The trade supplied at a liberal discount.

Orders to be addressed, **J. H. THOMAS, APIARIST,** Brooklin, Ontario.

N.B.—Parties residing in the Counties of Carleton, Russell, Ottawa, Pontiac, Renfrew, Lanark, Leeds, Dundas, Stormont, Glengarry and Prescott, and desiring to purchase my Hives, must in all cases address their orders to **JOHN HENDERSON,** v5-6-1f New Edinburgh, Ont.

THE BEST SHEEP MARK YET INVENTED.

It is made of tin, stamped with name and number. Is cheap, does not wear out, and looks well. Price three cents each.

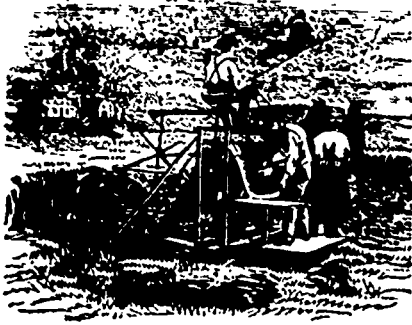
ARCHIBALD YOUNG, Jr., v5-3-7t
v5-6-1f N.R.—AGENTS WANTED. Sarnia, Ont.

Duncan's Improved Hay Elevator.

PATENTED April 15th, 1867.

THE cheapest and simplest constructed Fork in use in the Dominion of Canada. County or Township Rights for the manufacture of the above Fork may be obtained from the undersigned. **JAMES W. MANN,** v4-20-1f Port Dover, Ont.

Paxton, Tate & Co., Port Perry, Ont.,



MANUFACTURERS OF THE

MARSH HARVESTER!

AGRICULTURAL IMPLEMENTS

OF ALL KINDS,

STAVE & SHINGLE MACHINERY.

OSCILLATING MULLEY SAWS,

TURBINE WATER WHEELS,

MILL CASTINGS, etc., etc.,

MADE TO ORDER.

Repairing of all kinds promptly attended to.

WARRANTY.

We warrant the Marsh Harvester to be well made, of good material, and when properly used, not liable to get out of repair...

PAXTON, TATE & CO.

Port Perry, March 29, 1868.

v5-7-1f

GOLD MEDAL, Paris, 1867.

PRIZE CUPS two successive years, Limerick and Cork, also many prizes R. A. Society of Ireland, and R. Dublin Society's Shows.

T. C. Cooper can supply EGGS of Dorking, Spanish, Brahma (dark), Cochin (white, buff, or partridge colour), Houdan, Orpington, La Fliche, Gold Poland, Malay, Game, Sultans, Aylesbury and Rouen Ducks, at nine shillings the single dozen and twenty one shillings for three dozen...

Address, v5-7-3f

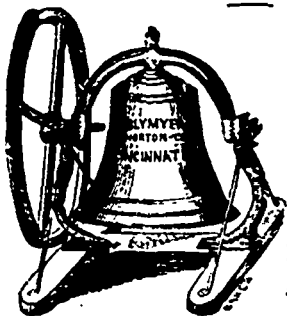
COOPER HILL, Limerick, Ireland.

FRUIT, FOREST AND ORNAMENTAL TREES FOR SPRING OF 1868.

THE largest stock in the country. For sale in large or small quantities. A descriptive and illustrated priced catalogue of Fruits, and one of Ornamental Trees and Plants. Sent, pre-paid, for 10 cents each. Wholesale catalogue free.

ELLWANGER & BARRY, Mt. Hope Nurseries, Rochester, N. Y.

FARM, SCHOOL AND CHURCH BELLS.



THE STEEL COMPOSITION BELLS made by Blymer, Norton & Co., of Cincinnati, rival the Copper and Tin Bells in purity, richness, and volume of tone; are equally durable and cost less than one-third as much.

PRICE LIST:

They are delivered on board Cars or Boat at Chicago, for the following prices in American money:

Table with 3 columns: Diameter, Weight, Price. Lists prices for various bell sizes from 14 inches to 40 inches.

Orders, enclosing the money, may be addressed to

A. T. BATES & CO., 193 Washington Street, Chicago. Editor CANADA FARMER, Box 498, P.O. Toronto.

PARKER'S SUPER-PHOSPHATE OF LIME!

AN EXCEEDINGLY VALUABLE MANURE, which all farmers should use. It is made of the BEST MATERIAL, and can be recommended with confidence.

PRICE, per ton, \$40.00 In barrels, containing 200 lbs. more or less, per 100 lbs. 2.00

BONE DUST,

Of Superior Quality, Price, per ton \$27.50

JAMES FLEMING & CO.

Feed Merchants, Toronto.

April 1st, 1868.

TO SHEEP BREEDERS.

BY resolution of the Board of Agriculture, sheep admitted to competition at the Provincial Exhibition in September next, must be shorn on or after the 25th April next.

HUGH C. THOMSON, Sec. Bd. of Ag.

Toronto, March 23, 1868.

v5-7-2t

NOW IS THE TIME TO SECURE

New and Choice Varieties of Fruit.

PLANTS sent by mail (postpaid) and warranted to come in good order. See A. M. SMITH'S advertisement in CANADA FARMER, Feb. 15th and March 1st, 1868.

v5-7-1f

TREES! PLANTS! FLOWERS!

A LARGE supply of first quality, can be packed to carry safely to any part of Canada.

PRICED DESCRIPTIVE CATALOGUES

Sent to applicants enclosing a two-cent stamp for postage.

GEO. LESLIE & SON,

Toronto Nurseries,

Leslie, P.O.

April, 1868,

v5-7-1t

Markets.

Toronto Markets.

"CANADA FARMER" Office, March 28th, 1868.

The produce market has been quiet since our last report. Prices remain generally unchanged.

Flour—The market has been quiet during the past week. No. 1 super has sold steadily at \$7 15, a fair quantity changing hands at that figure. That price is still the utmost that could be got for large lots. Extra is nominally worth from \$7 75 to \$8, and superior \$9 25.

Wheat—The market has been quiet since our last report. There was some demand early in the week, and two large lots changed hands at \$1 65, bagged and put on the cars at points west. Since then there has been little doing. We quote spring at \$1 65 for large lots, and fall at \$1 80.

Oats—The market remains unchanged; holders are asking 60c; choice could not be bought for less than that price in lots, street price 60c.

Barley—During the week the market has been excited and higher; prices have advanced from \$1 25 to \$1 50, at which price several lots changed hands.

Peas—The market is dull and nominally lower. No car lots are offering. On the street market from 50c to 51c was paid to-day. Rye—Selling on the street from \$1 03 to \$1 08.

Hay—Selling at from \$12 to \$10 50.

Straw—Selling at from \$10 to \$13.

Seeds—There is little demand, and prices remain unchanged. Only a small business has been doing.

Oatmeal—The market remains quiet, with few lots changing hands. Car lots nominally worth \$6 50.

Salt—American, per barrel, \$1 75; Liverpool coarse, in bags, \$1 20 to \$1 30.

Wool—Selling at from 20c to 23c.

Pork—Easy and without change in prices. We quote, mess, \$19 to \$19 60; prime mess, \$15; extra prime, \$13.

Bacon has ruled firm without changing figures; sales at 7 1/2c, boxed, for Cumberland cut.

Cut Meats more active. Smoked hams held at 12c, rolls 11c. Lard higher and firm. Very few transactions. Chiefly held for speculation. City rendered quoted at 11 1/2c to 12c; country do 9c to 10c.

Duller is decidedly weaker, and we have to quote a decline in low grades of fully 5c per lb. Fine is too scarce to give way at present, though sales have been made at a reduction of 2c; rolls 4c lower.

Eggs.—The fine weather has increased the supply, and prices are 15c per dozen lower than last week. Sales to-day at 15c.

Cheese in moderate request at 10c. to 11c.

New York Produce Market.

Flour—Active and better; sales at \$9 20c to \$9 65c for superfine State and Western; \$10 20c. to \$10 80c. for common to choice extra State; \$9 35c. to \$11 15c. for common to choice extra Western.

Rye Flour—Steady at \$7 75c. to \$9 65c. Corn—More active and better; sales at \$2 42c. to \$2 45c. for No. 2 spring; \$2 50c. to \$2 53c. for No. 1 spring in store and delivered.

Wheat—Quiet; receipts, 800 bush. Corn—Improved; sales at \$1 25c. to \$1 30c. for new mixed Western about; \$1 27c. for old in store; \$1 30c. for do. delivered.

Barley—Steady; sales Canada East at \$2 10c. Oats—1c. better; sales at 86c. to 87c. for Western in store. Provisions—Pork firmer and quiet at \$24 70c. to \$24 80c. for new mess; \$23 62c. to \$23 75c. for old do.

Lard—Heavy and lower at 16c. to 16 1/2c. Milwaukee Markets.—March 27.—Wm. Young & Co.'s report.—Wheat—Receipts, 5,000 bushels; shipments 1,000 bush; No. 1 in store active and higher, at \$1 60 to \$1 60 1/2, No. 2 in store, \$1 90c, to \$1 91. Flour firm at \$9. Pork dull and unchanged.

Chicago Markets.—March 27.—Wm. Young & Co's report.—Wheat—Receipts, 12,000 bushels; shipments, 10,000 bushels; No. 2 in store higher and active at \$1 92c. to \$1 93c. Corn active at 81c to 81 1/2c; receipts 9,000 bushels; shipments 14,000 bush. Pork dull at \$23 75c.

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THE CANADA FARMER is printed and published on the 1st and 15th of every month, by the GLOBE PRINTING COMPANY, at their Printing House, 28 and 29 King Street East, Toronto, Ontario, where all communications for the paper must be addressed.

Subscription Price \$1 per annum, (POSTAGE FREE, payable in advance. Bound volumes for 1864, 1865, 1866 and 1867, may be had for \$1 20 each. Subscribers may either begin with No. 1 of the present Volume, or with the first No. of any preceding volume. No subscriptions received for less than a year, and all commence with the first number for the respective years.

Copies will be furnished at the following rates:—TEN COPIES for... NINE DOLLARS. TWENTY COPIES for... SIXTEEN DOLLARS. FORTY COPIES for... THIRTY DOLLARS. ONE HUNDRED COPIES for... SEVENTY DOLLARS. To Agricultural Societies ordering more than 125 copies, THE FARMER will be sent at SIXTY CENTS.

THE CANADA FARMER presents a 5th-class medium for agricultural advertisements. Terms of advertising, 20 cents per line per page. Twelve lines' space equals one inch. No advertisement taken for less than ten lines' space.

Communications on Agricultural subjects are invited, addressed to "The Editor of the Canada Farmer," and all orders for the paper are to be sent to GEORGE BROWN, Managing Director.