

# FARMER'S ADVOCATE

AND HOME MAGAZINE

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## THE FARMER'S ADVOCATE —AND— HOME MAGAZINE.

WILLIAM WELD, Editor and Proprietor.

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Published in the Dominion.

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### Our Prize Essays.

The prize of \$5.00 for the best essay "on the seeding and management of permanent pastures" has been won by Mr. Joseph Fisher, of Willow Bank, Milton P. O., Ont.

The judges to whom have been referred the awarding of prizes for "the best collection of drawings and descriptions for making home-made labor-saving implements for the farm," have declined to make any award as all the competitors have sent at least one or more patented and not-original implements.

A prize of \$5.00 will be given for the best essay on "dairy management either in respect to butter or cheese." This essay to contain the actual, practical experience of the writer in the management of the dairy. The competition to be restricted to the wives and daughters of farmers. The essay to be handed in before the 20th inst.

### Obituary.

Since the issue of the last number of the ADVOCATE, we have heard the sad news of the death of Mr. James Vick, of Rochester, N. Y. Mr. Vick was a native of England, and emigrated to America when a young man. He became connected with the horticultural press at an early age, and soon commenced business as a seed merchant; in both avocations he has been well-known for years, and especially as a horticultural writer. His *Floral Guide* was a welcome guest in every family throughout North America that loves the beauty of flowers. More than any other man in the country he has been successful in promoting its horticulture.

### The Month on the Farm.

The last month, so generally considered as the most pleasant month in all the year, has not this season maintained its good name. The weather was, on the whole, very changeable and backward, though crops promise well.

Fall Wheat—From the reports of farmers and of our exchanges, we are inclined to think that the report of the Bureau of Agriculture is of too sombre a coloring. Land badly prepared, especially any on which the surface water has been allowed to remain stagnant, does not promise well; this was to be expected, but on land properly prepared, and rich and dry, fall wheat gives excellent promise. Our opinion of the state of the fall wheat was confirmed when travelling on the L. H. & B. Railway, and on the G. W. R. to Sarnia. The condition of the growing crops was highly encouraging.

The present month is not an idle one for the farmer. His attention is first to the sowing of turnips. We need hardly remind our readers that the land for this crop should be well manured, and in good tilth. If these simple conditions be complied with and an early rain succeed, the germination is pretty sure, and on an early germination the promise of a good crop, in a great measure, depends.

Keep down the weeds! Why should they be allowed to deprive the farm crops of the necessary plant food? In hoed crops especially they are easily extirpated.

Another most important work of the month is haymaking. No date can be definitely named for mowing. This depends somewhat on the controlling influence of the weather—a late or early season, and also, no little on the variety of grass. There is as much difference in the time of maturing of different grasses as there is in various varieties of wheat or oats.

Timothy, the grass mostly used here for hay, is in greatest perfection when the first joint above the root has become yellow and hard. If left to ripen its seed the hay is little, if at all, better than straw. The nutritive juices become changed into woody fibre, and although there may be a gain in quantity of a few hundred pounds per acre, this will be but a very poor remuneration for the deterioration of quality.

Clover should be cut when in full bloom, and cured without an undue exposure to the heat of the sun. To have clover hay of the best quality it should be cut when the plant is richest in saccharine juices, and those juices should be retained in the hay by curing it in the very best manner, so that those juices do not evaporate by exposure to the heat of a midsummer sun. Clover hay, when properly saved, is an excellent provender.

Dipping both sheep and lambs to destroy ticks should be attended to as soon after shearing as possible.

A little work on agriculture was once given to Mr. Merrimam, of the Onondaga Club, inscribed sensibly as follows: "Put with this book, in equal quantities, practical knowledge and common sense; mix these thoroughly and apply the compound to your farm every morning at sunrise and you will have tremendous crops."

It is said, we know not on what authority, that "salt scattered over growing crops will save them from chinch bugs."

### Beautify Your Farms.

The appearance of many farms could be much improved by levelling the grass on the road next to the fence. To do this need not take up much time. Before stowing away your plow, &c., for the summer, devote a couple of hours to plowing the strip of grass land in front of your farm, and level it after seeding it down, and passing the roller over it you will in a short time have a nice lawn instead of unsightly knolls and water holes. A few evergreen and other trees planted on it at intervals of a few rods, would further add to the appearance, in fact boulevarding the front of your farm; it would be pleasanter for pedestrians than having to walk on a dusty or perhaps a muddy road. It would also enhance the value of the property in case of sale. How pretty the boulevards look on the main avenues of our cities; the roads in front or along your farms can be made to look just as pretty and at the cost of only a little trouble.

### Premiums at Fairs.

In many cases it is not the money value of the premium that gratifies the winner. It is the fact that a premium was given at all. Now that fair prize lists are being—or should be—considered and published, we would suggest that a number of societies offer as premiums a year's subscription to the "FARMER'S ADVOCATE AND HOME MAGAZINE." Those who have done this in a small way at first have found it so satisfactory that they have added to the number of premiums of this kind, and this custom is increasing. Such premiums do vastly more to promote the objects of the society than money prizes. Aside from the fact that one cannot fail to be greatly benefited by the teaching of the FARMER'S ADVOCATE AND HOME MAGAZINE, its regular coming once a month is a frequent reminder of the society and its fair, and thus the interest of the winner of the prize in the fair at which it was given is kept alive the whole year. If the officers who have yet to arrange their premium list will think of this matter, they will see that they can in no other way make the money at their disposal go so far, and at the same time do as much good, as to award a large share of it in the manner suggested.

### Fair for 1882.

Several announcements of fairs and exhibitions have already come to hand. We would suggest to the different societies to fix your dates as early as possible, and issue your prize list at once, also send a copy to this office.

"Let the buyer beware."

Two farmers fight about a cow while the lawyers milk her.

It has been observed by Mr. Gregory that "this ensilage question has a grave side to it."

It is noted with satisfaction by *The Mark Lake Express* that in England the use of blinders on horses "is slowly but surely dying out."



**On the Wing.**

Not having been in the Province of Quebec for a long time, we concluded to take a trip there, as it is the centre of the

**AYRSHIRES,**

and Messrs. Dawes were about to sell their whole herd of Ayrshires, without reserve. The sale took place on the 27th of April. We believe this herd to have been the best ever collected together on this continent, taking them as a whole. Not a single cull or inferior animal was to be seen among them. They were all in good thriving and breeding condition. The day was fine and there was a fair gathering of people in regard to numbers, but not as many fancy stockmen as we expected to have seen. The prices realized were low in our estimation, judging from the high standing of this herd. Mr. N. S. Whitney, of Freleighsburg, P. Q., paid the highest price for any animal sold. Mr. E. B. Eddy, of Hull, P. Q., was one of the most extensive purchasers there; he secured many very superior animals. No animal brought \$200, and many valuable animals were secured at less than \$100. Many of these animals had cost and would have brought from \$300 to \$500 four years ago, but there is almost as much change in the fashion of stock as there is in ladies' bonnets. The rush is now for the Jersey, the Polled Aberdeen, and the Hereford. The Ayrshires are now numerous. They are just as good for butter as they ever were. They are more suitable for the majority of farmers east of Kingston than either of the other breeds of cattle mentioned above, and those that keep the best will find increasing prices, as this winter the bottom prices have been reached. At one sale that recently took place near here the prices did not reach half the prices that Mr. Dawes' stock reached, although the herd had cost more money, but the manager said he did not care a — for Canadian purchasers, and expended ten times as much money in advertising in American papers. The result was the animals were literally given away, for they got neither American or Canadian purchasers with spirit to buy. Parties wishing to procure really good Ayrshires have never had such an opportunity to purchase costly and valuable animals as cheap on this continent, and we never expect such opportunities will be had again as have taken place near Montreal this past few months. We heard many regret not having invested at recent sales that have taken place here. We are pleased to state that some of our subscribers have been among those whom we may term the fortunate purchasers. We asked Mr. Dawes why he sold his Ayrshires. He said he disliked to part with them very much. "They are the right kind of stock for this part of the country. I can attend the feeding of stock, but I cannot get suitable people to keep the milk pans clean. I can raise beef and horses without so much trouble as looking after dairy help." The Messrs. Dawes have three fine farms in the vicinity of Lachine, and have for years been breeding Clyde and blood horses. They now intend to devote their attention more particularly to the blood horse, the Hereford cattle—of this class they now have several fine animals—and Polled Aberdeen. Mr. Simon Beattie is now in Europe purchasing a herd for them.

While speaking of the fashions, who ever hears the name of the Longhorn, the Welsh, or the Highland cattle spoken of? Yet if we had plenty of cash to spare, and time to attend to stock, and wished to either make money or do good to the country in which we now live, we would far rather invest in either of the last three named classes than any of the other breeds that fashion now runs after. Some person with means will ere long see and profit by these remarks. It has been our

opinion for many years that the hardy black Welsh and the Highland cattle would be much more suitable to many parts of the Dominion than either the Shorthorn or the Hereford cattle. In fact, we have wondered why either our Government officials or individuals have not ere this given the animals a trial. If some of our Manitoba or Saskatchewan friends were to invest some of their cash in either of these breeds of animals, they would, in our opinion, be much better off and much happier than those who are living in the feverish and dangerous excitement of buying many Winnipeg lots, or even in investing in the prevailing fancy—Shorthorns. We believe it right to encourage breeding, but we have seen too much of this sending cattle all over the world to be bid in at fancy figures that are too seldom paid, and when paid are too often paid by a representative from the buyer at a sale a thousand miles away. There are large tracts of land in our Dominion that are better adapted to Ayrshires than to Shorthorns, and those that keep the best of this class will find an increasing demand for the best. We doubt if any person in this Dominion now has a finer herd of this class than Mr. N. S. Whitney, of Freleighsburg.

**BUTTER MAKING.**

After having attended Mr. Dawes' sale at Lachine, we visited Mr. Drummond's farm at Petit Cote. This is about four miles from Montreal. The farm consists of 300 acres, most of which is a good clay loam, which Mr. Drummond is able to keep pretty well filled with manure. Living so near the city gives him a great advantage. His fences are all stone, which have been gathered off the land, and every gate post on the farm consists of one good, large, flat stone, to which gates are hung. We consider these the best posts we have ever seen; they all stand in their places properly and require no repairs.

Mr. Drummond's attention is given to the production of milk and raising of grain. He keeps 20 milch cows and supplies the Windsor House (the palace hotel of Canada) with cream. He generally has a surplus, and this he makes into butter. This is the prize farm of this part of the Province; the buildings, orchard, stock, etc., are in good order. When on this farm we saw the churning performed. This was done by a new churn that was being tested. The churn was a square one, and revolves like the old barrel churn; it has no dashers or any wood inside, the falling of the cream being sufficient motion to produce the butter. The churn worked very easily. It had a novel and what we thought to be an excellent appliance to admit air into the churn. This was done by having a hollow in the shaft or crank that enters the churn, and a bent hollow tube placed inside the churn, which remains stationary even when the churn is in motion. This admits of the free passage of the air at all times. After the globules of butter had attained the size of wheat grains, a faucet was put into the bottom of the churn and the buttermilk drawn off. Then water was poured into the churn and the butter washed, and the water run out of the faucet until it became as clear as when put in the churn. The butter was then taken out, but no buttermilk could be pressed out of it. By making butter in this manner it is claimed that the butter cannot become rancid and will keep sweet even for years, and that without salt; but to do this it must be carefully done. It is the buttermilk that is left in the butter that causes it to spoil. Another great advantage in this process is that the globules of butter are not broken, as is too often the case with the smearing process sometimes adopted by our dairy maids. Neither is it turned to grease by

the violent churning that is sometimes performed by those that wish to get butter in too short a time, or overwork it in the churn by being in too much of a hurry to get done. It is very evident to us that we must take more pains with our butter than we have done. We must have cold water or ice in summer to keep our milk at a proper temperature, or we must submit to the bad name we have attained, that is, of making Canada grease; in fact, much of our Canadian butter is neither as palatable nor as wholesome as oleomargarine.

There is some talk in Montreal of forming a company and introducing the best dairy implements to the lower Canadians, and furnish them with instructions how to use them. Mr. Lynch, a young man from the Eastern Townships, has devoted some time to prepare his plans, and is ready with any amount of argument and statistics to show the great gain that would accrue if the farmers' wives could be properly instructed. We highly approve of many of Mr. Lynch's suggestions. He has devoted considerable time and money to the object, and as he has not yet succeeded as well as he could wish in Canada, he was about going to the States to try his luck there. He appears a very conscientious and honorable young man, and entirely wrapped up in the business he has in hand.

**Fruit as Food.**

While there has been considerable progress made in the last few years in the matter of dietetic reforms and a marked improvement at the tables of many of our farmers, there is yet much to learn. One of the greatest faults in this direction, and one which is the cause of very much illness, is the comparatively small quantity of fruit they consume. The mistaken idea prevails among many, that in some mysterious way, pork and other meats are productive of physical vigor, strength and ability to withstand fatigue, and that fruits, like confectionery, are to be taken between meals, and not to be counted in the work of sustaining life. This is a terribly erroneous view and one that is responsible for countless cases of consumption, scrofula and kindred diseases. We wish we could prevail on every farmer, in fact upon every person in the land, to make a part of the morning meal on fruit. It would only take a short time to demonstrate its advantages, and thereafter they would need no lectures inculcating such a diet from us. Any kind of fruit is good, and if fresh fruit is not at their disposal, dried, evaporated or canned fruit should take its place. We have known obstinate cases of constipation to yield to a diet only changed so that a dish of baked apples was made a part of each breakfast, and chronic headaches and biliousness are often relieved in a similar way. Scientific men have of late been wonderfully profuse in their praise of fruit as an article of diet, and a trial will convince any one of the wisdom of the plan.

**Cattle Breeding in Canada.**

We learn that special attention is being paid to the improvement of the breeds of cattle in the Dominion, so as to lay a good foundation for future stock, upon which Great Britain must largely depend for one of its chief supplies of food. During the past year, 751 of the best pedigreed cattle were imported, and also 1,179 pure-bred sheep and a number of choice pigs. The importance of exporting none but first-class animals is strongly impressed upon breeders, so as to ensure for Canadian beef a high price in the European markets. So far the reports of the progress made are described as satisfactory, and by next year, as compared with 1881, it is expected that the number of cattle in the Dominion will be greatly increased, so that the supply for the European markets promises to be most abundant. The number of cattle exported from Canada last year was 45,535, and of sheep 62,401; but this was exceptionally low, and a vast increase may be expected during the current year.—[Liverpool Mercury.]

Sheep give back to the farm more, in proportion to what they take from it, than any other animal.



### Jersey Cattle.

Our American cousins have a great Jersey bonanza. The enormous prices that these cattle—"insignificant looking rats of cattle," as some of our farmers call them—are realizing, must tend to open our eyes with wonder. There are but very few farmers in Canada that would take one as a present to breed from; the size would condemn them. But it is fortunate we do not all see with the same eyes. There are thousands of people in America that will and do pay more for the two hind legs of a common frog, than a farmer would pay for a good fat hen or a leg of mutton. To touch a person's appetite you touch their pocket. There are fortunately some that can see as much beauty in a canary as others can in a peacock or elephant. For our part, we can admire the beauty and butter qualities of a Jersey as well as we can that of a Polled Aberdeen; but the greatest point in favor of Jerseys is the superiority of the butter produced from them. People of wealth will have the best. To procure this, two, three and sometimes more than four times the price is paid for Jersey butter than our farmers' wives receive for their so-called butter. Not only is the quality of their butter a desideratum, but the quantity procured from some of the noted Jerseys is astonishing. A record is given of one that produced 25 lbs. 3 ozs. of butter in 7 days, and 778 lbs. in one year; another is recorded as having yielded 22 lbs. 7 ozs.; 15 are recorded that have yielded 18 lbs., and 150 are recorded as having yielded 14 lbs. and over in 7 days. At an auction sale that has just taken place in New York State, the herd, 57 in number, consisting of cows, calves and bulls, realized \$761 per head; the cows, 10 in number, averaged \$1,064 per head.

We are pleased to note that our Canadian breeders are taking a little more interest in this class. The Jersey men have formed an association to conduct their business and look after their interests, attend to the pedigrees, etc. Mr. V. E. Fuller, of Hamilton, Ont., is President. He is an energetic person of means and is building up a herd almost regardless of expense. He feels a pride in his work and wishes Canadian Jerseys to stand second to none on this continent. He has been purchasing largely in Jersey and in the States. The great object he is aiming at is to get a stock that will show the largest yield of butter; he says he is selecting his stock for that purpose, and that he considers it of more importance to have a great and rich milker, perfect udder and escutcheon than any other points, and has now a cow, Bertha Morgan, that has a record of 19 lbs. 6 ozs. of butter in January last. Mr. Fuller aims to stand at the head as having the best Jersey herd on this continent. We can but wish him success in such an enterprise.

### English Letter—No. 37.

[FROM OUR OWN CORRESPONDENT.]

Liverpool, May 3rd.

After a winter and early spring of unexampled mildness, the end of April and the beginning of May find us returned to wintry weather. April 29th was bitterly cold, with a heavy snow fall which lasted all day; and on the hills in the afternoon there was fully 6 inches of snow on the ground. Till then the promise of a fruit yield of all kinds was brilliant; but now, I fear, much damage has been done.

The emigration from this port, as well as from the continent, is now very great, and the pressure on the steamship companies is enormous. The influx into Manitoba and the Northwest appears

to be on a vast scale, and to tax the energies of the department to the utmost.

The English farmers, notwithstanding the better promise of the season, continue restless and uneasy.

Mr. Samuel Hoare, the celebrated London banker, and Sir T. F. Buxton, another Norfolk land-owner, have just taken a novel method of furthering their own, as well as their tenants', interests. Last week they invited an influential party of their Norfolk tenants to accompany them on a visit to Holland, the object being to gain information as to the mode of farming practised in the neighborhood, more especially dairy farming, in which that country stands pre-eminent. The opinion arrived at is that the Norfolk men did not find the arable fields so well cultivated as their own, nor the butchers' horn stock or horses comparable to those in England, but the grass land was better farmed than their own. An estimate of the out-goings and in-comings per acre of the farms they visited, show a sum of \$22 per acre for rent and farmers' profit. They found that the cow is the Dutch farmer's fountain of prosperity; land is farmed for the cow and not for man. Some of them holding not more than 125 acres in extent, carry 200 head of stock. Cheese-making occupies most of farmers' time. In another portion they visited the land is let for \$18 and upwards per acre, on six years leases. Another conclusion arrived at was that the farmers in Holland are much more prosperous than those in England. The principal reason for this is that the land is just sufficient for a man and his own family to work, and his out-goings are, comparatively speaking, nothing; but he has his rent to pay, and the tax-collector makes a heavy demand of nearly \$5 per acre. It will be interesting to notice that many Dutch farmers find themselves in a similar position to those in your province; they are doing very well themselves, but cannot obtain land, or see any opening for their families, and the consequence is many of them are looking around for fields to emigrate to. A pioneer party of these frugal, and comparatively speaking, opulent farmers' will, I understand, leave for Manitoba during the next few weeks.

A notable instance of the way in which public opinion is changing here is furnished by the Liverpool Daily Mercury, which hitherto, if not exactly hostile to, has been conspicuously indifferent to Canadian interests. On Saturday last it had a leading article on the Dominion and its advantages as a field for settlement, which was as warm and encouraging in tone as could be desired. It paid a deserved compliment to the Dominion Agent here, Mr. Dyke, for his exertions in promoting the emigration of desirable classes to Canada.

Great difficulty is experienced by shippers of stock in obtaining ships. Some Canadians from your province made arrangements with the Dominion Line for the transport of their horses. However, the Dominion steamers were so full of emigrants that they transferred them to the Beaver Line. This time a firm contract was made, but the pressure for emigrants was so great that the Beaver Line paid the shippers £50 and their expenses to Glasgow, and found them another ship from that port to Quebec. Thus the Clydesdales, which were originally from Scotland, had to be returned in order to reach Canada. According to the English Board of Trade regulations, only a certain number of horses can be carried on a ship which takes emigrants. In fact one horse shuts out 50 passengers. The freight on a horse would be £10, whilst 50 passengers at £5 each, you can readily understand, would be quite a different matter to the steamship company. The Allan Line steamer sails in a few days with a full cargo of

live stock, as she has been specially reserved for that purpose.

A stock-man from London, Ont., has been making some extensive and valuable purchases, which he will ship to Quebec in course of a week or ten days. It will be gratifying to admirers of "Doddies" in your Province to find that he has become enamored of the "black skins," and has purchased 25 of the best Polled Angus to be obtained for money. They comprise 8 bulls, and 17 females. Also sheep selected from the best flocks, which, in point of excellence and usefulness, cannot fail to be of distinct value to your Dominion. As far as the Polled Aberdeens are concerned, an exception may be taken in your Province where dairy interests have heretofore been paramount, but I understand that he has satisfied himself on that point, as some of the females which he has purchased are from strains which are as good milk producers as any other breed in Great Britain.

Very severe weather has been experienced on the Atlantic recently, and Messrs Douglas & Hendry, who have been again importing carriage horses from your Province, I am sorry to say, lost six valuable horses on the last trip. They were, however, it is satisfactory to know, insured. One unfortunate Yankee brought over 6 valuable trotters for the continental market (where trotting is more fashionable than in England) and being a "sport," thought he would undertake the risk of his own insurance. He landed with two horses, and these died before they could reach the stables. Rather an expensive operation for our cousin.

I may here remark that one of your Toronto drivers has met with great success in France, Hungary, and Russia, as a driver and trainer of trotting horses.

The import cattle trade presents no new feature of interest.

### The Gregg Blackcap.

BY T. C. ROBINSON, OWEN SOUND, ONT.

It seems strange to me that the blackcap family are not more popular. I think it must be because they are not so well known by name, for I like their flavor very much, and I notice that folks who "go a berrying" seem to think it quite a stroke of luck to come across a good patch of them. They seem generally called Blackberries by the farmers, and sometimes Thimbleberries. First, let this point be settled by stating that the "Blackcap" is a raspberry, ripening at the same time as the common wild red raspberries of the fence corners, but differing from them in being black, rounder in the top of the berry and more curved in the stalks, which frequently are found touching the ground at the tips and starting to take root again. Of course there are other differences, but these will serve to distinguish the Blackcap from the true Blackberry, which ripens nearly a month later, and is long in berry and more upright in growth.

Sharpless, Cuthbert, Gregg—these are the three small fruits which established themselves at about the same time in the popularity of experienced fruit growers; and the greatest of these is Gregg, if we measure them by their excellencies, as compared with other fruits in their respective classes. Perhaps the Gregg is not absolutely a better fruit than Cuthbert or Sharpless; but there were fewer good blackcaps before than there were strawberries or red raspberries, so that its excellencies stand out more conspicuously.

In the spring of '79, I procured some fifty plants from E. P. Roe, and carefully planted them to see whether they would bear out the uniform praise the Gregg was meeting with. About ten were set on a small patch of clay loam on a southern slope,



and the rest on level sandy loam, both without any manure worth mentioning, and on land just about "cropped to death" with years of grain, and badly infested with thistles and wire grass. I ought to have expected failure with such treatment, but I trusted to subsequent liberal applications of mulch and elbow grease to remove disadvantages. Well, most of them grew, although the Blackcap is more apt to fail than any other fruit plant, except the Blackberry, and I congratulated myself on my success. But the second season I began to see that something was the matter with those on the sandy soil; some of them began to wilt, and finally died out. What was the reason? Several reasons! I had planted them next to a wagon way through my grounds, which was left in grass, and the wild grass roots revelling in the loose cultivated soil, continually starved my scantily manured Blackcaps on one side. On the other side another plantation of raspberries came to within four or five feet of the Gregg's, and I found that the dead plants were all or nearly all next to the rows of Turner, which soon began to send up suckers all around the Gregg's, and attempted to take up the whole ground in the usual insidious fashion of that most persistent of red raspberries. But I was determined to have Gregg's, and so the Turner suckers were placidly planed off with the "side hoe," and the wire grass discouraged by chopping its roots where it could be reached with the hoe, and fingering where it could not, and I got fruit! I couldn't expect much, of course, and I didn't get much from those plants; but the berries I did get were such as to make me think at once of propagating more plants. Even with such culture they ran from five-eighths to three-quarters of an inch in diameter, and while of the best texture for shipping, were very good indeed to the taste. Indeed I did not realize how good they were until an overlooked berry or two showed me that the others had been eaten before they were quite ripe.

But there was another reason, for want of entire success, that has since been further impressed on me by learning the experience of other cultivators, and that is that the Gregg differs from many of its class in doing its best on clay loam, or a moist but well drained dark loam. When I examined the plants on the clayey slope referred to, the difference was very striking. Not only were the stalks thicker and sturdier and the foliage brighter, but the berries were larger and many more of them. I have Gregg canes now on that land that are nearly an inch thick, and about a dozen of them of various sizes, to a plant, though I am ashamed to say so, for I should have only permitted half a dozen to grow. I have not found the Gregg to be quite so hardy as I would like, though there does not seem to be much difference between it and the Mammoth Cluster in this respect. It usually does not winter-kill far enough back to prevent fruiting, and just how far this winter-killing is due to the tenderness of the plant itself, and how much to the depredations of the white cricket, and the switching against each other of the canes, to the injury of leaves and bark by the wind, I am unable to determine. Blackcaps, I find, need the shelter of bushes or trees on the west side, or they are rather apt to blow out of the ground the first two years; besides the wind prevents the tips of the branches from taking root, and so form new plants.

Drawing conclusions from all these facts, my verdict is that the Gregg is decidedly the largest and best, as well as the latest, blackcap at all tested, far in advance of Mammoth Cluster, Doolittle, etc., in size and texture of berry; about as delicious to the taste, and equal or greater in productiveness. There is great room for an early berry that shall prove anywhere near as good, and if Souhegan fills the bill, as it promises to, it will be a good acquisition. But for a late berry, the man who plants Gregg on good rich soil inclined to clay, and gives it good treatment, is likely to find himself in possession of the *ne plus ultra* in blackcaps, and if he has a taste for this kind of fruit, will be abundantly satisfied.

[In recently visiting the fruit ground of Major Bruce, near this city, we observed that while all the other berry canes were out down by the winter, the black caps stood the weather without injury.]

### Prize Essay.

#### THE SEEDING AND MANAGEMENT OF PERMANENT PASTURES.

This is a very important branch of agriculture which requires our immediate consideration in this country (especially the old settled parts.) I beg to contribute in writing a few remarks upon this subject, such as practice have taught me, and observations grafted on my mind.

This deficiency of permanent pasture I cannot but notice in travelling through this country, and if I mistake not, advocated it as the course for us farmers to take in my essay on artificial manures in last April number of the *ADVOCATE*.

Now since this is what I may call a continuation of former subjects, I'll continue to use manures, natural and artificial, with the soil, as the raw material which we as farmers have to work upon, calling to our aid the agencies of animal and vegetable life, and the stores of fertility which are present in the atmosphere, as the key to success in farming generally, and particularly to the management and seeding of permanent pasture.

In making permanent pasture it is most essential to have our soil well prepared, clear of noxious weeds, and well supplied with food for the support of the kind of crop or grass you intend to sow. This may be overcome by applying barnyard manure from meat-making cattle, sheep and pigs, with an addition of artificial manure in the form of superphosphate of lime made from bone, fermented bone, or half-inch bone, as the case may require.

It is for us to consider what ingredients required in plant life our lands have been robbed of most extensively, and the nature of the soil, as the fertility of a soil does not depend upon plant food which exists in great abundance, but the fertility of a soil is determined by the quantity of that essential food which is present in the least proportion.

To illustrate this by example: A carpenter may have plenty of boards for the construction he intends to erect, but if he has few nails his progress is soon stopped for want of further supply. "It is the short supply of nails which regulates his work."

Vegetable growth requires a variety of material, and that essential material which is present in the least abundance regulates the crop, and not those which are plentiful.

In making permanent pasture we want *plant food ready and coming into use*, and not *dormant matter* which would be decomposed in a few years; this dormant matter would do little to assist nature to encourage the small rootlets of the various grasses required to furnish a luxuriant and permanent pasture.

Now to remark further upon the majority of our Canadian soils, whether pasture land or lands which have been continually cropped with grain, "wheat in particular."

I believe there is a deficiency of phosphoric acid; this acid combined with lime forms a large portion of the skeletons of our animals; these ingredients have been taken away from our pasture land in the form of cows bringing forth their calves, and the milk they produce contains a very large percentage of these ingredients. Then again the over-cropping with wheat carries away this same plant-food, hence the deficiency.

This plant-food can be most cheaply replaced by applying bone, half-inch bone, bone dust or superphosphate of lime made from bone. Any of these artificial manures applied to calcareous soil readily unite and become food for plant life, especially grass. Only superphosphate combines sooner and acts earlier than raw bone, but has not the endurance.

I believe that common salt is required for nearly all lands and all crops in this country, but not very

largely for making permanent pasture in its early stage. It has a tendency to stunt and check the growth of young plants. Further I would remark as to the surface of land laid down as permanent pasture. Land in this country is not generally underdrained; it should therefore be plowed by a good plowman and laid in ridges, say 12 feet wide, the surface of each ridge being the part of a circle, thus:

And not as you commonly see in this country, thus:

The first encourages the water to the furrows in winter, where the second and common system in this country incline to keep the water and help to rot and destroy the tender roots of our fine grasses.

As to the seeding of permanent pasture, I should recommend the following mixture and quantity per acre to bring a good and lasting return, viz:

Red clover.....	3 lbs.
Alsike clover.....	2
White clover.....	2
Timothy.....	6
Orchard grass.....	1
Kentucky Blue.....	2
Meadow Fescue.....	2
Rib grass.....	3

Total 21

This mixture may seem less than many agriculturists recommend to make a close permanent pasture at first, but experience has shown me that if you overseed a permanent pasture the roots of these seeds grow in like a mat, and not having time to dig down into the soil the first year, frost heaves the soil, and in the spring the grass roots peel off the surface like a fleece, where by thinner sowing the roots dig deeper, hold their own the first year and continue to gain until they form a complete permanent pasture.

By sowing this mixture of clover seed with one-half bushel of barley, to take away the effect of the sun and establish feed for young cattle through summer and fall, I believe by so doing we will gain the end aimed at, and thereby save labor on our farms, change our system, get a good return, and make farming a business to enjoy and not annoy.

I advocate rib grass because it is one of those taprooted grasses which will stand frost, assist to make excellent herbage in pasture, and I believe it will answer in this country, as I have noticed it growing naturally so far east as the State of Maine, west in Kent county, and, if I mistake not, I noticed it growing in some of the fine old pastures at Ailsa Craig.

In reference to common salt as a fertilizer, and the conclusion that the Massachusetts Agricultural Society have arrived at, I believe that common salt which contain a large percentage of *chloride of sodium*, if skillfully applied, is beneficial. Its action as a fertilizer is in many respects peculiar, by reason of its apparently inconsistent influence; in many cases it gives a decided check to vegetable growth, yet thereby increasing the product of grain; therefore, if it checks growth of grassy fibre, it must hasten maturity, and wheat salted will ripen earlier with a stiffer straw, and naturally more grain.

This is quite natural, as vegetation is very quick in many parts of the States, and land unsalted will grow an abundance of straw without maturing grain.

Also in reference to the essay approved of by the Royal Agricultural Society of England in 1868, and the quantity of salt per acre. You will understand that high farming is the rule among those people; you will also observe that it recommends salt to be sown thicker on light soil than heavy soil, more to check the overgrowth of straw in grain crops than its real value as a fertilizer. While root crops, such as mangels, turnips and onions, we



are told by leading agricultural chemists, contain a very large quantity of salt, and experience has told me that they use it direct as a fertilizer, and a food to assist vegetation of that kind.

As to the use of salt in this country. I use at the rate of 300 lbs. per acre on land which inclines to grow too much straw and does not mature grain, and about the same quantity for roots with other prepared manure to answer as a direct fertilizer, and the result has been surprising.

JOSEPH FISHER,  
Willow Bank,  
Milton, P. O., Ont.

#### Flax Dressing in Canada.

A party of fifty flax dressers left Belfast for Boston the other day. With all the manufacturing "booms" that have been sounding through Canada for some time past, it is strange that little or nothing has been heard of flax culture and the manufacture of its different products. Raw silk and cotton are being imported and turned into finished fabrics; while the raw material of flaxen fabrics, though many parts of Canada are well adapted to its cultivation and the commercial value of the seed itself under favorable circumstances repays the labor, is not called for by our manufacturers. Large areas in the North-west, notably in the Mennonite settlements, are under flax, we believe, for the sake principally of the seed; if the stocks are used at all, it is likely as fuel.

#### The Elections.

If you are really true to your own interest, agriculture, you should by all means try and elect members that know something about your business. It would be proper for you to inquire of those who desire to represent you, what they know and what they have done or propose doing in regard to the introduction and spread of diseased animals in this Dominion. You have a just and proper right to examine your representatives; do not be afraid or ashamed to do so. Ask a pointed question and demand a straight answer, and do not be put off with a long-winded, evasive oration.

Ask if the Foot and Mouth Disease, the Hog Cholera, Trichinosis and Tuberculosis have been introduced into Canada from the United States. If they know nothing about these diseases and the dangers of loss and ruin to farmers from them, they are unworthy of your support, as they care nothing for your interest. They only want your vote, to enable themselves to gain wealth at your cost. This is not a party question. Both the Reformers and Conservatives deserve great censure at your hands for their neglect in a dangerous and critical time. Do not believe any man who denies that these diseases have been imported and that the most dangerous of them exists in Canada, even in May, 1882. Every leading Government official should be able to inform you about it.

When your herds are dying, when you only receive half the price you should have for your meat, butter or cheese, then you may blame yourselves for not agitating this question at the present time. We tell you positively that these diseases are to be dreaded, that we have had them introduced into our country, and that we have seen an animal dying from the most dangerous of the above-named diseases, in Canada, as late as a month ago. This is of far greater importance to you than any party question. Let agricultural interests be your plank. Far better not to record a vote, than to vote for a person who is devoid of honor, truth and justice.

You are compelled to pay for the maintenance of the Board of Agriculture, the Provincial Exhibition, the Model Farm, and a heavy lot of printing,

etc., etc. Just ask your would-be representative why the Agricultural Commission, for which you have paid so much, did not furnish facts regarding the dangerous contagious diseases that have been imported into Canada. You have seen the attempt made to centre the whole grant for agricultural exhibitions in Toronto; ask your representative if he intends to support township exhibitions, or intends supporting their destruction. If your intended representative cannot give straightforward responses, without evasion, to such questions, you should by no means record your vote for him, as it plainly shows you that he cares not for your interest. The questions about tariff, or divisions of boundaries, or secret organizations, are of no consequence in comparison to your agricultural interests. Ask why farmers and their families and their stock are killed by the railroads without redress. Do not let future generations point to your vote as having supported men who have ground the farmer down for the benefit of Toronto monopolists. Farmers, if you vote for the Toronto monopoly of the Exhibition, for the suppression of township exhibitions, for the spread of contagious diseases in Canada, and for deception and darkness, you then vote for chains on your offspring that must make them like the serfs of Russia. Dispel darkness, demand light, or show your contempt by retaining your vote until a proper time comes to use your influence; rather than vote for one who knows nothing and cares less for your agricultural interests.

#### Tile Drainage.

Professor S. A. Knapp, of the Agricultural College, Ames, Iowa, writes as follows:

In the few remarks I design to make upon the subject of tile drainage, permit me to call your attention to the importance of general land drainage as distinguished from the common, but mistaken, notion that wet lands only should be drained. That the surface water should be drawn from the sough is an accepted problem to be worked out as money and time permit; but the necessity of a general system of drainage for our lands is a proposition almost startling to the average farmer. Without entering into too minute a discussion, let us consider a few of the more important advantages of under-draining land.

1. It increases the depth of the soil in two ways. Frequently, after the surface is quite dry, there is so much water in the subsoil at the depth of a foot or more, that the roots of the more highly cultivated plants refuse to enter it, and are turned back to secure their nourishment near the surface; or the subsoil may be too hard for the more delicate fibres to penetrate, or penetrated, yield so scanty nourishment as to dwarf the top.

Under-draining lowers the line of excessive water beyond injury to roots, and it arrests the ascending water, whether from spring or capillary action. It allows the rainfall, loaded with volatile manures, to pass through the soil and be discharged from underneath, after depositing its fertilizing material, instead of flooding the surface and removing from the upper soil many substances useful to vegetation. Soil from which the water has no outlet but evaporation frequently becomes charged with poisonous matter, to the detriment of vegetation. Where there are under-drains these poisons are washed by the rain down through the soil and removed by the drain. This constant descent of water through the soil causes a similar descent of air through its pores, from the surface to the depth of the drain. "When the rain falls it enters the soil and more or less completely displaces the air which is contained within its pores. Thus air either descends to the drains or rises into the atmosphere. When the rain ceases, the water as it sinks again leaves the pores of the upper soil open, and fresh air consequently follows." Thus, when under-drains exist, not only does every shower deposit its fertilizing ammonia, but it serves to force the fresh air through the pores, which produces conditions so healthful to vegetation.

It should be observed that the theory that the soil is exhausted because it does not produce large crops is obsolete. Only a small portion of material is in a condition to become food for plants; the remainder is locked up in insoluble compounds, which

are reduced by the alternate action of air and water. The soil freed from the constant presence of water becomes gradually looser, more friable, and sweeter. The hard lumps crumble and the subsoil becomes more porous and is penetrated by the deep-rooting corn and clover; and when these decay spaces are left for water and air.

2. Coldness of soil is due largely to the water it contains; remove this and temperature is raised from 8 to 10 degrees, which means a lengthening of the season about twenty days, or what is equivalent, the hastening of the crop. In some portions of Scotland, when a system of under-drainage has been carried out, especially in Aberdeenshire, it has been observed that the crops mature upon an average ten days earlier than twenty-five years since. The season is hastened in the spring by enabling the cultivator to get on to his land earlier by several days, and all through the summer it prevents loss of time in working the crop by prompt removal of the surplus water. Sometimes a week of valuable time at corn planting or during corn cultivation is lost by reason of excessive rain, and a crop is lost or seriously injured which drainage would have made a success.

Thus is the farmer rescued from the fickle dominion of the uncertain seasons.

3. On wet land many of our best manures are almost thrown away. High cultivation, then, is only possible upon land naturally or artificially drained. Thus is the farmer subjected to great loss by actual waste, and a barrier is placed against his best efforts towards progress. Drainage can give him courage and hope and a constant return from honest toil and liberal cultivation.

4. Two important conditions in plant growth, temperature and water, should be more generally understood. Professor Bessey has shown that seeds refused to germinate till a certain temperature of soil is reached, and that the growth of the plant is accelerated by increase of temperature till a certain point, designated the optimum, is reached. An increase of the temperature of the soil by under-drainage causes, therefore, more rapid growth of the plant quite a portion of the season. But heat is not the only aid to growth; the amount of water in the soil has an equally direct bearing.

Plants take their food in a solution of water and there is a proportion of solid matter to water that is the best for nourishing the plants; an increase of water from the ratio affects the plant as diluting milk with water affects the growth of the calf.

How much and how long plant growth is retarded each season by excessive water would make an interesting table.

Under-drainage speedily withdraws the water, and leaves only the normal amount in the soil, thus uniformly affording to the plant the best condition of moisture as well as temperature.

Without further suggestions upon the value of under-drains—let us consider the method of construction.

1. The size of the tile. In no particular in drainage has a greater mistake been made than in the size of the pipes. Frequently a two-inch pipe has been laid to serve the purpose of main drainage on forty acres of land.

It would take a two-inch pipe about twelve days, running at the rate of four miles per hour, to discharge an inch of water on forty acres, or six days to dispose of one half that amount, allowing the other half to evaporation and retention in the soil; a six-inch pipe would remove this surplus water in sixteen hours; thus enabling the farmer to work his land on the day following the shower. Main drains, extending one half mile or more, should not be constructed of tile less than six inches in diameter, while three or four-inch tile are used for branches. Small tiles are passing out of favor.

For perfect drainage branches should be laid from the main, on each side, once in two to four rods, depending upon condition of soil and depth of drain.

The tile should be from three and a half to four feet deep. Probably four feet, all things considered, is a very satisfactory depth. Much less than this places the tile within reach of roots from some of the cereals and grasses, which may penetrate it in such quantities as to entirely obstruct the passage.

In laying past willows or through orchards the joints should be cemented.

A very good grade for tile is one inch fall to the rod. One-half this may work if the tile be carefully laid.

Canadian dairies produce annually 60,000,000 lbs. of cheese, and export about half as much as the United States.



**Hints on Making Roads and Drainage.**

**GOOD ROADS**

All over any township add to the value of the land in the township more than anything else of equal cost. A good road means a good load to and from market town in less time, with less wear and tear on wagon and team.

**BAD ROADS**

Are the rule and complaint everywhere. Usually but little thought is given to the method of making roads, and men plow and scrape more than there is any need of, and make a narrow, poor road when they get through.

It is absolutely cheaper to make a good wide road than to make a narrow one, in any country where the land is free from rocks and trees. The reason is obvious; with a wide road you simply bring the dirt from the ditches upon the road bed, and the road bed should never be plowed up or disturbed.

The road should be forty feet wide from outside to outside of the ditches.

The road bed (that is, the portion between the inside of ditches) should be twenty-five feet wide. The ditches should be seven and one-half feet wide.

The ditches should be a gradual slope from the edge of the road bed to the outside, and should be one foot deep at the outside.

In case the ground is uneven, through the higher spots the ditches should be deeper, for the ditch must have a uniform grade to draw off the water, otherwise you will have a wet, muddy road.

First.—Stake off the road bed twenty-five feet wide, setting stakes so a man can plow a straight furrow.

Second.—Then plow the sod on each side the width of the ditches, seven and one-half feet.

Third.—Scrape all the turf or sod upon the centre of the road bed, striking the furrows endwise with the scraper, and having the team pass around in a circle.

Fourth.—When the sod the whole width of the ditches is removed to the road bed, plow again, with the furrows growing deeper to the outside of the ditches, and scrape this mellow earth upon the road bed, rounding up the centre and filling all inequalities caused by the sod.

Fifth.—When the second plowing has been scraped in, then plow again three or four furrows wide upon the outside of the ditches, scrape in the dirt and round up the road, leaving it highest in the centre and curving gradually to the outside of the ditches, like the cut below. Such a road as this can be made at less than twenty-five cents per rod.

The ditches are seven and one-half feet wide, one foot deep on the outside, and sloping up to the edge of the road bed, hence it has cost the labor of removing less than five and one-half cubic yards of earth to make a rod of road.

The ditches have been lowered one foot on each side, the road bed in the centre has been raised six inches by the dirt hauled out from the ditches, hence the drainage is eighteen inches in twenty feet from the centre of road to outside of ditches, which is ample.

Now with such a road the original road bed is solid and firm, as the earth has not been plowed or disturbed, the sod and mellow soil scraped top of them soon pack and become hard, and the ditches themselves are hard from having all the loose earth scraped off, hence you have a road forty feet wide that can be used, and the travel will never follow in a single rut, as it must in a narrow road.

The public roads of a township show the public spirit, enterprise and character of its people, and

to a large extent, affect the value of its farming lands.

In the most thrifty township you will find the best roads.

The authorities each year think their township too poor to buy tools that men can and will work with, and the aggregate public every year pays in broken wagons, worn out teams and hauling half loads, more taxes than it would cost to buy good tools and enough of them to make the roads good.

furrow. This will give an oval road bed so the travel can, if required in turning out, go clear to the bottom of the ditches without tipping over. The outside of the ditches can be cut to an angle of forty-five degrees, as shown in diagram No. 2, by driving lengthwise of the ditch with a scraper, one horse on the bank and one in the furrow. A scraper will cut the bank smooth and leave it at an angle so it will stand better. The cheapest way to make a dry road is to make ditches that will take off the water. Any road will become dry that has good ditches, and nothing short of that will make a dry road. To fill up mud holes without draining them, is simply putting in more earth to make more mud.

There is hardly a farm that would not be improved by making broad open ditches to drain off the surplus water in the early spring, like this diagram: (No. 3.)

They make no waste land, like a straight hand-cut ditch, (No. 4), but can be plowed to the bottom, can be driven over without bridges, and, more than all other considerations, do not fill up, hence cost nothing for repairs. The cost of these ditches made with a scraper, is trifling. The land is plowed and the dirt is wanted to fill up any low or uneven places within a few rods on either side.

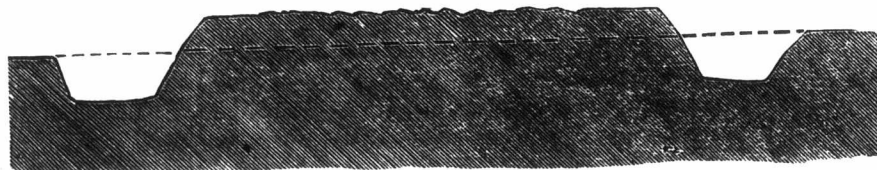
The depth of drains should be regulated by circumstances, but chiefly by the character of the ground, and the distance the drains are set apart. In wet, low ground, if the drains are 100 feet apart they should be at least 3½ feet deep, or even 4 feet, and it is cheaper to dig drains 100 feet apart 4 feet deep than 60 feet apart 3 feet deep. This depth is required between the drains. This is called the water-table, and is always higher half way between the drains than near the drains because of the porosity of the soil which holds and draws up the water considerably. When the ground is drier and is wet only at certain seasons, 3 feet is a sufficient depth, and 100 feet apart will be near enough. In very wet, tenacious clay soil it is advisable sometimes to put drains 50 or even 40 feet apart, and the depth then may be 3 feet.

In some cases, when the ground is open and water will soon drain from it, the subsoil only being retentive of the water, 2½ feet is a sufficient depth.

Potatoes, it seems, are like other plants and require to be acclimated before they do as well as in the climate of the country where they originated.

However, some of the best varieties that we have known here had been brought from Great Britain. We would merely mention the Prince Albert Flake, and above others the Pink-eye. The chance of seed from one locality to another, even across the ocean, has been proven to have a favorable effect. Imported potatoes make very poor seed for this country. The favorable effect of a change of seed from one locality to another does not extend across the ocean, at least not westward. Why this should be so I do not attempt to explain, but hundreds of experiments have proven the fact. Even American varieties grown on English soil for a few years, and brought back again, do not yield as well as home-grown seed.—[Dr. F. M. Hexamer, in N. Y. Tribune.]

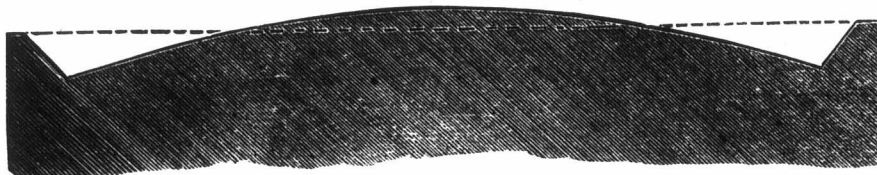
A rough and ready way of estimating the weight of an ordinary fat bullock is to take three-sevenths of the live weight as offal and four-sevenths as dressed carcass. Thus one-seventh of the live weight will be the weight per quarter of the dressed carcass. Much depends on whether the animal has been feeding or fasting before being killed.



No. 1.

This is no overdrawn picture, and every man who reads this will call to mind instances in his own knowledge to prove its truth.

The remedy for this state of things is simple enough. Any officer will be sustained, and re-elected, if he wants to be, who will greatly improve the roads without greatly increasing the burden in taxes. To do it let him first get tools enough to do the work by teams. If there are a dozen teams



No. 2.

in his district that will want to work, let him have from four to six scrapers, and second, set men to work in different places, so that what a man does can be seen by the public. A rivalry will soon spring up and each man will try to excel the rest. Try it and see if your roads are not improved.

The tendency is to make the road bed too narrow in the first place, and then to encroach upon it every time it is repaired. The said ditches are

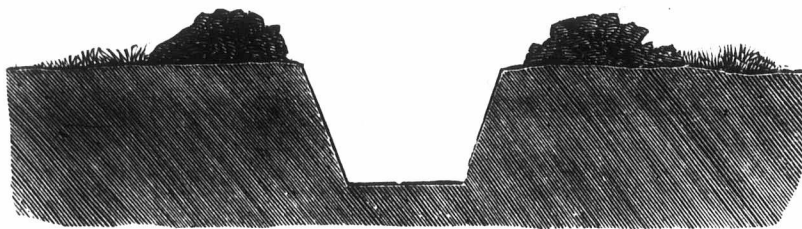
to lower the level of the water in the spaces between the drains. This is called the water-table, and is always higher half way between the drains than near the drains because of the porosity of the soil which holds and draws up the water considerably. When the ground is drier and is wet only at certain seasons, 3 feet is a sufficient depth, and 100 feet apart will be near enough. In very wet, tenacious clay soil it is advisable sometimes to put drains 50 or even 40 feet apart, and the depth then may be 3 feet.



No. 3.

usually deepened most close to the road, hence the travel is kept in one place—it is difficult to turn out—the road soon becomes rough and rutted, and the result is a narrow, flat, rough road with abrupt ditches each side like diagram No. 1.

The road should be highest in the centre, and gradually sloping to the outside of the ditches, so the travel can be over a wider surface without danger of tipping over, like diagram No. 2.



No. 4.

In making repairs the better way is, to plow on the outside of the ditch, always throwing the furrows towards the road. Then begin to scrape from the outside of the new plowing and you have plenty of fresh earth to broaden and round up the road, and room to set the scraper square into the outside



### The Dairy.

#### Some Points about Ensilage and Silos.

BY L. E. ARNOLD.

It is now pretty well established that there is some advantage to be gained from the preservation of green food in silos, and also that the extent and certainty of that advantage depend chiefly on the conditions comprised in the silo in which the preservation is effected. In the first place, the silo must be, as nearly as possible, air-tight. The free oxygen of the atmosphere is the active agent which stimulates the destruction of food elements in the contents of silos, and alcohol and vinegar, and carbonic acid gas, are the chief products of the destructive changes. These come from fermentation, and this cannot go on without air. Hence if a silo is air-tight, fermentation and the changes consequent upon it will be prevented. But making a silo air-tight does not prevent all change in its contents. With plenty of moisture and a medium temperature, the starch in the vegetation will, by degrees, be changed into sugar and the sugar into lactic acid. These changes do not require air, and will therefore take place in any kind of a silo, unless counteracted by desiccation or an extremely low temperature. But these are not destructive changes. They consist in little else than a re-arrangement of the atoms of the starch and sugar, which does not materially affect their being utilized for food, so that while unavoidable they are comparatively harmless. Unless fed in excessive quantity, the food in which these changes have occurred remains good for producing milk if it was good before, for the changes are identical with those which take place in the same substances in the bodies of animals preparatory to their entering the blood, into which they cannot go in the form either of starch or sugar. When air touches the fodder, and fermentation sets in, the changes are altogether different. In the first place, one half of the weight of the gum, starch, and sugar is liable to be taken up in the formation of carbonic acid and carried away in the form of gas and entirely lost, and what is left of them to be converted into alcohol or vinegar, and not only to become of no use as food, but to work injury to the stock which feed upon it, especially when fed to milch cows. But all these effects can be prevented by excluding air from the material to be preserved, and the possibility of doing so is what has contributed to the success of modern ensilage.

The early silos were imperfect and extremely wasteful. They consisted of earth pit-holes dug in the ground in some dry place where water would not penetrate. The material to be preserved was laid upon the bare earth, and then, after being covered with straw, boards, or other material, to prevent the dirt from mingling with the fodder, the whole was buried beneath a thick layer of earth. The great defect in such silos was that they did not exclude the air. Though piled several feet thick, earth, either loose or pressed, is not impervious to air. It slowly finds its way through any kind or thickness of earth, and when it reaches the buried ensilage, becomes the support of an active fermentation that destroys a large part of the food elements of whatever the silo contains.

What occurs in such silos was illustrated by the effects produced in two earth pits made for the preservation of fodder corn at Vienna, under the direction of the experiment station at that place, and, of course, built in the best way. An analysis of the corn before and after ensilage, showed that at 15 inches from the surface, which would naturally have more contact with the air than the interior, nearly half of the dry solids in the green

corn had disappeared—18.85 lbs., the amount of dry matter in 100 lbs. of green corn, was reduced to 9.93 lbs. Three feet below the surface, where less air penetrated, the loss was less—18.85 were reduced to 12.47. The loss was chiefly in the starch and sugar, which had more than half of them been converted into carbonic acid, and passed away in the form of gas, while another portion of them were lost by being converted into alcohol and vinegar. Other soluble and valuable constituents of the corn were absorbed away by the earth. The woody fibre was but little affected and this caused it to maintain nearly its original bulk, and to look very much as it did when first buried, and gave it the deceptive appearance of being as good as before burying, though it had lost more than half of its food value. Since, in such silos which are supposed to be better made than the average, there is a sufficient influx of air to keep up a fermentation sufficiently active to destroy, in five or six months, half of the food elements in the materials preserved, the average earth pits must have been too destructive to effect any economy in preserving anything except such as could be preserved in no other way, such as the tops and pulp of beets from which sugar has been made, frost bitten potatoes or frosted herbage, and fodder corn when the weather is too wet to dry it. In such cases it might be better to save part than to lose the whole.

In a well built, air-tight, modern silo, this great loss is nearly all obviated. The changes will go but very little beyond the formation of lactic acid, and the consequent loss need not exceed ten per cent. of what it would be if the same fodder had been preserved by drying in the open air. There will always be some loss. It is impossible to get fodder into a silo and covered, without having some air mingled with it, but if the covering is air-tight and well pressed down, the little free oxygen contained in the interstices in the fodder, will be all used up in two days time, and the little cavities be all filled with carbonic acid and other gases harmless to the ensilage. Fodder preserved in such structures will keep almost indefinitely, and make good milk if it was good milk-producing food when it was put in. No one need expect to take out any more food than he puts into a silo, nor need he expect it to be any better than he puts in, for, thought in some respects it may be a little better, on the whole it may reasonably be expected to be a little depreciated. But any such loss or depreciation is much more than over-balanced by the consideration of having green and succulent food in winter's cold and summer's drought, for promoting a full and continuous milk yield, and from the greater facility, cheapness, and certainty in its preservation than would otherwise be obtained. Ensilage is likely to prove quite as valuable in bringing over a dry time in summer as for winter use. For this purpose it should not consist of corn alone, but of corn and green clover, timothy, millet, peas, or other food richer in flesh-forming matter than corn, just as would be necessary if the same materials were to be fed to cows without being made into ensilage, and then ensilage should only constitute a part of the food of milch cows, as otherwise it will contain too much acid for a good milk diet.

#### Milking.

It is not every dairyman that knows how to milk—some cannot, and others will not, learn. Vast numbers of good cows are ruined every year by carelessness, by neglect and by brutality of milkers. The manner of milking and the circumstances connected therewith are not often fully understood, or if understood, not fully appreciated by dairymen. I heard two farmers recently comparing the yield of milk from their respective herds for the past season. The receipts of one were about a third more than those of the other, and the latter said: "I cannot understand this—my feed, my

water supply and my cows are as good as yours." The reply was—"Yes, but when my milkers go into the milk barn to milk they understand that it means business. I tell them my milking barn is no place to tell long stories and spark the hired girls. I won't have a poor milker around at any price, and if I catch a man striking or maltreating a cow, 'off goes his head.' I talk this thing over when I hire him, and he understands the first time he abuses my cows his time is out." It was evident these few words struck deep; the subject now had a money value which carried conviction and was more impressive than mere words.

The first point to be observed by milkers is extreme kindness to dairy stock—no loud talking or rough treatment of any kind should be allowed while milking. The animal should become well acquainted with its milker; should be made to feel a perfect trust and confidence in this person's good intention, so as to be kept as quiet and free from excitement as possible. This is best effected by petting the cow, handling her gently and speaking in low, kind, cheery tones. Cows that are frightened, that are kicked and beaten for every misstep they make while being milked, not only fall off greatly in their yield of milk, but their milk is rendered unwholesome and often so much so as to cause disease and death to persons partaking of it. The changes which milk undergoes under such circumstances have not been fully explained, though as a physiological fact the unwholesomeness of such milk has been long observed, and made record of, by the medical profession. It should be borne in mind, therefore, that anything which frets, disturbs, torments, or renders the cow uneasy, lessens the quantity and vitiates the quality of her milk.

The quantity of milk that a cow gives depends much upon the mode, time and regularity of milking. Cows do best that have one regular milker, and the time of milking should be carefully attended to and not be subjected to variation from day to day. The bag should be brushed of any loose hairs, and in case of any dirt on the udder it should be cleaned by washing with a cloth and fresh water. For if the cow has been driven through any muddy places and thus become smeared, any dirt accidentally falling in the pail will communicate its taint to the milk. The practice of wetting the hands and teats with milk before milking is a very vicious practice. This should always be avoided, both for the comfort of the animal and the cleanliness of the milk. The milker should have short finger-nails, for long nails will be sure to hurt the teat and cause irritation to the cow. There are two methods of milking—the one may be called stripping or catching the teat between the finger and thumb and stripping down the whole length of the teat. This plan is not to be recommended. The better way is to grasp the teats, one in each hand, diagonally across the bag and press out the milk—the second, third and fourth fingers doing the main work, while the upper portion of the hand and first finger prevents the milk from returning to the udder; the milk should be drawn rapidly and the udder completely emptied of its contents. In the flush of the season, or when cows are yielding the most milk, from 11 to 12 cows per hour will be about the rate for a competent hand. A slow, dilatory milker makes a great loss in the yield of milk, and if possible ought never to be allowed to milk, except, perhaps, when cows are going dry at the end of the season. As the last-drawn milk is the richest in butter, great care should be taken that all the milk in the udder be drawn, and this is important, not only on account of the value of such milk, but because the habit of leaving a part of the milk undrawn has a tendency to dry up the cow and weaken her capacity for yielding a full flow of milk another season.

To be a good milker is an accomplishment which some persons can never attain. It requires a muscular hand, honesty, or conscientious integrity in discharge of duties, good nature, or complete control of temper, at least while milking, and a scrupulous regard to cleanliness.

Unless perfectly trusty hands can be employed in milking, the dairyman should give personal attention to the milking, and if he does not milk himself he should see to it that those in his employ perform the work properly in every particular; for it is upon the manner in which this work is performed that his profits from the dairy will be in a great measure regulated—one blow on the spine with a milking stool in the hands of a passionate, ill-tempered man, or a kick on the udder, may ruin a cow forever.—[X. A. WILLARD in Rural New Yorker.



### The Toronto Grab Game.

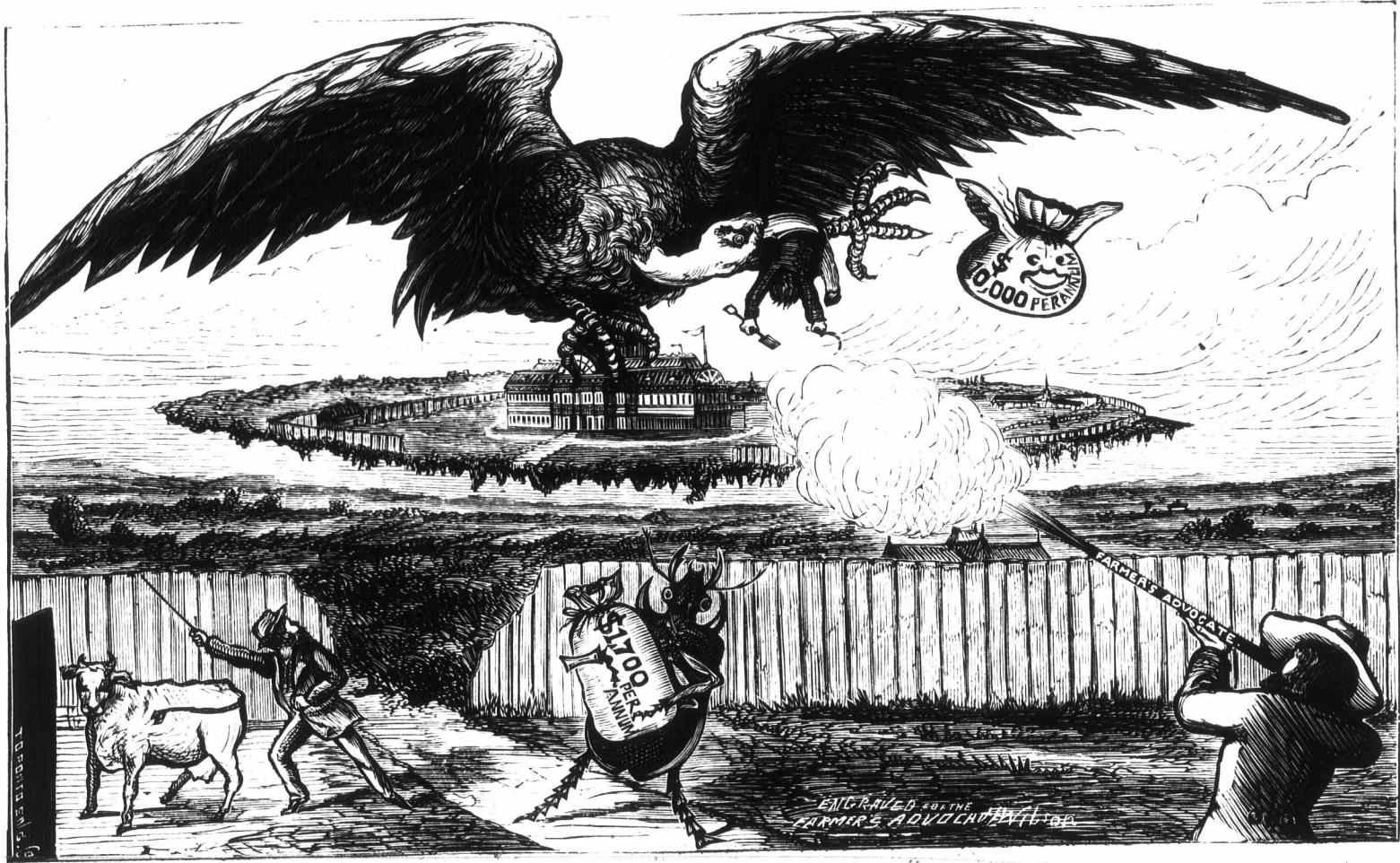
A most dishonorable and dishonest act has been planned and partially carried out by a few cunning, selfish, devising citizens of Toronto. Some of the leaders of this fraud are men of plausible address, yet inwardly are full of the vilest deceit, and despite pretensions of morality, their word of honor is at such a low ebb that false oaths are reported to be no stumbling blocks. Greed and deception are their bosom friends; and what is much worse some of our legislators have been countenancing and actively aiding them to defraud you of your right, and one in particular has actually caused a loss of honor in the U. S. by deceptive acts.

Farmers, the fine old exhibition grounds in Toronto were granted to you for agricultural and other exhibitions by the Government. Your money has been expended in erecting the buildings and putting the grounds in order. The old grounds have been exchanged for the new. The

Farmers, they have set you at defiance: they have refused you the right of your grounds in Toronto for your Provincial Exhibition this year; they have tried to crush you out: they have not acted honorably or honestly; they have also attempted to get the annual Government grant of ten thousand dollars paid by you, for themselves. You that desire fair play cannot think of supporting this fraudulent attempt. We advise you to have nothing to do with this exhibition until they have assigned to you all the right, title and claim to the grounds that they have now unjustly taken. Remember, many of the persons foremost in this fraud have raised the cry that there are too many exhibitions, and desire to do away with our township exhibitions and centre the expenditure of moneys to which the farmers are entitled, in Toronto. The Toronto people themselves are not satisfied with the deceptive work of this body, but cunning people will often work

The beetle represents the Secretary of the Fruit Growers' Association, who, when asked to assist the Provincial Exhibition, replied that the Association would help if their representatives were paid just as much as any member of the board received; also their travelling expenses, and be furnished with all the help they wanted—in other words, let them appoint all the judges they choose, and in fact do as they pleased and pay nothing. What good has this Association done to show for all the money it has received? In Quebec a similar association makes a grand exhibition every year, and awards the grant in money prizes, pays its expenses, and is not run by a clique as the Ontario one has been. The former wants shaking up.

The cow represents the Western Dairymen's Association, who, when asked to co-operate with the Provincial at Kingston, did not condescend to reply. Remember, the President knows something about the introduction of contagious dis-



TORONTO'S VULTURE SEIZING THE FARMERS' PROPERTY AND ATTEMPTING TO GRAB MORE.

iron and glass of the old building have been put on the new building. A cunningly devised transfer has been made without your consent to this grasping, greedy company, who now have secured your land and buildings, and bid defiance to you to use them and refuse you the right to your own property. This private company of sharpers have played a very nice game. They have made a great show, have put the grounds in good order, and well they might when they got them for nothing; monopolized all the advertising, manipulated the food and drink supply to their benefit; they subverted the agricultural interests to monkey shines, aunt Sallies, nigger butting, secret organizations, and many kinds of demoralizing acts tending to corrupt the morals of the youth of our country. Even in the exhibition of animals and implements, the same demoralizing effect is taught by palming off great frauds and by selecting tools for judges to assist the unprincipled leaders in their nefarious practices.

themselves into places and power that they are unfit for, and when the honorable people of that city again get control it will be time enough for us to go there for an exhibition. Farmers, keep up your township and county exhibitions, and confine them to their proper purpose. You can see Barnum or Forepaugh in your own localities without the long journey, the dust and inconvenience of going to Toronto.

The vulture represents the Cormorant Company that have seized your exhibition building and grounds. We look on it as a theft; in the beak is a farmer; they would think nothing of killing farmers as insects to satiate their greed. The vulture is making a grab at the annual grant, but has not got it yet.

The Advocate fired one shot at the vulture at the exhibition last fall, and now fires a second. It can use a seven shooter if necessary, but don't like to waste ammunition.

eases in Canada. Why did he not expose the evil when it was his duty to have done so? Is he allied with the vulture?

"If I were to preach a sermon on horticulture," said the late A. J. Downing, "I should take as my text 'stir the soil.'"

Celery is a vegetable which apparently receives but little attention from the public, and still the trade in this article amounts annually to many thousands of dollars. While many use it for its medicinal qualities, its well-known effect on the nervous system causing it to be highly prized, others, and by far the majority of consumers, consider it a luxury, fit only for the wealthy. Few are aware that fully one-third of the celery of commerce is thrown away as useless. All the coarser parts—the outside stalks and the greener portion of the stock—all, in fact, that is unfit for the celery glass, can be utilized by cutting into short pieces, cooking and serving in precisely the same manner as asparagus. All housekeepers who try it never after waste any of their celery.



Entomology.

The Red-Humped Apple Tree Caterpillar.

BY WM. SAUNDERS,

President of the Entomological Society of Canada.

This insect appears in the perfect or moth state (fig. 1.) during the latter part of June. When its wings are expanded it measures from one inch to

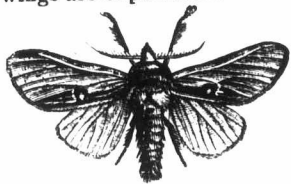


Fig. 1.

eral longitudinal streaks along the hind margin dark brown. The hind wings of the male are brownish or dirty white, those of the female dusky brown; the body is light brown, the thorax of a darker shade.

The female deposits her eggs in a cluster on the under side of a leaf during the month of July, where they shortly hatch into tiny caterpillars, which at first consume only the substance of the under side of the leaf, leaving the upper surface unbroken, but as they increase in size they devour the entire leaf. When not eating they lie closely together on the twigs, and sometimes entirely cover the branches they rest on; they attain their full growth during August or early in September. When mature the larva presents the appearance shown in fig. 2. The head is coral red, and there is a lump on the back on the fourth segment of the same color. The body is traced lengthwise by lines of black, yellow and white, and has two rows of black spines along the back, and other shorter ones upon the sides, from each of which there arises a fine hair. The hinder segments taper a little and are always elevated, as shown in the figure, when the insect is not crawling. It measures when full grown about one and a quarter inches long.

They entirely consume the leaves of the branch on which they are placed, and when these furnish insufficient food to bring them to maturity, the adjoining branches are laid under tribute. When handled they discharge from their bodies a transparent fluid with a strong acid smell, which doubtless serves as a defence from their enemies, especially birds, since their habit of feeding openly in large flocks renders them particularly liable to attack from these active foes.

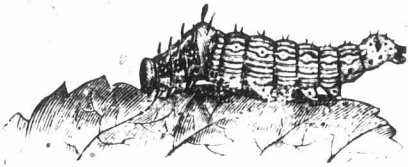


Fig. 2.

When full grown they all disappear about the same time, descending from the trees to the ground, where they conceal themselves under leaves upon or slightly under the earth. Here after a long time, the larva changes to a brown chrysalis, fig. 3, and remains in this condition until late in June or early

in July of the following season. They are very generally distributed, but seldom

abundant, and while very partial to the leaves of the apple tree, feed also on those of the plum, pear, cherry, rose, and thorn.

As they feed in flocks during their entire existence, these larvæ can easily be gathered and destroyed, either by cutting off the limbs on which they are feeding and burning them, or by dislodging them by suddenly jarring the limbs, when the larvæ fall to the ground and may be trampled under foot.

To keep ants from your hives we recommend a free use of salt to be sprinkled about on the platforms and especially if any ant hills are to be seen in or about the apiary, use plenty of hot water and then sprinkle salt plentifully, and we guarantee that the ants will not bother the bees.



The White-Leaved Weeping Linden.

Messrs. Ellwanger & Barry, of the well-known Mount Hope nurseries, of Rochester, U. S. A., have kindly loaned us the above cut, which we understand represents a tree growing on their handsome grounds. The white-leaved weeping Linden is a very vigorous growing tree, which has broad foliage, deep green on the upper side and nearly white underneath, so that every breeze that rustles it gives it an airy and beautiful appearance. It is not a weeper, after the style of the weeping willow, but as it increases in years it exhibits a drooping habit. Its handsome form, growth and foliage render it in our opinion worthy to be classed amongst the finest of our ornamental trees, and as such ought to be more frequently seen upon our lawns.

The Canning of Fruits and Vegetables.

This branch of industry is comparatively little known and less practiced in Canada, though it is closely connected with the raising and preservation of the products of the garden and orchard; and yet it is not enough to produce good crops, if we are not able to dispose of them to the best advantage. This we can seldom do at the time that they are fresh from the ground, for the markets are supplied in the greatest abundance, hence the necessity for canning and for drying fruits and deferring them late till there is a more active demand with higher prices.

To the canning of fruits and vegetables, especially tomatoes, we would limit our remarks at present. In this matter we may learn a lesson from our neighbors over the border, who are proverbially smart in pecuniary matters. It is stated that the annual consumption of canned tomatoes is rapidly increasing. As an article of food the canned tomato is becoming very popular as "a dainty dish," and they can be sold at such reasonable prices as to ensure for them at all times an active demand. They may be canned in large or small quantities with equal care. A good stove will do as good work as a large steam boiler. In some localities many people utilize the labour of their own families in canning tomatoes, and have grown their own vegetables and been well remunerated for their labor. Co-operation has, however, now become the rule in many branches of business, and it is especially adapted to the canning business. Factories may be constructed to can tomatoes at a fixed price per dozen or hundred. This would make the business more permanent, and establish a known brand and a more ready sale. Both grower and factor would be stimulated to produce commodities of superior quality. The grower or farmer would be encouraged to greater improvement in his business. He would grow more and better fruit, and the factor would have a certainty of a full supply for his factory, and a good market.

Of the tomato canning in Boston, U. S., the American Cultivator says:—"In average years our Boston canners pay 30 to 40 cents per bushel for their tomatoes, or from \$10 to \$12 per ton, delivered at the factories. Sometimes, when an extraordinary glut of tomatoes appears in the market, canners are able to secure supplies upon their own terms, and lots have been sold at 16 to 25 cents per bushel, or \$5.50 to \$8.00 per ton, a losing price to the grower. In ordinary years the business of canning tomatoes in Boston is very extensive, there being three large establishments engaged in this industry. Very little of this fruit is brought from any distance for canners' use, except in instances of very short crops. It is a fact that northern grown tomatoes are better flavored, more solid, and less watery when canned than those grown farther south. This same rule holds true in the matter of vegetables of all kinds. More tomatoes are canned in Boston than any other vegetable, in the proportion of 80 of tomatoes to one of other vegetables.

Careful experiments have proved that corn which is hilled will blow down more readily than that which has level culture. This can be accounted for by the fact that corn roots run very near the surface, and when hills are made they are confined to the small space covered by the hill; while in level culture the roots run from one row to the other, thus enabling the corn to stand strong as nature intended, and in no way liable to be blown down except by winds of unusual violence.



## Poultry.

## Disease in the Poultry Yard.

BY R. A. BROWN, CHERRY GROVE, ONT.

During the year I have had several severe cases of disease to contend with. Some have been very trying, while others have been but timely acts of attention. However, I have conquered all, but not without loss of time, money, and, in a few cases, the subjects of diseases. In two cases I have used the hatchet as a remedy, but had I used it on the arrival of disease and knew the smiting infection, I would have been better off, if not wiser. As it is now I know the realities of real Canker and how to cure it.

In the fall of 1881, I purchased a trio of Houdans, said to be the prize winners at the Industrial, Toronto; as to size, markings and fancy points, I believe they were what was claimed for them, but their fatal failure was that they were dying with a terrible disease, and, I suppose, in order to get rid of disease and diseased, the owner offered them at marvellous low prices; but the breeders words were that he had so many, and wished to dispose of them before winter set in, as then he would be obliged to extend his buildings, and rather than do so would sell his prize trio of Houdans for \$5. I thought it very reasonable, and believing the breeder honest, sent him the money, but when the stock arrived at my express office the cockerel was dead, and, not knowing the extent of the disease, I took them home, where, on the following day, one hen gave up her breath, and joined her departed in the manure pit. I sent back word to the seller the state of affairs, for which he returned to me \$2, with the acknowledgement that he knew they were sick when sending, but this was the last of the transaction.

I kept the one hen away from my other stock, and put her through a course of treatments experimentally, as I did not understand its nature then. Her tongue was swelled and thickly coated with a hard substance somewhat resembling tanned sheep-skin; her face, comb and throat (inside) were festered with red looking ulcers, and she was breathing very hard.

I sharpened a stick nice and smooth and scraped her mouth of all its coatings, and applied some Electric Oil to that; to the sores a good bathing of vinegar and sugar of lead. This treatment I applied several times each day for a few days, but its effect was not encouraging. I then smeared all parts affected with kerosene oil for a few times and gave her every night a teaspoonful of castor-oil, for a few days more. Yet no good results. I tried stimulants along with the remedies mentioned, and repeated each several times for two months of daily attendance; at the end of three months she was as well as ever; but ere this time some hens had scratched up the remains of the putrid dead, and had contracted and spread its direful effects amongst the yard, and then my real trouble began. I have tried every plausible remedy, but the last results proved that smearing all parts affected with kerosene oil and putting some down the throat at the onset, then removing all foreign matter, washing or sponging the parts thoroughly clean, then apply a solution of vinegar and sugar-of-lead to all outward sores, and give, once a day to each subject, one teaspoonful of the following: One oz. iac sulphur, one oz. cream of tartar, one oz. epsom salts dissolved in one pint of water, with soft food mixed with warm water and well seasoned with red pepper and salt, and a small portion of cattle food; it helps digestion and tends to tone up the stomach, assimilating the food made use of. This, with plenty of fresh, clean water often, and a large outside run, with fresh earth to scratch and wallow in, will cure the worst cases imaginable.

## Duck Breeding.

In breeding ducks, to secure the largest number of young from the old birds, each season the setting of the first clutch of eggs should be done under ordinary hens. All the duck eggs set, which are dropped before the ducks show signs of brooding, should be set under common hens. By penning a young and vigorous drake with the ducks when they become broody, they soon forget it, and ere long return to laying, after which they can be permitted to hatch out a brood themselves. By permitting them to set at first, they frequently do not return to laying until very late, which is so much lost time in securing large birds for fall and winter sales. The hens selected for hatching the early broods should be quiet, medium sized ones, and those which are two years old are more to be depended upon than young pullets, which latter are apt to be restless, frequently diverting the eggs.

## CARE OF THE YOUNG.

While ducks, old or young, are naturally fond of water, hundreds of the ducklings, while in the "downy" state, are killed by too much kindness in this respect. Water, of course, should be supplied, but only in small quantities daily, using shallow saucers for the purpose, to prevent the young ducks from becoming wet and "draggled." They should be kept away from the water, not being permitted to take a bath in it until they are four or five weeks old, by which time they will have nearly completed the new dress of feathers, in the place of the soft coat of down they were born with. When they are full feathered, they can be removed to larger quarters, where they can have access to a small pond or run of water at all times. Large ponds or large streams of water are apt to hold the enemies of young ducklings, in the form of snakes, turtles, &c., so it is best to make use of small streams or artificial ponds, until the ducks are nearly or quite full grown, to avoid this danger and loss.

Ducks are greedy feeders, and, to secure that measure of profit from them which they are capable of giving, they must be fed liberally from the start. The first food should consist of stale bread moistened in fresh milk, or of "cottage cheese," to be supplemented, in a short time, with occasional feeds of the shreds of well cooked beef, cheap pieces being bought at the butcher's for the purpose. Until the birds are a few weeks old, little corn meal should be fed, for it has caused the death of hundreds and thousands of young chicks and ducklings at the tender age when such strong, heating food is sure to have a pernicious effect. It is desirable to have the corn meal either scalded or boiled before being fed, to make it more easily digested. Soon the ducklings will eat grains of wheat and cracked corn, in connection with the other food. They should have, during good weather, when the grass is dry, plenty of exercise, and especially on a grass plat where the grass is short and fine, for they are very fond of the tender blades of grass, in the absence of which, salad, cabbage, &c., can be supplied. Regularity and frequency in the feeding are very desirable, and the time for feeding, until they are nearly half grown, should be at morning, noon and evening, with other feeds in the middle of the forenoon and the middle of the afternoon, making five daily feeds. After this time two or three feeds daily are enough, with one or two for the matured and laying birds, if they have their liberty, for they can then secure a large part of their food in the fields.—[Ex.]

## Charcoal and Lime.

These two articles play a very important part in the management of fowls, whether bred in a fancier's yard or on a farm. Charcoal should be liberally fed, for no one thing is more conducive to health than this. It should be broken in small lumps and put where the fowls can get at it, and they will eat it with great relish. We have seen it fed to pigs, with the very best results; and those which were treated to it were never troubled with disease or sickness, while neighboring ones were. This helps to prove its value not only for swine, but for fowls. Where the birds are kept in confinement, it is a very good plan to keep a small trough in a sheltered place, full of small bits of fresh charcoal, and the fowls will soon learn to help themselves. The value of lime in the form of whitewash is well known, and those who use it liberally are the ones who keep their flocks healthy and cleanly. To render whitewash more effective in dislodging, driving away or destroying

lice and other parasitic nuisances, the addition of a little carbolic acid is invaluable, for scarcely anything else seems so distasteful to the vermin. Air-slaked lime should be occasionally scattered over the floor of the chicken house, to remove unpleasant and unhealthy odors, while a little of it should be scattered around the yards and runs. For material for egg-shells, oyster-shell lime is the best for this purpose.—[American Stockman.]

## Feeding Chickens.

A great deal may be said in regard to feeding; pushing the young chicks along towards maturity as rapidly as possible. The first month or two is the most critical period; while yet "downy," they are very tender. Their thin covering is not able to resist the cold winds or pelting rains; and unless judiciously fed on cooked and dry food, scraps of meat occasionally, cut onions and cabbage, and milk, if it can be had, they will not thrive as rapidly as we could wish. A well fed and well cared for chick or adult fowl is not as liable to disease as a neglected one. It is poor economy to stint young or old birds, and it is well to bear in mind that there is more profit in feeding well and pushing the chicks ahead than in not feeding them at all.—[Poultry Monthly.]

## Poultry Keeping for Women and Children.

Properly managed, the keeping of poultry can be made profitable, and it should have a place among the industries of every farm. From fifty to a hundred hens might be kept on many farms, at small expense, and a considerable income be derived from them. The care of them should be entrusted to children or women. All the work required is of a light and pleasant kind, and a child of ten or twelve years could do most that would be required. The responsibility of the charge would exert a beneficial influence upon the child, teaching him to be thoughtful and attentive to his trusts. Much amusement and pleasure would also be derived from the care of the poultry. Children are always interested in young chickens and hens, and ever find them a means of pleasant entertainment. The care of poultry is also suitable for women. Many a frail woman who devotes all her energies to household work and cares, would find that something to call her out doors several times a day and divert her attention, would soon effect a remarkable change in her feelings and appearance. The fresh air and the sunlight which she would encounter in her excursions out doors would quicken and purify her blood, and impart new strength and elasticity to her system. The care of the "biddies" would be well worth, in the improved health brought in return, all the time required; but the profit from the sale of eggs and chickens would bring an additional source of satisfaction. There are many who live in villages and large towns, who might find the keeping of poultry profitable. Some women who find it necessary to increase their scanty income by "taking in work," might find the keeping of a flock of good hens an easier way of attaining the object desired.

## Sunflower Seed.

For years the subject of feeding the seed of sunflowers to fowls has been referred to in poultry journals frequently with approval, and we have seen no word in opposition. It is something among flowers that the elephant is among beasts, huge and uncouth. Still it possesses the merit of producing wholesome food for the feathered tribe, and is to that extent so much beyond flowers in solid value.

But it being proved that it is a plant of more or less value for its seed, and being very hardy in its nature, it substitutes usefulness for beauty; and as it will grow in every out-of-the-way corner and place, where scarcely anything else can be cultivated, it can be honestly recommended to the keeper of fowls to appropriate such plots of ground to the raising of it for its seed. It would not require much space to produce from three to five bushels of seed, which would be a substantial addition to the winter season's supply of chicken-food.

Every person who keeps chickens should raise garden peppers. A tea made by boiling them in water and added to boiling potatoes or corn meal dough is stated to be a sure preventative of cholera in fowls.



## Garden and Orchard.

## How to Grow the Cauliflower.

I have been successful in raising cauliflower, and as there appears to be want of success—so far as I am acquainted—I will give you my method of cultivation. I sow my seed in the open air at the same time I do for cabbage. I am not anxious to raise hot-bed plants, for I find they do not do as well in our long hot seasons as later ones. In June, I spade up a bed of strawberries, which had just yielded its last picking of fruit, burying the tops deep in the soil, and the same day set out the ground with cauliflower. They did well, forming fine curd-like heads of fair size; and, although the season was one of long continuous drouth, they did well, nearly all forming handsome heads, some of which were very large. I also planted between the rows of early potatoes. After the potatoes were dug they had the ground to themselves. I set the plants about four feet apart each way and about one foot below the surface of the ground in rich soil, with a liberal supply of ashes mixed through it. Stir the ground often, drawing the mellow soil around the plant. If the plants do well they completely cover the ground. In the heat of the summer I mulch with green grass or weeds—never water, but sometimes flood them well with soapuds. In this way I generally get very fine heads.—*Fruit Recorder.*

## How to Train Tomato Vines.

C. G. T., writing to the Country Gentleman—In all my experience and observation in the cultivation of the tomato plant, I have never seen so profitable a way as is practiced by my next neighbor. When his ground is made ready he sets the plants in rows about four feet apart and three feet in the row. When about a foot high he places a stake about six feet long firmly driven into the ground, leaving about four and a half feet above ground. To these stakes the stalks are tied, pains being taken as the plants grow to have a crotch at or near the ground. As these two branches grow he entwines them about the stake. When any branches start out of the main stalks, they are allowed to grow only a few inches long, then headed in by taking off the terminal buds. In that way many side branches are furnished for bearing.

When planted in this way, the plants are easily cultivated; light and air freely circulate in every part. The tomatoes being thus favored grow very large, and being so far above ground, are free from dirt, and all washing and cleaning are avoided. They are ready for market when picked. Where there is not a suitable branch formed near the ground, one stalk is wound around the stake, and does very well. When the stalks reach the top of the stake they are not allowed to go higher.

My neighbor tells me that in a good growing season he has picked from half a bushel to three pecks from each average stake, and no larger or smoother tomatoes than his appear in the market. He also tells me that he would rather have the stakes taller than shorter. In this way of training the stalks, the fruit is ripe two weeks earlier than by the low way of training. The object of this trimming is to induce growth of fruit instead of unnecessary branches. When the stalks are in rapid growth, trimming is needed once in 10 or 12 days. In this way he has raised at the rate of 1,200 to 1,500 bushels per acre.

The watermelon contains about ninety-five per cent. of the purest water, and a trace of the purest sugar, and nothing has yet been discovered that furnishes so perfect and speedy a "cure" for summer complaint as watermelon, and nothing else. Even when diarrhoea has been kept up by continued eating of ordinary food, until the disease has become chronic, this delicious beverage—for it is little more—watermelon, taken freely two or three times a day, has again and again been known to work wonders, and to "cure" when all the usual remedies had failed.—[Food and Health.

Mildew on the grape is related to the potato rot fungus, and has the same frost-like appearance on the under side of the leaves when they are first attacked. Mildew appears from the first of June to September, and sulphur applied to the under side of the leaves by a bellows, is the common remedy. Strong, thick-leaved varieties are most free from the disease.

## Injurious Fungi.

The black knot is not, as many have supposed, the work of the curculio, but of a fungus that lives within the cells of the living parts. Prof. Farlow, while studying the black knot, did indeed find insects in the excrescences, but they were of several species, and doubtless made the knot their homes; but in every case he found the threads of a certain species of fungi, and one which is found nowhere else except in the black knot. The enlarged spots produce two different kinds of spores, as does the wheat plant fungus, one kind germinating in the spring during the growth of the warts, the other living through the winter. As the black knot will spread if left to itself, the knife should be freely used, and every diseased part burned.

## Marketing Small Fruits.

A visit to our markets in summer ought to convince fruit growers of the advantages of properly handling and packing fruit. The great difference in price of fruit of the same variety, but differently handled, should be a sufficient lesson. The first step to be taken by the grower is to provide proper packages and of just measure, whether barrels, baskets, or whatever they may be. See that they are perfectly clean and in good order. Don't put your fruit in broken packages. The second is the gathering of the fruit, which should be gathered before quite ripe, and be all hand picked. Don't put a layer or two of fine fruit at the bottom of the package, then fill in the middle with inferior fruit, and then another layer or two of fine fruit on the top, but select your fruit and pack the small and inferior by itself and sell as inferior fruit. This will give satisfaction to your customers and a much better price should be obtained, and if your name is marked on the packages your brand will be eagerly sought for by buyers, especially if of honest measure.

## Be Careful with the Cherry Trees.

Every cherry grower must be fully aware of the great necessity to observe the utmost care in protecting cherry trees from injury of any kind, especially bruises. It is, therefore, not for them, but for those who do not know, that we give these hints. A blow of the hoe, the scraping or barking by the swingletree in plowing or harrowing, or even a kick from the heel of a boot, will almost invariably cause damage that the tree will never outgrow. A kind of gangrene sets in, which all the efforts of the tree, however young and vigorous it may be, will never recover from. We had a Downton tree as thick as a man's arm, which having a few ripe cherries that we wished to jar off to taste, it being the first fruiting, we struck the trunk with the heel of the boot, which broke through the bark. It seemed to be so trifling as not to be worth a thought; but the following year the bark was dead two inches in diameter. The following year it was three inches, and in four or five years after one-half of the wood was exposed and dead; and in a year or two more the tree itself died, clearly from the one slight blow of a boot.

## Effects of Cold Weather on Blossoms.

Nature wonderfully protects a partially opened flower from injury by frost or cold weather. Unreasonable as it may appear to some, it is a well demonstrated fact that a partially opened pear blossom will withstand, uninjured, a degree of cold that will kill the matured leaf of both the pear and apple tree, and in fact, that of both the cabbage and turnip. Careful observation has taught that fruit growers have nothing to fear of injury to blossoms in the spring by frosts, until the blossom is fully expanded; but when a blossom arrives to this stage of its growth, even a slight frost, if it touches the bloom, is sure death to it. We have seen partially opened blossoms covered with snow, and receive no injury.

Nature has wonderful ways of protecting her productions. Especially is this true of plants, before the work of production has taken place. A little tobacco plant, not longer than a pin's head, will withstand, uninjured, a degree of cold that would kill a large plant after it has blossomed. A blossom that starts in the autumn enough to loosen the gum that cements the outer covering of leaves together, will not be injured until subjected to a degree of cold that is about 20° below the freezing point.

## Irrigated Strawberries.

Often when writing of strawberry culture we have remarked that nothing seemed to make strawberries swell so rapidly, and produce a large crop of fine fruit, as two or three thorough soakings of water just when the fruit was about half-grown. Almost all fruit-trees, about the time the fruit is swelling, require an enormous amount of moisture, as so much water is required to make up the juicy parts of plants. But most trees have some roots that go down some distance below the surface, where the moisture is more regular than near the top of the ground. The strawberry, in proportion to the total weight of the whole plant, has probably to collect more moisture for its fruit than almost any other plant; hence its roots, small and fibrous, do not go many inches below the surface, and are thus peculiarly sensitive to a lack of moisture in a dry time.

This hint it is well for those who cultivate the strawberry for domestic consumption to bear in mind. They will find if these waterings are abundant and thorough—not mere sprinklings from the rose of a watering-pot, but copiously from the spout, so as really to flood or overflow the bed—they will be repaid so liberally as to wonder that somebody had not told them about it before.

## Rose Culture.

The best time to plant cuttings is when the new wood has become just hardened enough to snap off easily. Often the stem, with a few leaves upon it, of a rose that has just fallen will make a good cutting. Plant them in a sandy soil, and if in a hot-bed so much the better, as bottom heat is a great advantage; or plant in a shallow pot, with a fresh horse manure at the bottom of it; then a layer of good compost, and at the top an inch of scouring sand. Wet the whole thoroughly with hot water, and when the sand has cooled put the cuttings close to the outer edge of the pot and press the wet sand close around them. There must always be an eye or bud at or near the base of the cutting. Keep the sand moist all the time. If you have a bell-glass to put over the pot it will keep the sand moist and make the cuttings sprout quickly. When the leaves have well developed pot the plants in small pots, with rich sandy soil. In hot weather, shade your roses with boughs, or much the ground with coarse manure. Always water them well every night. June is the best month for amateurs to start cuttings of all kinds.

## Remedy for the Maggot of the Cabbage Fly.

How is it applied?—The use of Bisulphide of Carbon is not only recommended for the cabbage maggot, but also for the squash borer, and other subterranean insects. It would serve admirably to destroy ants when you can find their hills. To apply the liquid, we have only to make a small hole, by use of a cane or other small rod, close beside the plant to a depth of two or three inches, then pour into the hole a teaspoonful of the fluid, and quickly cover the same by filling the hole with earth, and pressing it down with the foot. The same operation in the middle of an ant hill will quickly destroy the ants if they are in the galleries of the hill. All should remember that Bisulphide of Carbon and also its vapor, are very inflammable, and should always be used with great care.—[Ex.

TO KILL CABBAGE WORMS.—Sprinkle a good shower of middlings, which any farmer can procure from their grist mill, over the cabbage in the morning, when the dew is still on the ground. These worms eat this, and it appears to sour in their bodies and kills them in a short time. After rain or a dry spell, repeat this operation for any worms left. J. H., Campden P. O., Ont.

POTATO BEETLES.—There are many statements going about to the effect that lime dust, from the roads, wood ashes, and other similar substances will drive away the potato beetles. These are all mistakes. Nothing but Paris green or some other strong poison will kill them, and they cannot be driven away. Every one who grows potatoes should make it a business to kill every beetle that he can, as soon as he can and as quick as he can, and that will greatly help to exterminate these pests.



## Stock.

### Water for Stock.

When turning the stock on the pastures the water supplied ought to be looked to. Although a wholesome and plentiful supply of water is one of the most important matters to be considered in relation to stock, yet it is frequently neglected, and so long as there is water at all the owner is satisfied. There are few matters in connection with farming less understood, or at least less care shown for, generally speaking, among farmers, than the treatment of water for stock. Open drains which are oftentimes expected to give enough water for cattle during summer, are allowed to accumulate mud and all sorts of filth perhaps for years without a thought being bestowed on scouring or cleaning them up at the proper time. To such a state are those drains allowed to go, that they become choked up, the water of course remains stagnant and fetid, and for want of anything better the poor animals are obliged to drink it. Sometimes a certain distance along the line of drain openings are made, and some of the filth is cleared to make what is termed a "drinking pool." A drinking puddle would be more correct, and after forcing their stock to drink such stuff, people wonder at their cattle getting diseases evidently arising from blood poisoning, and brought on no doubt by having to drink water stagnant and polluted with teeming animal life, as well as the remains of myriads of defunct generations, which have already lived their "span," and instead of "sinking down to their home in the clay," have gone into the mud. Water intended for cattle drinking should be always running; we always feel pleasure in hearing the water stream "bubbling" through lands that the cattle are grazing on; it is a sure indication that if the source is good, the water is almost certain to be good for the stock. Then as to the source from which the water comes, it ought to be always a point for special consideration of the farmer, to see that no sewage can possibly pollute his water stream. For milch cows, above all others, it is particularly dangerous to allow them to partake of water containing sewage, as they may be the means of disseminating disease among those who may use the milk of such cows.

### Age of Sheep for Fattening.

Sheep fatten most rapidly at two or three years of age. By feeding with rich fodder, one year old sheep will increase in weight more rapidly than when older, for the period of growth is not yet passed. Whilst they will also fatten at this age, the flesh is not esteemed as when older, as it is more watery. Lambs taken very young and fed high are fattened and made palatable. But when fattened for profit as well as palatable flesh, sheep, as of other animals, should be matured in growth first. It is also true that after animals have become too old, neither profitable fattening nor the most palatable flesh can be secured with the best of food. Whether for economy in feeding, or choice meat, the best is attainable when the animal is well matured; neither before, nor much after that period.

### Gentleness with Horses.

A horse cannot be screamed at and cursed without becoming less valuable in every particular. To reach the highest degree of value the animal should be gentle and always reliable, but if it expects every moment that it is in harness to be "jawed" at and struck, it will be in a constant state of nervousness, and in its excitement is as liable, through fear, to do something which is not expected, as to go along doing what you started it to do.

It is possible to train a horse to be governed by word of mouth, almost as completely as it is to train a child, and in such training the horse reaches its highest value. When a horse is soothed by the gentle words of his driver—and we have seen him calmed down from great excitement by no other means—it may be fairly concluded that he is a valuable animal for all practicable purposes, and it may be certainly concluded that the man who has such power over him is a humane man and a sensible one.

But all this simply means that the man must secure the animal's confidence. Only in exceptional instances is he stubborn or vicious. If he understands his surroundings and what is required

of him, he gives no trouble. As almost every reader must know, if the animal when frightened can be brought up to the object he will become calm. The reason is that he understands that there is nothing to fear. So he must be taught to have confidence in the man who handles him, and then this powerful animal which usually no man could handle if it were disposed to be vicious, will give no trouble.

The very best rule, therefore, which we would lay down for the management of the horse, is gentleness and good sense on the part of the driver. Bad drivers make bad horses, usually.

### Sheep Management.

An exchange says: The two most common methods of keeping sheep are first to raise all the best ewe lambs each year, and cull out the oldest ewes to be fattened and sold for mutton every fall; and in this way keep the flock of a suitable size for the farm. The other is to buy the number of ewes required from the stock yards or droves, and at the same time select a good thorough-bred buck to breed from. Have early lambs, feed them high and have all the lambs sold off early. Get the ewes fat and sold out of the way before it is time to lay in a fresh supply for another year. The latter method has perhaps rather more to recommend it than the former, if the sheep are kept solely for immediate profit. By this method we are able to keep more useful breeding ewes at the same time than could be done if raising ewe lambs, as it is not likely that over half of the yearlings will breed the first year. But to balance the want of lambs in the flock we may expect to get a much larger average of wool from the young ewes than will be realized from the old ones that are raising one or two lambs each. Perhaps you will wish to be able to say that you have raised all the stock on the farm—something that any real farmer would take pride in. If such is the case, you must keep all of the good ewe lambs, and if possible not allow them to breed before they are two years old. You will then get the best fleece they will ever make at one year old; and at two years will have a fine large lot of ewes able to give good lambs. A very successful sheep raiser has made it a rule to cull the ewes at shearing time and keep those who have a heavy fleece and good lambs, too, for a second year and no longer. By so doing he has for many years succeeded in raising an average of three lambs for every two ewes in the flock. In all cases the lambs should have their tails cut off when a few days old, as it is of great advantage if they are only to be butchered at a few months old to have a nice bunch of fat in the place of a long and dirty tail. If you are so situated as to be able to sell the lambs at 60 pounds or less, it will not pay to castrate the bucks. Should you intend to keep them for the fall market, never omit to castrate all bucks.

### Consumption in Cows.

Of all diseases which cow-flesh is heir to none is more to be dreaded in a breeding herd than tubercular consumption, while in a milking herd, if the recent assertions of veterinarians and physicians of "the continent," perhaps of England also, prove well founded, the danger to be feared is not so much the spread of the malady among the cattle as its communication through the milk to children and delicate persons who partake of it. The speedy death of young pigs to which the milk of ailing cows was fed has been reported in this country, and the cows proved to have consumption, while the pigs died of some lung trouble, but were not examined. This is one of those diseases especially likely to affect the cows kept in badly ventilated stables, and liable to render the milk utterly unwholesome and repugnant if not deadly, and not only the milk but the flesh; and yet, such cows are systematically milked as long as possible and then killed, and the meat, if of fair appearance, sold openly.

Consumption in cattle may be communicated "in ordinary generation" like "original sin" by both sire and dam. It may also be communicated by the breath; a consumptive cow giving it to those standing next her in the stable.—[American Dairyman.]

In a state of rest, animals should be allowed as much water as they will take, but when they are likely to be called upon to perform severe exertion, smaller quantities are advisable, and in which case the allowance should be repeated at short intervals.

### Pare the Toes of Colts.

It is not generally recognized how much harm comes to horses from the simple overgrowth of the toes; and yet, in the case of young and unshod horses especially, hardly anything is more destructive to their soundness and permanent utility. Judging from the number of colts turned out everywhere with the whole winter growth on their toes, there seems to be a surprising amount of ignorance on this matter; and it becomes the more necessary to draw special attention to the need of paring.

A good average slope for the front of a healthy hoof is one forming an angle of 45° with the ground on which it rests. In other words, if a perpendicular line were drawn upwards from the toe, the line of the front of the hoof would be midway between such vertical line and the flat surface of the sole or ground. But the average foot grows far more rapidly at the toe than the heel, and wears off much more slowly. The heel, too, as it grows, turns inward, so that even with an equal growth, it never projects as does the overgrown toe. As the foot increases in length, therefore, the effect is shown and felt especially at the toe, and with addition to the length of the toe, the front of the foot and of the pastern recedes further from the vertical position, and approaches nearer to the horizontal. So much is this the case, than an increase of 1½ to 2 inches at the toe will often diminish the angle formed by the front of the hoof and the ground by one-third. In other words, the angle formed by the front of the hoof and the ground becomes about 30°, instead of 45°. This increasing obliquity of the foot and pastern throws a greatly increased strain on the cords supporting the fetlock and pastern joints, and gives them an enormously increased predisposition to sprain and injury. But this evil of increased obliquity in the pastern is seriously aggravated by the length of the toe. An increased length of two inches, as suggested, together with the greater obliquity, throws a line rising vertically from the point of the toe at least three inches further forward from the shank, and increases the leverage exerted by the toe to an equivalent amount. If we now consider that this lever is acted on by the weight of the body, and that the fulcrum is at the fetlock and pastern joints, we can see plainly enough how overgrown toes so constantly determine ruinous ringbones in young animals. The extra strain consequent on the increased length and obliquity must be borne by the posterior and lateral ligaments of the fetlock and pasterns; and as these latter come from the sides of the pastern bones, the consequent injury determines inflammation and bony deposits on the sides of the pasterns. Similarly, the back sinews, which act as supports to these joints behind, become sprained, thickened, and shortened, inducing knuckling over at the knee, and general unsteadiness of the limbs.

In paring, remove the whole projecting lower border of the hoof wall down to the junction with the sole. The greatest danger is from the toes; but overgrown heels curled in on the sole, imprison masses of hard, flaky horn, bruise the sole and determine corns and a train of evil consequences. The process should be attended to in winter as well; but it is especially in summer, when the colt is running at liberty in the fields, that the effects of undue length are to be feared.—[Ex.]

### Demand for Heavy Horses.

The demand for heavy horses at present exceeds that of any former year. Buyers are scouring the country for "big" colts. A word of caution is not out of place here. Breeders are sometimes apt to overlook quality provided they find size. Discrimination should be used in selecting stallions of this kind as well as other kinds. The strong demand is calculated to make buyers less exacting in regard to quality, and this will not fail to result, in some cases, in loss by and by. The shrewd breeder will look out and select his breeding stock with a view to securing all the weight desired combined with attractive and desirable points that will insure a saleable horse at any time. With it disparaging horses of other heavy breeds, it is proper to say that the English draft or shire horses are rapidly gaining in public favor, as they seem to combine the desirable qualities for improving the small common stocks in the United States. They are very compact in construction, heavy in bone and muscle, are very active and have a strong constitution. Breeders will do well to look into the merits of the English draft horse.



## Veterinary

SIR,—What is the cause of many horses dying here; is it the hay or water; do you know of a preventative? P. D. S., Neepawa, Man.

[If you will describe the symptoms our veterinary perhaps could prescribe. When in Manitoba we noticed the heavy death rate among horses, and attributed it to the sloughs and the absence of the comfortable treatment horses have received in the older parts of the Dominion. The water they drink is also inferior, and the mosquitos and black flies are extremely annoying. When driving out near Emerson, the neck of the horse we were driving (a gray) was so covered with flies that its color was not discernable. Native horses, from the fact that they are hardier, stand the climate much better.]

SIR,—If you can through your valuable paper, give me some idea how the Pink-eye commences on a horse, and the best way to treat them? Wm. B., Ossian, Ont.

[You will find a full description of Pink-eye and its treatment in the November number, 1881, of the FARMER'S ADVOCATE, page 281.]

SIR,—Has it been ascertained whether a horse once affected with "pink-eye" is liable to take it again? F. S. B.

[Yes, a horse is liable to "pink-eye" whenever it takes cold.]

SIR,—I wish to learn something of cause and cure, and also the name of the disease which one of my horses has had, and is not yet well. In February last my horse got kicked on the cap of the hook, and has not laid down but once and never got up of his own accord since. Stoppage of the urine set in, and afterwards swelling of the sheath. In the interior hard lumps appeared about the size of pigeon eggs, and though the animal has come all right in other respects, or nearly so, those hard lumps are still there, and have no sign of going away. They are painful to the touch. I resorted to the ordinary means for fowl sheath, but it did not reduce the lump. If you can favor me with the necessary information you will much oblige a careful reader of your valuable ADVOCATE. S. S. R., Elma.

[From the symptoms given, it is impossible to say what is wrong with your animal. Would advise you to call in a Veterinary Surgeon.]

SIR,—I have a horse that rubs his tail very much, and is very hard to keep in good condition. Can you tell me, through the ADVOCATE, what is wrong with him, and what is best to do? W. L., Coldwater.

[Your horse is troubled with worms. Give him a pint of raw linseed oil and one ounce and a half of turpentine in a drench in the morning while the stomach is empty, once every week. You might give him a dram of Sulphate of Iron every night in some boiled barley, or what is better, a little malt. If the worms are situated in the rectum it would be well to give enemas of Quassia tea.]

SIR,—One of my neighbors had a cow that took some disease in the eye last fall. It continued to run matter all winter. Her tongue became paralyzed about the middle of March, and she was unable to chew her food. She was fed bran mash during the paralysis of the tongue, which lasted about two weeks, after which time she was able to chew her food again; but there being no hope, the owner thought, of recovery, he killed her. Do you know what the disease was? C. C., Brighton, N. B.

[Your description of the case is not sufficient to say what was really wrong with the cow.]

SIR,—What will remove warts from the teats of cows without injury? D. Ex., Esquimaux.

[A good authority gives the following remedy: If the growth is of the fixed kind or seed wart, move by means of scissors or knife when standing singly; but if the stem or base is large pick off or otherwise chafe the rough outer surface so as to make it bleed. Then with a brush rub in yellow ointment, wetted with a little water and in a few days they will go away, or may be rubbed off and leave a healthy sore which soon heals.]

## The Apiary.

## Home-Made Beehive.

BY A. J. COOK.

If we except the smoker, there is no other implement that the beekeeper of to-day needs that is patented. The Given press may prove to be another exception. I would especially caution all readers against patented hives and the vendors of the same. Any mechanic can readily make a pattern hive from the following description. The hive should be a movable frame, or Langstroth, made as simple as possible, made of good pine or white wood lumber, and well painted. The form of the frame is not material, though I prefer the Gallup form, which is 11½ inches square, outside measure. This frame is easy to handle, therefore adapted to lady apiculturists; it holds the combs securely; is preferable for wintering, and serves equally well for nuclei in queen rearing or for full colonies. I will describe what, after a full trial of the various styles, appears to me to be best. The bottom should consist of one board 2½ feet long by 15 inches wide. Four inches from each end nail this to a cross-piece of 2 by 4 scantling one foot long, so that when nailed the bottom board will stand four inches from the ground. The alighting board should be separate from the bottom board, and should slant from the entrance of the hive to the ground. To make it, saw diagonally across from the opposite extremes of a piece of 2 by 4 scantling nine inches long. On top of the diagonal edge of these two pieces thus formed nail a board which shall be 9 by 12 inches. We thus have a convenient inclined alighting board.

The body of the hive should be a simple rectangular box 2 feet long, 1 foot wide, and 1 foot high inside measure, without top or bottom. This should be made perfectly true, as should all parts of the hive, and should be firmly nailed. The end boards should be 14 inches long, the side boards just 2 feet. From the upper inner edge of the side boards three-quarters of an inch from the top, cut out a three-quarter inch rabbet. We thus remove from the upper inner edge of each side board a piece two feet long and three-quarters inch square. Of course this should be cut out before the parts are nailed together. Just below this rabbet on each side tack a strip of thick heaviest tin one inch wide so that it shall project one-quarter of an inch above the rabbet. This tin will support the frames, and they will not adhere as they do when they rest directly on the wood. From the lower edge of one end, cut out a piece 10 inches long and one quarter inch wide. This makes an opening 10 inches long and one-quarter inch high. This opening will need to be contracted on cold days, in case of weak colonies, when the hive is used for a nucleus, or to prevent robbing. To make this possible, prepare two triangular blocks, each a right angle triangle. To make these saw a rectangular piece of inch board 3 by 4 inches diagonally across from its opposite angles. One edge of each block will be 3 inches, one 4, the other 5. By a proper arrangement of these blocks we may modify the size of the opening to our liking.

Around the outside of the box one inch from the top, nail strips of inch board 2½ inches wide. This forms a ledge on which the upper story may rest. The second story should be a similar box two inches longer each way and eight inches high. This is a simple box, without top or bottom. For top or cover, a similar box two inches larger than the last each way, and similarly supported, but only 2 inches high, is made. This, however, has a top. This top should be of one piece, and may be covered with zinc. I make it of two pieces, roof-like, so that there are gables. An inch board 2 inches wide, nailed horizontally along the ridge, prevents leaking. This cover looks well, and the water passes off rapidly. The frame, as already remarked, is 11½ inches square, outside measure. It is 1 inch deep. The top bar is heavy, and projects three-quarters of an inch at each end. These ends rest on the tin rabbets already described. The pieces of the frame may be top bar 12½ by 1 by 5-16 inches. The side pieces 11½ by 1 by 3-16 inches. The bottom piece 11½ by 1 by ¼ inches. These so nailed as to make a frame 11½ inches square, outside measure. Some prefer the pieces even heavier.

The frames should be accurate to a hair, and so should be made about a block or guide. The angles should be perfect right angles, the size exact. When hanging in the hive these frames are one-half inch apart, though a slight variation either way is immaterial. A hive then would hold 16 frames. Unless we work for extracted honey (the practice

of most beekeepers at present), we do not need more than 10 or at most 12 of these brood frames. In that case the remainder is filled with frames containing sections, to get comb honey. Each hive should have a division board. This is a solid board, the form of a frame, that just fills the body of the hive. In autumn, spring and winter this contracts the space occupied by the bees, so that they do not have to keep the whole hive warm. It is also needed in forming a nucleus hive. For a crate to hold sections, which shall rest just above the frames, that invented by Mr. Dean, of Kentucky, is the most convenient.—[Tribune.]

It is very important that farm horses be trained to be good walkers. A very fast gait can be obtained if the proper means are taken. Next to strength, speed is wanted in a draught horse. There is no need that teams should crawl along the road and in the furrow at the snail's pace which is so common. Fast or slow walking is a matter of habit.

The more exertion an animal undergoes the greater is the wear and tear of the system. Exercise increases the respiration or breathing, more oxygen is consequently taken into the system, and the tissues of the body are burned up in proportion. Unless this extra waste is met by an additional supply of food, emaciation and illness follow.

A bad practice is the one of allowing sheep and calves, and oftentimes heavy cattle, to graze on young grass lands; and this, too, sometimes in addition to the treatment they had already undergone in the process of rearing. No sort of stock should be allowed to graze on such land until the summer following the time of sowing; it is of very little benefit to the stock, and results in great damage to the after growth of the crop, no matter whether it is intended for meadow or pasture. Therefore, do not follow such a practice, for although it is very old, it is better observed in the "breach than the observance." If the necessity should exist to eat down such young grass, the calves should be the only stock admitted; if sheep are let on, they should be hurried over it as quick as possible, so that they may not get time to eat out the hearts of the grass plants, which they will do if allowed to eat it down bare; in any case of feeding down grass seeds, a top-dressing of bone dust should be applied after taking off the stock.

The agricultural editor of the St. Paul Pioneer Press has obtained some wheat from New Zealand for seed, and proposes to find out whether the story of its yielding a hundred bushels to the acre, is true or not, believing that if good soil is to be found anywhere it is in Minnesota. He says: After hearing a great deal about these big yields, we last spring wrote to parties in both countries, asking for samples of the grain. The letters brought responses in each case. From South Australia came three ten-pound packages of the most magnificent wheat one ever set eyes on. On taking them to the mills, one variety, the Tuscan, was found to weigh sixty-four pounds to the bushel, and the others sixty-three pounds. The berry was three times the size of our Scotch Fife, at least, but unfortunately the grain was soft. "It will never do for our roller mills," said one of the millers, and undoubtedly the decision was correct. By recent mails came four packages from New Zealand, of very much the same class of wheat—large, white, plump berries, looking actually "good enough to eat." They are evidently winter wheats, and in the days of millstones and old-fashioned processes would have sent a miller almost wild with joy. But they do yield fabulously. From a gentleman who visited New Zealand two or three years since, we learn that the average yields there are three times those in this country, while the prices obtained are even in excess of those here. Verily one-half of the world knows very little about how the other half lives.

STIRRING THE SOIL.—Henry Ives, of Penn., says: "That one test of good farming brought out by last year's exceptionally severe drouth, was the superior crops of those who kept right on stirring the soil, even when all weeds had been killed, and there seemed to be no more to conquer, and they were stirring the soil that was already open and loose. In one field of corn of 8 acres only one acre was hoed, as it was thought it could do no good in such extreme drouth. That acre returned about as much as all the other 7. Potatoes that were tilled well gave 125 to 175 bushels per acre, where those neglected yielded but 30 to 60."



### The Farm.

#### Summer Soiling and Pasturage.

Summer soiling in the dairy consists in having an abundance of succulent food for milch cows, supplementary to pasturage during summer and fall, when grass begins to deteriorate and fall off in quantity.

It has been abundantly proved, from all experience, that cows, to make the best returns, must not be allowed to shrink very much in their yield of milk during August and September; for the milking habit being checked at this season, and the yield diminished to a small quantity, it cannot be brought back again to a full flow during the remainder of the season, though grass may be plentiful and fresh. In ordinary seasons, feed in pastures begins to dry up and becomes brown and woody toward the last of July.

Among summer soiling plants corn ranks first in importance. It is adapted to the soil and climate over an extensive area. It is easily grown, produces an immense crop of fodder under good cultivation, is eaten with avidity by dairy stock and makes good milk. Everything considered, there is no crop that can be grown so cheaply and is so well adapted to milch cows in helping out deficiency of pasturage as corn. In growing the crop the land should be rich or well manured, and put into good tilth. About the middle of June is the time usually employed for putting in the seed, of which the sweet or sugar varieties are esteemed the best for a soiling crop.

On fertile soil, with good culture, it yields from 25 to 35 tons of green fodder per acre. The seed should be sown in drills, the rows being about 2½ feet apart, so as to admit of a cultivator or horse hoe being run between the rows when required. A favorite way with some is to make double rows, making the drills about six inches apart, and the seed in the drills an inch apart, and leaving a space of 2½ feet between the double rows for cultivation with horse-hoe and the admission of sun and air. Corn fodder, when grown very thickly, so as to exclude the sun, does not mature sufficiently, and is less nutritious than planted in rows, as described, and in order to get the greatest benefit from the sun's light, the rows should be run north and south. On good, rich land, when properly cultivated, one acre of fodder corn will be sufficient for eight cows as a supplementary feed to pasturage and the bridging over the dry season. A portion of the crop should be put in at the earliest time practicable, while other portions may be sown later, so as to have fresh and succulent food in succession. It is in its best state for feeding when ears have formed on some of the stalks and are in a milky state.

As fodder corn, when ready to cut, contains a large percentage of moisture, the quantity required for a day's feeding should be cut at least 12 hours in advance of feeding, so as to have time to wilt and get rid of some of its surplus moisture.

No farmer who desires a good yield of milk should neglect to grow an ample supply of fodder-corn, even though he may find it necessary to feed additional rations of bran, &c., during droughts or the falling off of the usual supply of pasturage.—[Rural New Yorker.]

#### Navy Beans.

The good policy of a farmer growing a variety of crops is repeatedly spoken of, but seldom practiced. Wheat is almost the only crop prized. There may be partial failures; the crop may be light and unprofitable, or the price may be low, still the same system prevails year after year, wheat, wheat. There can be no doubt that a change of crop with a corresponding change of tillage, even for a season, serves to refresh the land. A change to a drilled crop such as beans would doubtless be found beneficial; the growing of them in Canada, however, is little known save in the more western counties of the peninsula.

The best time to plant beans, as a general rule, is in June; if after a gentle rain, so much the better. The growth, if thus sown, will be rapid and they will get ahead of the weeds, from the warmth and moisture of the soil. Sow from two to three pecks to the acre, in drills about two feet apart. If instead of Navy beans you plant a larger variety, such as the Marrowfat, the space should be two and a half feet. They will need to be cultivated once, or, if the soil be compact or weedy, twice. As beans partially shade and smother the growing weeds, cultivating them once or twice will be

found sufficient, especially if the land has been fall plowed and cultivated before the cropping. Beans should be harvested before they are quite ripe, or they might shell and much of them be lost. Early saving them increases their market value, as they will appear better and brighter. Pull them and cure them in the shade before the pods have turned yellow, and if carefully beaten out of the pod and well cleaned they will bring a good paying price. We have seen from fifty to eighty per cent. difference in the price of two samples of beans, and the difference entirely owing to the saving and cleaning. The produce of the crop varies also very much, as much as other farm crops; the yield is from twelve to twenty bushels per acre. The market report in Detroit for this month is: Bean market firm at \$3.30 to \$3.40 for hand picked, and \$2.50 to \$2.80 for unpicked. This crop would be found valuable as a substitute where corn seed had failed.

#### Value of Hay at Different Stages.

There is no other class of feed used upon the farm, for stock, so little understood in general as to its real value, as hay. By this we mean the absence of any understanding and agreement among farmers as to the exact, or anything approaching the exact, difference in value between early and late cut hay. In the minds of those who have made thorough tests, we think there remains no question as to the comparative value. But most farmers have been raised to believe that the time to cut timothy is when it is ripe—not when its seed is fully ripened and the stalk dry, but when it is fully matured. Taking timothy seed as an example, we admit that the seed in itself is very insignificant in bulk and weight, but nevertheless it contains, when fully matured, a large proportion of all the nutriment which comes in through the root. This is the case with oats, wheat, and all plants that bear seed, no matter how small the seeds are.

If we were to try the experiment of cutting and making fodder of our oats and wheat while yet in the bloom, it would be found that they would make very good winter feed, probably approaching timothy hay in value, and perhaps better than late-cut timothy. But as is well known, after maturing their grain, the straw of these plants affords comparatively very little nourishment. So it is with the grasses, when their seed is fully matured; and those who consider them valuable in proportion to the bulk and weight shown, will find they have been deceived. The comparative value of these from the flowering to the fully ripened stage is decreased as the latter is approached. When we are able to demonstrate at just what time in the flowering stage the plant contains the largest amount of nutritive sap, then we know the period for cutting which will insure the most nourishment. Upon the same principle the shell of the walnut, while in its formative stage, contains nutritious matter, but none at all when the meat is formed. The shell is like the thoroughly ripened timothy stalk, a mere husk, as innutritious as woody fibre.

Among important questions which should be settled by the managers of our State agricultural farms, this one of early or late-cut grasses stands among the foremost. When the vast value of our hay crop, as compared with other materials for feed, is taken into account, it gives this question very great importance. In the absence of such careful trials as should be made upon every farm, those in charge of experiment stations, established by legal enactment, and sustained by liberal money appropriations, are altogether inexcusable for not making more thorough tests on the many important practical questions relating to agricultural management, and making the results of these tests public.

Weeds are among the greatest enemies of the farmer. They increase his work, diminish his crops, and rob his land. They spread noiselessly but rapidly, and nothing but a relentless war of extermination will permanently suppress them. This every farmer should wage, not only in his cultivated fields, but also in the fence corners, around the out buildings, beside the hedges, and by the highway. Too many fields are annually seeded from weeds which have been allowed to grow and mature their seeds in these neglected places. No efforts for their eradication can be wholly successful which do not involve the destruction of weeds in surrounding localities as well as in the fields which are under cultivation.

#### Large Farms.

We take up a Melbourne paper and read of "blocks" of thousands of square miles sold at a few shillings a mile. Twenty-one thousand three hundred and forty-five acres in South Australia, comprising the Beetaloo station, were recently sold at Adelaide for £8,000, the price including 9,000 sheep. Two lots of about 5,000 square miles each, situate in the Northern Territory, were withdrawn, the offers not reaching £1 per square mile. Another block of 2,460 square miles changed hands at 5s. per square mile. Sheep-runs in New South Wales fetch considerably higher prices. One of these, known as the Burrabogie estate, with an area of 235,770 acres, was sold by auction last February in Melbourne, realising nearly half a million sterling, but the "lot" included 138,889 sheep, 131 well-bred cattle, and 124 horses. This enormous estate is divided into 85 paddocks, substantially separated with five, six, and seven wire fencing; it has a frontage of 22 miles to the river Murrumbidgee, navigable during many months of the year; and subsidiary watering is provided by 27 wells of fresh water, 28 large dams and tanks, and many smaller ones. The residence, termed "the home station," is described in the auctioneer's catalogue as comprising "a large and most comfortable house, elaborately provided with every requisite for a gentleman's family, and situated in the midst of an extensive and tastefully laid-out garden and pleasure grounds;" the numerous outbuildings are "all that could be desired;" the five out-stations for overseers are set forth as "comfortable;" and the necessary accommodation exists for boundarymen and other employes. Six thousand sheep may be washed per day at the sheep wash, and the "boiling-down plant" is said to be capable of reducing 2,000 sheep per week. Much space is taken up with descriptions of the wool-sheds, the various implements, and the live stock. The son of a successful sheep farmer was the buyer at £447,000, and the property is spoken of as a good investment. These huge stations give a fair idea of what sheep farming in Australia means, besides affording evidence of the cheapness of land.

#### Sorghum for Fodder.

In previous articles we have directed the attention of our readers to sorghum as a sugar producing plant; we now refer to its utility for feeding stock. It is one of our most valuable plants in what ever way we wish to use it; either to cut young and feed to cattle or sheep when our pastures are dried up, or allowed to mature and used as fodder.

The *Rural World* speaks highly of it as follows: Sow before the middle of June, either broadcast or with a common wheat drill, about one bushel per acre, the ground well prepared; after sowing, thoroughly harrow and smooth the surface. As soon as the majority of the stalks are full headed, cut with a self-raking reaper, allow to lay in one day's hot sun, bind and set in small, round shocks. If you do not wish to range the field with stock, let it remain till needed. The after growth will well pay for removing the shocks, but in no case store in large piles or stacks; reset in long shocks about five feet thick. Anyone who pursues this course, and has such weather for curing as he would like for hay, will have a quality of fodder that any kind of stock will greedily eat up clean, and which is far superior to fodder prepared from any other plant.

#### Canada Thistles.

We clip the following from an American paper. An article on the same subject appeared in our columns some years back, but we never heard the result of rape growing upon thistles; perhaps some of our readers will let us know their experience. We believe that not allowing them to breathe is the only effectual way of destroying them. One year's working them keeps them down, but two years' will utterly destroy them.

"If a field is infested by thistles, give it a turn of rape seed, and this plant will altogether starve, suffocate, and chill the thistle out of existence. A trial has been made with different varieties of rape seed in square plots, when it was found that the whole ground was full of thistles, and no body believed in the rape having a fair run. But it had; and as it grew the thistles vanished, faded, and dried up as soon as the rape leaves began to touch them. Other trials were made in flower pots and garden beds, and the thistle always had to give in, and was altogether annihilated whether fully developed or young and tender."



### Effects of Cultivation on Plant Growth.

This is the season for the hoe; the horse hoe and the hand-hoe are now needed, and to no other crop is hoeing of greater benefit than to Indian corn. The benefit of cultivation is explained by the Massachusetts *Plowman*:

By keeping the soil loose and well pulverized we not only give the roots of the plants a better chance to push their way through the earth, but we give the descending rain a chance to settle down in all parts of the soil and to reach every particle of the manure applied; it also gives the air a chance to mingle with the soil and the heat to penetrate and warm the earth; these things are important, for plants cannot grow without large quantities of oxygen, and plenty of heat as well as moisture. The thorough preparation of the soil, before planting, and the frequent stirring after, does more than secure these, for thorough preparation means not only pulverizing of the soil, but it also means thoroughly incorporating the fertilizer with the pulverized earth, thus not only bringing it in contact with all portions of the soil, but also with the descending moisture, and every time the earth is cultivated the particles of both soil and the moisture are changed and a new chemical action takes place, thus hastening the decomposition of the material applied to furnish the plant food. The moment the earth becomes hard, rapid decomposition ceases, the rising moisture stops and the oxygen of the air is shut out, and the descending rain cannot readily find its way down, so it stands in ponds until it breaks through the hard crust of the soil, in some hollow, and descends in large streams; and as it cannot find its way back through the hard crusts of the earth it settles down into the underground streams, and finally reaches the ocean by way of river, without having in the least aided plant growth; when this takes place the plants must suffer. The moment the earth around growing plants becomes crusted over, that moment it ceases to be in good condition for plant growth, for reasons already stated."

### Hungarian Grass.

Dr. E. L. Sturtevant writes the Elmira Farmers' Club:

If we study the plant we find that it has two peculiarities. First, it is a plant of warm regions. Second, it is a drouth plant. The inference from this is, what my experience in light soil confirmed, that the ground must be warm at the time of planting, and the soil must be a dry one, that is free from standing water. A careful examination has shown me that the Hungarian is a very shallow rooting crop—it feeds very near the surface, when the temperature of the soil is the highest. Another peculiarity with me has been that a single cold, or cool, night checks the growth of leaf, and forces a growth of seed. Bearing these observations in mind, I have not failed in obtaining a very large crop by pursuing the following course: First, planting not earlier than June 20th, in order to secure the warm soil, and the certainty of no cool nights during the ensuing six weeks. Second, manuring or fertilizing close to the surface, and just scratching in. Third, planting at least six pecks of seed per acre. In order to have the stock relished by cattle, I have found it necessary to sow thickly, and to cut just as the heads begin to be discovered. By this course I have a hay the cattle prefer to timothy, and pound per pound it expends better than timothy, and my eye detects no falling away in condition, and the scales detect no change in the milk yield. If over ripe (and most people cut too late) the cattle do not relish it as they otherwise could, and the eye and scales show inferior feeding value to the best hay."

The peach curl is caused by fungi, and the only remedy known is the free use of the knife when the disease first makes its appearance, but cutting alone is not enough; cutting must be followed by immediate burning.

Under drains were used by the Romans and constructed of wood. Even brush drains have been made in various parts of England. Thorough drainage came into practice about the middle of the present century, through the exertions of Mr. Smith, of Deanston, and for a time stone was the principal material used in their construction. They were either thrown in promiscuously or laid out in throats or channels. When tiles or pipes came into use stones were laid around them, but it is found that less soil percolates into the tile when the earth is close around it.



NOTICE TO CORRESPONDENTS.—1. Please write on one side of the paper only. 2. Give full name, Post-Office and Province, not necessarily for publication, but as guarantee of good faith and to enable us to answer by mail when, for any reason that course seems desirable. 3. Do not expect anonymous communications to be noticed. 4. Mark letters "Printers' Manuscript," leave open and postage will be only 1c. per ½ ounce. We do not hold ourselves responsible for the views of correspondents.

SPECIAL NOTICE.—We receive numerous communications to which no names are attached, and asking for very lengthy and full information without enclosing stamps for reply. We require that the name of the subscriber should be signed, not necessarily for publication, but as a guarantee of good faith. Letters sent without conforming to the above, find their way into the waste paper basket.

SIR,—Can you tell at what time of the year cutting suckers at the root of apple trees would be likely to prove most effective?

E. A. O., Simcoe.

[If suckers are one-year or two-year-old wood, remove them at once, and at any time an opportunity with a good knife may present itself. Afterwards rub the young sprouts of this season's growth off, as soon as they make six or eight inches growth.]

Can you let me know through your valuable paper where the "Bonanza" grain cleaner and seed separator can be had, and at what price?

[The manufacturer should advertise his grain cleaner in the usual columns.]

SIR,—Does the bark louse attack and destroy pear, cherry and plum trees; if not, where can pear trees suited to this climate be had?

W. B. H., Salisbury, N. B.

[The bark louse, or aphid, does not trouble the cherry or plum; the pear but slightly, not sufficient to make it a nuisance. It preys principally upon the apple, and, with little care, is easily removed. The eggs of the bark louse hatch out from the first of June to the fifteenth, the time varying according to season and locality. They are very minute objects, but can be easily discerned crawling about the stems and bark, and sometimes on to the blossoms, and locating themselves on the embryo fruit. At this stage they can be at once and finally destroyed by a syringing of coal oil and water, the proportion of oil being one part to nine of water; stir the oil through with the syringe and then apply. Pear trees suited to climate of New Brunswick can be procured from the various Ontario nurserymen, whose advertisements are to be found in *ADVOCATE*.]

### RAPE FOR SOILING—MILK COWS.

SIR,—How many lbs. of rape seed are required per acre? How is it sown? Will it taint the milk or give it an objectionable flavour? Do factorymen object to its being fed to milk cows? Is the large and Mammoth Russian sunflower identical? I can't find the latter in the various seed catalogues.

W. T. R. Hatchley, Ont.

[From eight to twelve pounds of rape seed to the acre are used for seeding. Rape fed in moderate quantities with hay, does not impart a disagreeable flavour to milk, so we have found in our experience. Any of the brassica family of wheat rape will, if fed too freely, affect the flavour of milk. The seed of the Russian sunflower is striped, that of the common variety is black.]

### OLEANDER NOT BLOSSOMING.

SIR,—Kindly inform me through your valuable paper the cause of Oleander not flowering in the house; mine put forth buds and then blight; seems healthy and in good condition; I keep it in my living room.

E. W.

[Your plant is suffering from the want of pure, fresh air. Plant life, as well as the life of human beings, needs a liberal supply of pure air. Oleanders may live and appear healthy when they are incapable of producing even a blossom. Place your plant outside in the balmy breezes, and you may look for flowers.]

SIR,—I have lost a valuable dog by straying into the premises of a neighbor who shot him, who says, owing to their being no tax on dogs, they are liable to be destroyed by any one who finds them on his premises doing damage or not. Please inform me through the columns of your valuable paper is such legal?

A SUBSCRIBER, Bowesville, Ont.

[Your neighbor had no right to destroy your dog unless found chasing sheep.]

### FARMERS AND RAILWAYS.

SIR,—I consider the farmers of this country do not receive fair play at the hands of our railway companies. To start with, no railway can live without a farmer's traffic, such as his grain, live stock and produce of every kind—indeed, he may be said to be the main stay of the companies. The farmers of this country have been taxed to build these roads in the shape of bonuses, and they have to pay exorbitant freights or just what these companies have a mind to ask. Along with this these railway bodies are allowed to obstruct and infringe on our public highways, and by so doing endanger the lives and property of the people. Scarcely a day passes but we hear of some person or some stock being killed at a railway crossing, where the railway authorities have failed to provide proper safeguards for public safety. It is high time that something was done by our representatives in Parliament to compel companies to afford better protection to the public at railway crossings in the country. Hoping you will advocate this in your valuable paper, I remain, truly yours,

G. W., Glanworth, Ont.

SIR,—I take the liberty of making a few remarks on subjects which may have been well ventilated by you, yet, feeling assured that, if you will kindly give expressions of your opinion on the same in your columns, farmers generally will feel grateful to you.

It is well known that many plants such as turnips, cress, &c., have their insect enemies, which, in many cases, totally destroy the crop. Now, the question is, are not these insects on the eve of germination when the plant first comes up, latent as it were, germinate and grow with the growth of the plant, and mature at a stage when the plant is best adapted for their food, and also, do not the presence and destructiveness of these insects vary with the nature of the soil? Take, for instance, wheat. I am told that, on many farms surrounded with plaster (gypsum) quarries, the yield of wheat is excellent and free from the weevil; how far this is general I am not informed. Can it be that owing to the presence of plaster the wheat plant is so far of a different nature, or the nature of it is so changed that the weevil does not germinate? On the other hand, can it be that wheat grown on land devoid of plaster, by the very absence of that element, is in its nature so changed that the weevil naturally germinates on the eve of germination in the plant at a very early stage, maturing and destroying or injuring it at the time when it best affords nourishment to the insect?

Again, I have seen fields covered deeply with clearing from plaster quarries, consisting of earth and broken and pulverized plaster, on which clover sprang up luxuriantly and remaining on the ground for many years.

An intelligent farmer informed me that he sowed on his wheat field some pulverized plaster in zig zag directions, in order to ascertain the effect of plaster in comparison with the unplastered; to his surprise he found that the growth of the wheat on the plastered strips far surpassed the other the whole season, besides being much greener, and easily distinguished from his house.

And again, a farmer of note gave his experience as to the effect of plaster on his pea crop; on part of this pea field he sowed pulverized plaster; the yield of peas on the plastered part far surpassed the other, besides it was from six to twelve inches higher, and far greener throughout the season.

You can readily see that I have placed the subject at issue open to your fertile mind, feeling that you are fully capable of elucidating the same. Trusting that the above will not be considered visionary, I remain,

Yours, &c.,  
W., Windsor, N. S.

[Perhaps the Board of Agriculture might be asked to furnish a brief reply to the part of this letter touching on insect pests, in the part of the paper allotted to them.]



Mr. Green, of Oakville, Ont., has favored us with a sketch of a neat and useful fence, which we have much pleasure in giving our friends in this month's *ADVOCATE*. It is so constructed that it enables a person dividing his fields to plant trees, which, while protected from damage by cattle, takes up no land available for grain growing or grass. It adds a trifle more in expense than an ordinary fence, as it requires one extra post at every 32 feet where a tree is to be planted. We all know how necessary shelter is to our land which has been ruthlessly stripped of its fine useful timber, and every succeeding year the noise of the air tells us our country is becoming more and more denuded. If we want our friends of England to settle among us we must make our country attractive, and more like the land of their nativity; an Englishman has always been used to timber and shelter and very naturally looks for it. Now if we plant our fence-rows we at once improve the appearance of our holdings, making these more valuable as a sale article, and at the same time protect our crops and cattle from being scorched by the sun and dried up by winds. This mode of fence suggested by Mr. Green seems to us the very thing that will enable us to improve the face of our country. We give you a description of this fence as supplied us; first of all the land is laid out by fixing pegs in a straight line across a field proposed to be fenced in at equal distances of 32 feet, at which place a tree is intended to be planted; then measure eighteen inches on each side of these pegs and place another peg; when this is done bore or dig the holes where the latter pegs are placed and fit your posts, then bore and fit posts at every 8 or 16 feet, according to fancy, across your field, and properly rammed in; take 16 ft. scantling 4 x 2 in. and nail them firmly near or on top of the uprights, leaving the space of three feet where the tree is to be planted, plant your tree where the first peg is placed and nail a piece of four foot scantling on each side of the upright by tree, to which nail a board strip five inches wide, either straight across or slantwise as shown in the sketch; when this is done commence straining 4 rows of barbed wire in the intermediate spaces throughout the line fence; your fence is then complete, and trees well protected, no land wasted, and producing an extremely neat appearance. If preferred, a board 8 or 9 inches wide may be nailed on posts 6 inches above ground, doing away with one wire; the space given for the tree is 3 ft. x 1 ft.; this gives plenty of room for the tree to expand for twenty years at least. The advantage of having good sized posts on each side of the tree is, that when requiring to be removed you merely have to draw out the decaying post and place in a new one and the roots of the tree remain uninjured. I put posts 8 inches wide on each side of the tree; this, with the scantling as before mentioned nailed at sides, gives 12 inches for tree trunk; the rails by trees also form a useful style to pass from one field to the other, but in this case they should be a foot or two longer; the wire fence is then more free from injury, as there is no occasion to pass between or over it.

SIR,—My butter is not very good, being strong in flavor; I keep my cream dishes as clean as can be, yet the strong flavor keeps to my butter. I notice that the cream often has what I should call little pimples on it. Can you tell me what is the matter?  
M. H., Wallace Township.

[Butter is one of the most complicated products; its quality depends upon a great variety of conditions—the cow, the food, the air of the stable, the water, the milk pails, pans, and the place where the milk is set, besides many other things. When cream becomes covered with a sort of pimples all over the surface, with here and there yellowish or reddish dots or spots upon it, it is attacked by a species of mildew or fungus which very soon spreads all through it. This spoils the flavor of the butter, and is caused by too much dampness in the milk-room or cellar and the presence of germs of mildew. The first can be corrected by putting some fresh lime in the milk-room, which absorbs the excess of moisture, and by burning sulphur in it to disinfect it and destroy the mildew germs. By burning sulphur, sulphurous acid is produced, and this is a very active antiseptic and destructive of all kinds of molds, mildews, and ferments. Probably the trouble will disappear as the summer arrives. It would also be well to look closely to the water drank by the cows.]

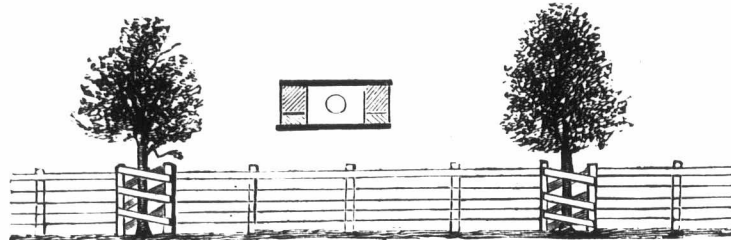
SIR,—Wishing to ask for some information, I thought I would try my hand canvassing for new subscribers, and, by the way, would it not be a good plan for all those asking for information through the *ADVOCATE* to send you the name of a new subscriber and one dollar? If a cow does not do well after calving what would you advise me to give her?  
A. M. B.

[Give her food that is nutritive and slightly laxative—linseed is the best; to this may be added bran mashes and cooked grain. Keep her warm and clean and well littered.]

SIR,—It is high time to make preparations to meet our enemy, the potato bug. We have been tolerably successful in contending with these insect pests by using Paris green, but it is expensive, and worse still, there is danger in using. London purple is said to be as effectual a remedy as Paris green, and at one-fourth of the cost. I would feel very thankful if you give us your opinion on the matter in your valuable paper.

X. X., Kingsville P. O.

[We have carefully inquired into the matter, and find that, even at ten cents a pound, while Paris green cannot be purchased pure under four times that price, the low priced remedy is not the cheapest. Mr. Evans, of Montreal, a well-known seed merchant, says the Paris green is the most effectual, and every way preferable to the other. Mr. Saunders, of this city, druggist and editor of the *Canadian Entomologist*, says the London purple is quite an inferior article as an insecticide. M—, medical doctor, says that not only is the Paris green more effectual than the London Purple, but that it is really cheaper; a given quantity of the former being of more intrinsic value than four times the same quantity of the latter.]



A NEAT AND USEFUL FENCE.

SIR,—Early this spring I planted some apple trees; they were planted very carefully, the earth being pressed down among the roots. At the time of writing they do not seem inclined to do well, the buds being weak and the leaves coming out very slowly. I should like to hear through the columns of your valuable paper what treatment to give them.  
B L., Sarnia, P. O.

[Newly transplanted trees that are not starting properly should receive attention. The first suggestion is always to pour water on the surface. But little if any of this moisture ever reaches the roots, where it could be beneficial. Experience of late years has taught our tree-planters that when the soil is firmly pressed, so as to come into immediate contact with the roots, and of course stop all air passages among them, but little water after planting is needed. During an excessively dry spell, however, several deep holes may be made in the soil by means of an iron bar, and water poured in several times; but in ordinary seasons a liberal mulch over the surface will answer. The best restorative for a weakly tree after transplanting is to shade the bark, and this may be done by wrapping the body loosely with newspapers, allowing them to extend even to the main branches, if large. Moisture over the tops is quite as helpful as at the roots, so that a thorough syringing among the branches every evening until active growth sets in will answer an excellent purpose.]

#### BARB WIRE FENCE.

SIR,—Do you think it advisable to put up barb wire fences? Would like to see an article in *ADVOCATE* on the subject, comparative cost, &c., &c.  
E. B., Mildmay, Ont.

[We leave it to the judgment of our subscribers to choose whether it is advisable to put up barb wire fences; however, those who have erected them claim the following advantages: It is the cheapest fence in

the world. It is the most durable fence in the world; fire will not burn it nor wind blow it down. It takes less posts than other fences. Stock will not rub it down; it protects itself; it acts on the defensive. It takes but little room; you can cultivate close to it, and weeds can be kept out of it. It requires but little labor to put it up. You can draw enough at one load to fence a farm. You can fence a good farm in a single day. It is the greatest practical invention of the age. It is bound to be the farm and railroad fence of the country. The Glidden two-pointed galvanized barb fencing wire, manufactured by the Washburn & Moen Manufacturing Co., Montreal, in our opinion is the best and cheapest fence for our farmers, as it makes a steel thorn hedge, as it were. It never rusts, is unaffected by fire, wind or flood, and is an impassable barrier to man or beast. The bill which was brought up at the last session of the Ontario Legislature, making it compulsory to have a scantling at the top of barb wired fences, was withdrawn, although we notice the G. T. R. on all their fences provide a top-piece, which adds to the appearance of the fence, and is commendable more ways than one. The average cost per rod will vary, according to the number of wires you have, the number of posts you put in, and also price you pay for wire. A three-wire fence, a post for every rod, and wire at 84 cents, a rod of fence will cost 363 cents; a four-wire fence the same will cost 45 cents a rod, and a five-wire fence 54 cents a rod. No labor, of course, is taken into account in this calculation. We refer our readers to the usual advertising columns of this paper.]

#### BLACK LEG IN CATTLE.

S. H. W. writes that he has cured this disease by inoculation for the past 26 years without a single failure. He should describe his method or else advertise in our columns.

SIR,—Please inform me through the *FARMER'S ADVOCATE* if a two-year-old heifer having raised a calf, will have to compete at the Provincial Exhibition with the two-year-old that has none, and if a three-year-old heifer having raised two calves will have to compete with them that have none. I think these cattle should be classed separately, or a special prize to the best heifers with their calves by their side, so that we can see the best breeders as well as the best feeders.  
W. D., Collinsbay, Ont.

[Perhaps the Secretary of the Association will answer this.]

#### FAIL WHEAT ON SOIL.

SIR,—I would feel obliged for the advice of the *ADVOCATE* as to the best means of preparing a twelve-acre field for fall wheat. The field has been in grass for six years. It is a loamy clay soil with a clay subsoil, and is somewhat wet; I intend to take from it a hay crop, in time for plowing before the first of July. Is it better to apply farm-yard manure to it before plowing it, or to apply it after plowing? It would be applied with more ease before the land is plowed.

H. T., Thamesford P. O.

[First drain the land. This is the first movement in all good farming when the land is at all wet. The depth and distance apart of the drains is governed by circumstances. We would then apply the manure as a top dressing; then plow a shallow furrow, two or three inches in depth; a month afterwards we would cross-plow somewhat deeper; we would cultivate frequently before sowing the wheat. This we would do early in September; the cultivation would amalgamate the manure with the soil, and the roughness of the land at the time of sowing would be a means of preventing the heaving of the wheat plants by the winter frost. There is after all no definite rule by which we can secure a good return, as very much at all times depends upon circumstances, over which the farmer has no control, and the mode of culture which would be a means of producing a good crop one season might not be successful with different climatic influences, or on soil of a different kind and degree of fertility.]

"Yes," said the farmer, "barbed wire fences is expensive, but the hired man doesn't stop and rest for five minutes on the top of it every time he has to climb it."—[Boston Post.]







**Uncle Tom's Department.**

MY DEAR NEPHEWS AND NIECES.—How often I wish on these bright June mornings that I could turn myself into a fairy godmother. "What would I do then," do you ask? Why print ever so many more of the dear little letters, bright stories and tangled puzzles which every day are dropped into Uncle Tom's great mail bags. My heart almost aches sometimes when I have to put aside so many clever, amusing and affectionate letters and good puzzles which cannot possibly be crowded into our department. Still, my dear little folks are too sensible to be vexed at Uncle Tom when he cannot possibly help himself. You must know I try to be fair in my treatment of each of my correspondents. I was very much delighted to receive so many answers to puzzles for May, and a great many had all correct; so you see the competition is strong. But a word of warning. I am sorry to have some careless little people who forget the rules which have often previously appeared; namely, to write puzzles or anything for publication on one side of the paper only, and that all answers must be in not later than the 20th, and, worse still, I have been told about some who appear to be dishonorable. I will not believe that a single boy who reads this paper ever wilfully cheats another boy; but I fear that some lads forget the notice given, that all puzzles sent are to be strictly original, and not expect and receive credit (as one did last month) for old puzzles. The re-buses were better this month; Miss E. Ryan was again to the front with a pretty good one, but the prize is awarded to Miss Annie Hammond, of Delaware, Ont. Now, all try and make it out.

UNCLE TOM.

**PUZZLES.**

**No. 1.—ANAGRAM.**

Rthee si on kofs wveerho ecahdtw dna dneedt  
tbu one adde malb si rhtee reeht si on idieesrf  
wsoveerh ddeeenf tbu sha noe cnavta rhiac.

SARAH HENDERSON.

**No. 2.—WORD SQUARE.**

- (a)—Name of an Egyptian bird.
- (b)—To profit.
- (c)—A dot.
- (d)—A luminous body in the heavens.

S. H.

**No. 3.—DOUBLE ACROSTIC.**

Initials and finals read downwards give two English rivers.

- 1—Height.
- 2—A French town.
- 3—A sea.
- 4—A town mentioned in the Bible.
- 5—A German river.
- 6—An Irish river.

MAGGIE MILLER.

**No. 4.—WORD HALF SQUARE.**

- 1—A city in Canada.
- 2—A demonstrative pronoun.
- 3—A verb in the past tense.
- 4—To make request.
- 5—A pronoun.
- 6—A vowel.

A. E. BOLTON.

**No. 5.—DOUBLE ACROSTIC.**

(1) A Slave. (2) A territory of the United States. (3) A county of Scotland. (4) A country of N. A. (5) A town of Russia where a celebrated battle was fought. (6) A county of Scotland. My initials and finals read downwards will name two cities of Europe.

H. W. MACKENZIE.

**No. 6.—DECAPITATION.**

Whole I am the offspring of fish. Behead me and I am to wager. Behead again and I am the bristle of barley, &c. Transpose and I am pale. Behead and I am a useful article.

HERBERT W. MACKENZIE.

**No. 7.—DIAMOND PUZZLE.**

A consonant; a small animal; clever; a flavoring essence; a wildest; taken away; to reject; a small insect; a consonant.

EMILY J. WILSON.

**No. 8.—INCOMPLETE SENTENCES.**

Fill the first blank with the right word and the second blank with the same word beheaded and curtailed.

- (1) Experience was the most — teacher I — had.
- (2) Sam went so near the — that they caught his — and he was thrown down.
- (3) We noticed that the — of the exhibitor's coat was nearly pulled off by his favorite trained —
- (4) He spoke from the — and every one gave — to his words.
- (5) They lived on a — farm and were much in the open —

E. E. RYAN.

**No. 9.—RIDDLE.**

People all desire to have me,  
Lads and lassies, grave and gay;  
Everybody seeks and courts me,  
No one wishes me away.  
Tell me what's my name and size,  
You see me here before your eyes.

CHAS. FINCH.

**No. 10.—PUZZLE.**

Whole I am a thin piece of metal. Behead and I am drawing near the close. Behead again and I am the past tense of my next. Transpose and I am something every person does. Transpose again and I am the dried leaves of a shrub.

FRED MILLS.



Illustrated Rebus No. 10, won by W. H. GOULD, Oshawa, Ont.

**Answers to May Puzzles.**

- 1—Lives of great men all remind us  
We can make our lives sublime;  
And departing leave behind us  
Footprints on the sands of time.
- 2—Spark, park, ark.

3—ANVIL  
NEAT  
VAT  
IT  
L

- 4—In ten there are three letters, and in twice three there are ten.
- 5—Firkin.
- 6—Old black Joe.
- 7—Mush-room.
- 8—Ash, elm, pine, fig, larch, linden, maple.
- 9—Good books are more than gold to those who understand them.
- 10—Tobacco.
- 11—Chatham.

**Names of Those who have Sent Correct Answers to May Puzzles.**

H. B. Herrington, John Clark, Annie Bowman, Richard E. Osborne, Clara Gregory, George W. Mills, Sarah Henderson, Annie Thompson, Frank B. Doud, Amy M. Lancaster, Mark Dearing, T. W. Purser, Maggie Francis Elliott, Esther Louisa Ryan, Charles Finch, Morley S. Pettit, Laney McMullin, Walter E. Laing, Charlie S. Husband,

Fred Porte, Addie V. Morse, H. S. Lovering, Jr., Samuel Albright, Fred Mills, Hannah Lehman, George A. Kingston, Lillie Stem, James F. Peck, C. G. Keys, Jr., Penimah J. Capstick, A. Philips, Emily Van Sickle, Calvin W. Finch, A. J. Taylor, Minnie Iegart, James A. Key, W. Hull, C. Gertie Heck, Albert E. Bolton, Euphemia Smith, W. H. Bateman, George Guest, Robert W. W. Purdy, Carrie Van Norman, Minnie G. Gibson, Maggie Miller, Benj. F. Stewart, Charles E. Stevens, Nellie McQueen, Robt. Wilson, R. H. Truesdale, Robt. Wilson, Lillie A. R. Hardy, Ida Clemens, H. W. Mackenzie, Lucy Grey, Agnes E. Willson, Geo. Guest.

**Humorous.**

A gentleman whose custom was to entertain very often a circle of friends, observed that one of them was in the habit of eating something before grace was asked, and determined to cure him. Upon a repetition of the offence he said: "For what we are about to receive, and for what James Taylor has already received, the Lord make us truly thankful."

In the counting-room of an Irishman the following notice is stuck up in a conspicuous place: "Persons having no business in this office will please get through with it as soon as possible, and leave."

One of our wholesale drapery houses has a new clerk, whose father from the country went in to see him the other day, and was surprised to learn that all the salesmen had nicknames. He asked the floor-walker why his son was called "Jury." "Oh," was the reply, "he is always sitting on cases."

"When I was once in danger from a tiger," said an old East India veteran, "I tried sitting down and staring at him, as I had no weapon." "How did it work?" eagerly asked a bystander. Perfectly; the tiger didn't even offer to touch me." "Strange, very strange! How do you account for it?" "Well, sometimes I've thought it was because I sat down on a high branch of a very tall tree."

**Minnie May's Department.**

MY DEAR NIECES.—It is a long time since we have had a talk about fashions, and as this is just the time for making new and renovating old summer dresses, suppose we take a glance at the styles, in order that we may have some idea how to go to work.

The fashions seem as varied as ever. Among the latest thin woolen goods are French bunting and nun's veiling, which appear in all delicate tints, as light blue, shell pink, cream, etc., and are pretty and effective, trimmed profusely with puffs and ruffles, the latter edged with some pretty soft lace, as Spanish or Duchess.

White dresses of lawn, mull, pique, nain-sook, in fact all washing materials, trimmed with embroideries, laces, or the goods itself, will be favored by the young ladies during the coming summer. A pretty and becoming style of making nun's veiling, muslins, etc., is to trim the skirt nearly to the waist with deep ruffles, or alternate ruffles and puffs, and a short panier overskirt or polonaise.

For more substantial wear there is nothing to equal a good cashmere, especially black, it being suitable at all times of the year, and upon almost every occasion, and is very economical, as it can be re-modelled a number of times. We saw a pretty black cashmere a few days ago; the skirt was trimmed with kilting, and around the bottom of the polonaise was a pattern worked in jet beads or bugles; a very handsome fringe made of the beads edged the front of the polonaise; the front of the waist and sleeves were also worked with beads, all of the trimmings being made by hand. Now, girls, if you want to have a very handsome dress for little money and have the time (for that, as well as patience, is required) you can do so by taking a pretty braiding pattern, or embroidery, if



you prefer, trace on to white tissue paper, and baste it upon your dress, then work over the out-line with beads, the smaller the beads the handsomer your design. It is a mistaken idea with some people that the pattern should be very open, for, to our fancy, at least, it looks far richer when rather close. Cashmeres are also handsome trimmed with moire (watered silk) or striped satin and moire.

Capes will be worn very much made of the same material as the dress; also of black or cream lace, row upon row. The hats and bonnets are mostly large, and are fashionable in straws, or made up of lace and satin, the rims to, many being shirred on wires. Feathers are exceedingly fashionable, as also flowers, which are shown in every conceivable variety, rich in color and texture. Very pretty and cheap hats can be made by covering a shape with any colored Indian mull, shir the rims and finish off with a twist of the mull around the crown, or a feather, if you chance to have one of a suitable color.

MINNIE MAY.

**Answers to Inquirers.**

**RED HEAD.**—Is there any way of safely dyeing the hair black? **ANS.**—Yes. But avoid all mineral dyes, which contain lead and cause sores on the scalp. Make the following: When the season comes for them, get a quantity of green black walnuts, crush them and squeeze the juice from them; dilute this with an equal quantity of olive oil; perfume agreeably, and use it as a hair dressing.

**ELLEN.**—1. Is it always necessary at the commencement of a meal for the host to put a portion of food on a plate for each guest, and pass it, and receive each empty plate in return? 2. Should the hostess wait on the table in that way in the absence of the host, in case there is no servant? **ANS.**—1. Should the host have a dish before him which should be served to each, he will do it in that way if the plates have been laid around; at dinner the plates are usually placed in piles before the carver and passed to each as helped, either by a servant or by the guests passing from one hand to another. 2. Of course, unless some gentleman should kindly relieve her of the task of carving.

**FLORIST.**—I have heard of drying flowers in sand; can you explain the process? **ANS.**—Process as follows: Procure some fine sand and wash it so clean that the water passes off quite pure and free from stain, dry it in an oven and heat it very hot then stir into six pounds of it one ounce of stearine very thoroughly until every grain is coated. Let it cool. Take a box and fit a wire gauze bottom to it, with a false bottom under that to hold the sand. Put an inch or two of sand in the box and set up the flowers in the sand. Then with a paper twisted into a small funnel, direct the sand into the box so as to bury the flowers without disturbing and quite cover them. Then put the box in a warm place until the flowers have completely dried. Then open the false bottom of the box and let the sand run out very slowly. Pick the flowers when quite free from moisture.

"You told me, sir, that the horse was entirely without fault, and yet he is blind." The dealer looked blandly into the irritated countenance of the loser by the transaction, and said with charming innocence: "I do not regard blindness as a fault, sir. It is a misfortune."—[Michigan Farmer.

**Two-Story Birds' Nests.**

BY DANIEL C. BEARD.

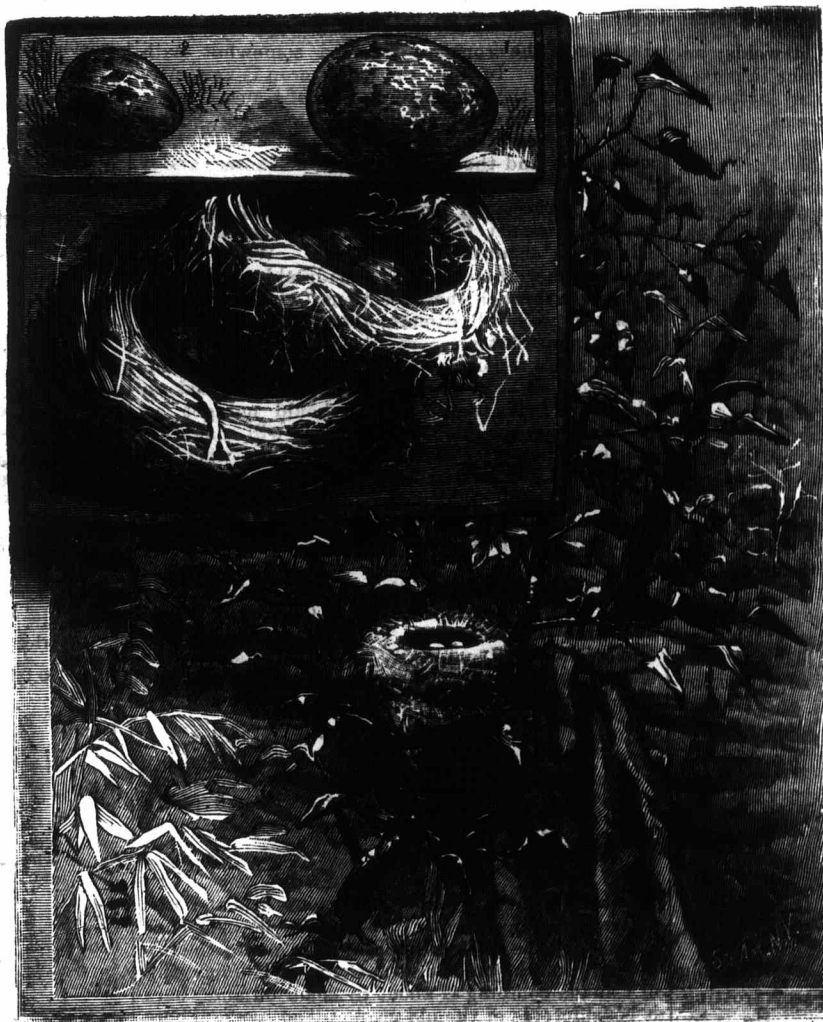
While the expanding leaves of tree and shrub retain the tender tints of pink, and the broad lily pads commence to mosaic the surface of the ponds with green, in perfect harmony with the bursting bud and opening flower comes the summer yellow-bird, and from hedge and bush may be heard his song, as simple and pleasing as the tasteful but modest plumage that covers his little person. Almost immediately after the first appearance of these industrious little birds they commence their preparations for housekeeping. The male bird flies busily about selecting such material as feathers, plants, fibers, the furze from ferns, the catkins from willows, and other similar objects, all of which he brings to his mate, who arranges and fashions their delicate nest. So quickly and deftly do this little couple labor that they build the greater part of their house in a single day.

There is often a third party interested in the construction of this nest, a homeless, happy-go-

drop of one or more young cow blackbirds, considerable larger than the greenlets themselves.

The summer yellowbird, though confiding little creatures, are not readily duped or imposed upon. Their instinct is sufficiently near reason for them to detect the difference between their own little fragile, prettily-marked, greenish-colored eggs and the great dark-colored ones the vagabond cow blackbird has surreptitiously smuggled into the cozy nest. The domestic little couple cling to the spot selected for their house and will not leave it, neither will they hatch the obnoxious eggs, which they are apparently unable to throw out; but the difficulty is soon surmounted, and so are the gratuitous eggs, for the indefatigable workers proceed at once to cover up the cow blackbird's eggs, constructing a new nest on top of the old one, building a second story, as it were, to their house.

The accompanying illustration was drawn by the writer. The upper story or nest is partly lifted so as to show the cow blackbird's eggs in the nest below.



TWO-STORY BIRDS' NESTS.

lucky Bohemian bird, who has a sort of tramp's interest in the housekeeping arrangements of most of the smaller feathered denizens of copse and woods. This is the well-known cow blackbird, who disdains to shackle her freedom with the care of a family, and shifts a mother's responsibility by farming her progeny out, while she seeks the incongruous but apparently congenial companionship of the cattle, with whom she appears to be on the most intimate terms.

The cow blackbird deposits its eggs indiscriminately among the nests of smaller birds. The blackbird's eggs generally hatch out a day or two before the adopted mother's own eggs, so, when the legitimate members of the family do come, it is to find their nest already occupied by the strong, lusty interlopers, who, on account of their superior size and strength, come in for the lion's share of all the food brought to the nest. Thus the innocent parents rear the aliens, while their own young starve. It is really a pitiable sight to see a couple of little greenlets anxiously searching from day-break till evening for food to fill the capacious

Fig. 1 shows the cow blackbird's egg, and Fig. 2 the yellowbird's egg. These are drawn exactly the size of nature.

Mr. Nuttall was the first naturalist, I believe, to record the observation of these two-story nests. Baird mentions a three-story nest, each of the lower nests containing the eggs of the cow blackbird, the whole structure being seven inches high.

**May Days.**

MRS. E. J. RICHMOND.

June may be the queen of the circle of months, but, coming from the dampness and chill of the long, long winter into the balmy sunshine and beautiful pictures of this lovely May, one can desire nothing more delightful. It seems but yesterday we were eagerly searching over the brown, damp meadows for the first blade of grass; now great stretches of clover and waving grass cover all the meadows, and even the roadside, while blue violets and golden dandelions are peeping forth wherever we may turn. The Crocuses and Hyacinths have come and gone, but the Lily of the Valley holds her graceful, sweet-scented bells still, while the pretty Snow Drop nods approvingly. The Star of Bethlehem shines with steady lustre, while the Polyanthus and the dear old Pansies, though they have been here so long, seem to be holding daily receptions, at which great numbers of people in royal purple velvet and scarlet and gold suits appear. Tulips in gorgeous coloring flaunt proudly before great blooming wreaths of flowering Almond, while the modest Lilac, dear old-fashioned flower, fills the air with sweetness.—

The apple and pear trees wear beautiful crowns of beauty—delicate, rose-tinted flowers, pure white, and now and then a young tree sports a coronal of almost rosy red, while all breathe the sweetest perfume. The birds seem delighted at this gay reception, and sing their blithest strains. Morning concerts and daily matinees are the order of the day, while the distant hills, in their blue, smoky atmosphere, give the finishing touches to a landscape well befitting "the merry, merry month of May." Even the Unadilla seems to have caught the spirit of the scene, and glides slowly between violet-dotted meadow banks, while she mirrors the graceful, drooping willows in her depths of blue. And the glorious sunshine encircles all, the benignant flowers fall upon all, the love of the Great Father is as a crown of blessing upon all His works and upon all His creatures, in this beautiful month of May.

A good-natured spinster used to boast that she always had two good beaux; they were elbows.



Stock Notes.

Cards in the Breeders' Directory are now \$2.00 per line, less a discount of 50 cents per line if paid within three months from date of order.

Mr. Robert McEwan, of Alloway Lodge, Westminster, near London, Ont., has imported two prize Clydesdale mares, one of which, a four-year-old by young Prince of Wales, (1019), was bred by Wm. Montgomery, Banks, Kirkcubright, Scotland, and the other, a three-year-old filly, by Lord Lyon (489), by Wm. Vivers, Dornock Tower, Annan, Scotland.

John Dryden, of Brooklyn, Ont., writes: I have lately sold six finely bred Shorthorns; two to Mr. Palmer, of Missouri, as an addition to his show herd for 1882; and four others to Mr. Kissinger, including two red heifer calves, the get of Miss Baron Sumise, one of them half-sister to the first prize calf at Toronto Industrial last year.

Geo. Wilken, Waterside, of Forbes, Aberdeen, Scotland, writes that he has started another Polled herd. Mr. Wilken does not intend to keep such a large herd as formerly, though now his byres are full; he will make large drafts shortly to reduce the number. The herd comprises, among others, the following families:—Tillyfour Prides, Ballindaloch Ericas, Vines, Waterside Queens, Lady Idas, Sybils of Ballindaloch, and Kinnochtry Favorites. There is therefore a good deal of diversity of type and character among the cattle.

Mr. Arthur C. Fairweather, of Rothesay, Kings County, has issued a catalogue of his herd of Jerseys. The catalogue contains the pedigree of fourteen cattle, which is headed by that of the Rex bull, Lord St. Vincent. Mr. Fairweather's herd carried off the honors for Jersey cattle at the Dominion Exhibition at Halifax last year, and are undoubtedly very fine cattle.

Among the many breeders whom we note as having gone to Great Britain to purchase stock, we find the names of Messrs. John Dryden, M. P. P., of Brooklyn, Ont., H. H. Spencer, of the same place, Henry Arkell, of Arkell, Ont., and Thomas McCrae, of Janefield farm, Guelph, Ont. Henry Arkell, of Arkell, Ont., and Peter Arkell, of Teeswater, Ont., are bringing out fresh importations of Oxford Downs, of which they speak very highly. Due notice will be given when the new stock arrives.

Our breeders will note the advertisement in this issue of the sale of the Earl of Airlie's herd; catalogues can be had by addressing Mr. John Black, factors office, Cartachy Castle, Kirriemuir, Scotland.

Mr. John H. Reid, of Fredericton, N.B., who went to Kentucky a short time ago to purchase a trotting stallion, has purchased "Blackmont." He is by Almont, the great sire of trotters, and his dam is Blackwood, who trotted in 2:31 as a three-year-old. Mr. Black, M. P. P. for Westmoreland Co., N. B., has purchased from S. H. McKee & Son their Hambletonian stallion Johnny Mac. This is said by horsemen to be the handsomest colt ever raised in Fredericton.

The FARMER'S ADVOCATE Prize of \$100.00, given annually by MR. W. WELD, of London, Ont., will be awarded for 1882 to the "best herd of five cows for general purposes and profit." The prize will be offered at the Provincial Exhibition, to be held at Kingston, Ont., commencing the 18th Sept., 1882, and continuing one week. Rules and conditions will be given in our next issue.

The summer meeting of the Fruit Growers' Association will be held at Trenton, Ont., on the 13th July next, when a number of very useful questions will be considered.

INSURANCE AGAINST FIRE.—The attention of our readers is directed to the advt. of the London Mutual Fire Insurance Co. in the usual column. This Company is now the only "Mutual" licensed by the Dominion Government. Its published statement shows \$282,928 of assets over liabilities. Farmers not insured, or those about to renew their insurance policy, would do well to write to the Manager for fuller particulars.

Commercial.

THE FARMER'S ADVOCATE OFFICE, London, Ont., June 1, 1882.

The month of May now past has been especially noted for the unusual cold weather, in marked contrast to that of 1881.

WHEAT.

As farmers are more or less interested in the wheat crops of the world, we shall endeavor to give them some idea of the outlook.

In England there have been some complaints of rust in the wheat. A letter dated Liverpool, May 11th, says: "The recent broken weather seems to have done more damage in low lying districts than what was at first thought, but from all other parts of the country crop accounts are very good. In France and Germany the weather has been exceedingly favorable for the growing cereal crops, which have an excellent and favorable appearance. Advices from Russia are not so favorable; in three or four districts the wheat and rye crops have been seriously injured, and in other districts the prospects are not good. In Illinois the crops are damaged somewhat with heavy rains. In Iowa the wheat crop is very promising, and the same may be said of Kansas, while the reports from the Pacific coast are poor. Harvest has already commenced in Tennessee, Arkansas, Texas and the southern part of Kansas, and is about over in the States south of Tennessee. The wheat harvest will probably be general in Kentucky, Missouri, Kansas, and the southern part of Illinois in about two weeks time. With favorable weather there will be considerable new wheat to move through these sections (which find an outlet by way of Baltimore) about the end of June.

While some States report a decrease in the acreage, others again report an increase. With us in Canada, from all that we can gather, winter wheat on the whole looks well. If we should not get an average crop the increase in acreage will make up for the falling off. Wheat that has been well put in on good dry land or land that has been well underdrained, is looking well, while that put in late on poor wet land is not very promising; still, those who have such must only blame themselves for these results.

Stocks of wheat and the supply in sight, are light; the supply is some 7,000,000 bushels less than this time last year. The backwardness of the season adds very materially to the importance of the situation, as a month's delay in the maturing of the crop makes the visible supply still more valuable.

OATS

Have been in good demand, and a good many have been shipped east to the New England States, and up to Manitoba. Stocks are not heavy and likely to be pretty well exhausted before the new are fit for feeding purposes.

WOOL.

While the market for foreign wool is firm and considerable business doing, yet Canada fleece is unsaleable. The Boston Shipping List makes the following remarks on the situation: "The new clip of Canada combing is about to come off and there is considerable of the old crop still on hand. There is no price for this article here, as it is not wanted by manufacturers, and it is doubtful what it would bring if forced on the market, not over 36 to 37 cents per pound. Canada will have to consume their wool at home, for there appears to be no outlet for it except at very low prices." Prices can hardly be said to have opened yet, but farmers may look for low prices, unless for something fine. The sooner farmers change their flocks of coarse woolled sheep for something finer the better it will be for themselves.

CHEESE.

The make of cheese up to date has been very light compared with last year, not more than one-half. Prices are very fair, 9 1/2 to 10 cents being freely paid for the first 15 to 20 days of May. The short make this spring has been very beneficial in keeping the market somewhat steady. Had there been a heavy make of new cheese, together with the old stocks, the market would have undoubtedly made a bad break about this time or a little later on. Under favorable circumstances we may look for a heavy make through the months of June and July.

English advices report that the cheese makers of Wiltshire, Dorsetshire and Somersetshire, England, made cheese last winter, and this supplied that demand for fresh, early stock which has usually been supplied by American early cheese. It is reported that June cheese has been sold on specu-

lation for July delivery at 9 1/2 cents, which means 8 1/2 to 8 3/4 cents in the country. Also July make has been sold as low as 8 1/2 cents, which would indicate an 8 cent market in the interior. These sales have been made in New York, which looks as though cheese would soon be made an article for the "bulls" and "bears" to fight over.

BUTTER.

The local trade seems to be able to take all the fresh made butter so far, but with warmer weather and plenty of pasture we may look for a heavy make.

FARMERS' MARKETS.

LONDON, ONT., 1st June, 1882.

Table listing market prices for various commodities like Wheat, Corn, Peas, Honey, Cheese, etc. in London, Ontario.

GRAIN AND PROVISIONS

MONTREAL, P.Q., 1st June.

Table listing market prices for grain and provisions in Montreal, P.Q.

TORONTO, ONT., 1st June

Table listing market prices for various goods in Toronto, Ontario.

LIVERPOOL, ENG., June 1.

Table listing market prices for various goods in Liverpool, England.

NEW YORK, June 1.

Table listing market prices for various goods in New York.

BOSTON, MASS., 1st June.

Table listing market prices for various goods in Boston, Massachusetts.



**Live Stock Markets.**  
BRITISH MARKETS.

Liverpool, May 22, 1882.  
Supplies of home fed cattle have been light, and the arrivals from America and Canada have also been small. The demand was steady and not characterized by any marked strength, but with the very moderate offerings prices have strengthened some and the best grades have advanced about 1/2c per lb.

	Cents @ lb.
Finest steers.....	17 1/2
Good steers.....	17
Medium steers.....	16 1/2
Inferior and bulls.....	15 to 14

[These prices are for estimated dead weight; offal is not reckoned.]

**SHEEP.**

In the general market for sheep there has been no quotable change in prices, but with liberal supplies the values have weakened some on poor stock.

	Cents per lb.
Best long woolled.....	20
Seconds.....	18 to 19
Merinos.....	17 1/2 to 18 1/2
Inferior and Rams.....	15 to 16 1/2

[These prices are for estimated dead weight; offal is not reckoned.]

**EDINBURGH AND GLASGOW BY CABLE.**  
TRADE ABOUT STEADY - PRICES FOR AMERICAN AND CANADIAN STOCK.

Current prices (per lb weight sinking the offal) are as follows:

Best American steers.....	16 to 17
Medium steers.....	14 1/2 to 15 1/2
Medium bulls.....	14 to 15
Top Canadian steers.....	16
Clipped sheep.....	17 to 18

**CHEESE MARKETS**

The first cheese market of the season was held at the City Hall on the 27th ult. As is usual on the first day, the transactions were very limited, small sales at 9 1/2c. The Association held a meeting for reorganization.

The officers elected were - President, John Wheaton, London; Vice-President, D. Leitch, Caradoc, Directors - L. R. Richardson, J. W. Scott, B. Wood, John Mills, Thomas Nagle, W. B. Heath, R. Boston, J. S. Pearce, James Carmichael, Mark Wellington, W. McKerricher, John Rowatt, A. G. Deadman, and Mr. J. A. Nelles was appointed Secretary-Treasurer.

	London, Ont.	Utica, N. Y.	Ingersoll, Ont.
Per cable, 58s.			
5,500 boxes sold at 10 1/2c to 10 3/4c.			
2,801 boxes, sales from 9 1/2c to 9 3/4c.			

City, town and village property in Manitoba has depreciated from 25 to 250 per cent. during the past month. Do not risk your farms in Ontario for what you know nothing about. Many are trying to induce our subscribers into Syndicates, etc. We advise great caution.

We are in receipt of the prize list of the Toronto Electoral District Society, and Toronto Horticultural Society's Floral Show, to be held in the Horticultural Gardens and Pavilion, on the 28th and 29th instant.

The list of premiums offered at the Montreal Horticultural Society and Fruit Growers' Association, of the Province of Quebec, has also been received. The exhibition is to be held in Montreal in September, 1882.

We have also had laid on our editorial table a report of the proceedings of the eighteenth session of the American Pomological Society, held in Boston, Massachusetts, and which contains much useful information for fruit growers. We have not space in this number to do more than direct attention to it.

**NEW ADVERTISEMENTS.**

**IMPORTANT SALE**  
-OF-  
**PURE-BRED**  
**Polled Angus or Aberdeen Cattle**

A large draft of over  
**SIXTY HEAD**  
from the herd of the  
**RIGHT HON. the EARL of AIRLIE,**  
will be sold by PUBLIC ROUP at  
**CARTACHY CASTLE**  
KIRRIEMUIR, SCOTLAND,  
-ON-

**THURSDAY, 5th OCTOBER NEXT**  
Catalogues will be issued about the end of August.

**COTTON YARN.**  
WHITE, BLUE, RED AND ORANGE. Warranted the very best quality. None genuine without our label. Also, BEAM WARPS to Woon Mills.  
Send for Circulars, &c. Address -  
**WM. PARKS & SON,**  
New Brunswick Cotton Mills,  
St. John, N.B.  
de-12

**DOMINION**  
**LINE OF STEAMSHIPS.**

In connection with the Grand Trunk Railway steamers leave Portland for Liverpool as follows

SS. Brooklyn.....	3rd June
SS. Toronto.....	10th June
SS. Dominion.....	17th June

and each following week.  
Through bills of lading granted from all points. Issue prepaid passage certificates at reduced rates to those desirous of bringing out their friends.

For tickets, rates of freight, and other information, apply to  
**GEORGE W. TORRANCE, Manager Toronto Agency;**  
**J. B. JONES, Western Freight and Travelling Agent, Offices 65 Front St., East;**  
**DAVID TORRANCE & CO., General Agents, Montreal.** 197-c

**FOR SALE.**  
NEW PORTABLE AGRICULTURAL  
**ENGINE & BOILER**  
(Haggart make.)  
NEVER USED. PRICES LOW.  
Address **JAMES ROBERTSON & Co.,**  
Metal Merchants, Toronto, or Box 223 London.  
197-a

**POT-CROWN STRAWBERRY PLANTS**

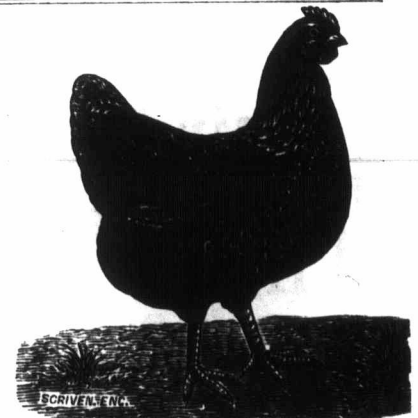
Newest and Best Varieties combined with the most liberal offers ever made to the public.  
Send stamp for Catalogue.  
Address -

**E. P. ROE,**  
198-a **CORNWALL-ON-HUDSON, N.Y.**

**GALLOWAYS**  
**AND POLLED ANGUS CATTLE**

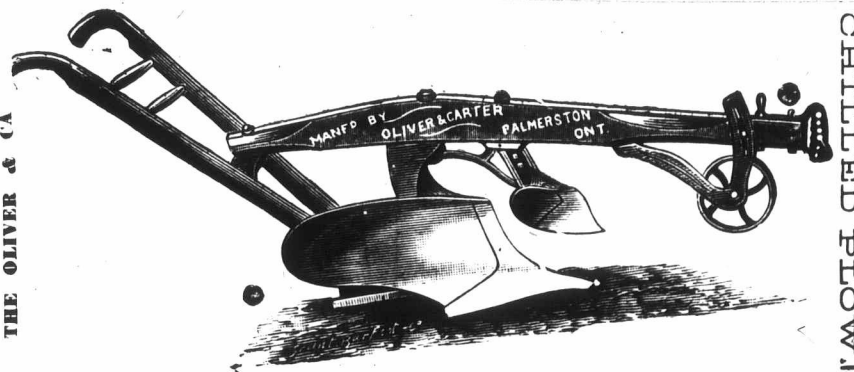
OUR Mr. Thomas McCrae is at present en route for Scotland to purchase animals for his herd, and is prepared to fill commissions with which he may be entrusted for the purchase of Galloways or Polled Aberdeens. His intimate knowledge of the country (being a native of Galloway, Scotland), and his experience of nearly 20 years, during which time he has been breeding, exhibiting and importing Polled Cattle, gives him exceptional advantages in selecting stock suited for the American market. He personally inspected the best Scotch herds last season, and knows where to find the different grades of stock which may be required. The shipping will have his personal supervision. If requiring any Polled Cattle, address the undersigned, who will cable orders.  
**McCrae & Co.,**  
Guelph, Ont., Canada.  
197-a

**EAST TENNESSEE**  
A NEW SETTLEMENT, CHEAP LANDS, MAGNIFICENT CLIMATE, GOOD SOIL, GOOD WATER, GOOD MARKETS.  
Send for Circular and Maps to  
**M. H. ALLARDT & Co.,**  
197-a **PORT HURON, MICH.**



**EAST HAMILTON POULTRY YARDS**  
**THOS. GAZDAR**  
BREEDER OF  
**HIGH CLASS**  
**PLYMOUTH ROCKS**  
-AND-  
**WHITE LEGHORNS**  
78 King Street East,  
**HAMILTON, ONTARIO.**  
My birds are prize winners wherever exhibited. Send post card for circular.  
**AYRSHIRE COW, in calf to Jardine's "Mars," FOR SALE.** 198-f

**THE FARMERS' FRIEND.**



**OLIVER & CARTER'S PLOW WORKS, PALMERSTON, ONTARIO.**  
The Evenest-balanced, Lightest-running PLOW made. Chilled by the Oliver chilling process, and from the very best material. We make three styles of Plows: -Original No. 40, No. 40 long handles, and No. E. 36, a new plow with sloping shear and long handles, well polished and warranted to scour in all soils; shears extra hard.  
Also a new **Plows Shipped to all Parts on the Shortest Notice.**  
**CORN AND ROOT CULTIVATOR.**  
196-3  
Reduction in Prices to the Trade for 1882.

The Pioneer of Cheap and Safe Insurance for Farmers and Owners of Isolated Risks.

**The LONDON MUTUAL FIRE INSURANCE COMPANY OF CANADA**

The only "FIRE MUTUAL" Licensed by the Dominion Government.  
**40,000 Members. Head Office - 438 Richmond St., London, Ont.**

DIRECTORS - James Armstrong, President; Daniel Black, Vice-President; Richard Biddulph, Angus Campbell, Samuel Eccles, Mr. Sheriff Springer, James Grant, J. Armstrong (Yarmouth), and John Hodgson, Tilsonburg. W. R. Vining, Treasurer. C. G. Codrington, Fire Inspector.  
**D. C. MACDONALD, Secretary and Manager.**

STATEMENT - 1st January, 1882.

Amount of Available Premium Notes, unassessed balance.....	\$200,190 63
" Assessments in course of Collection.....	13,181 96
" Agents' Balances secured by Members' Due Bills and Agents' Bonds.....	30,548 46
" Bills Receivable.....	469 05
" Balance on Mortgages.....	50 00
" Office Furniture and Plant.....	648 53
" Dominion Deposits for Security of Members.....	30,000 00
" Accrued Interest.....	1,449 32
" Cash in Federal Bank.....	10,082 00
" Treasurer's hand.....	696 13
	<b>\$287,264 07</b>

LIABILITIES.

Borrowed Money.....	None
Losses Adjusted, but not due.....	\$4,975 80
	<b>\$282,288 77</b>

Assets over Liabilities.....  
This old and well-tried Company does a larger business in Ontario alone than any other Company, Stock or Mutual, English or Canadian, in the whole Dominion, having in the year 1881 issued no fewer than **13,949** Policies, a number never before exceeded, excepting by itself. The year 1881 was a most trying one for Insurance Companies, and this Company had an exceptionally heavy bill of losses, yet according to the Dominion Government returns, it was the only Canadian Company whose income exceeded its expenditure for the year. For insurance apply to any of the Company's Agents, throughout the Province, or address the Manager, London, Ont. 197-b



## THE ENGLISH SAVINGS COMPANY.

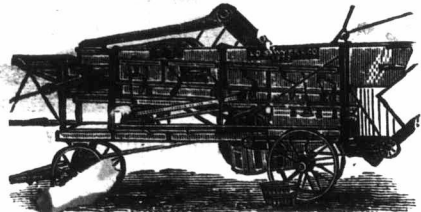
North-east corner Dundas and Talbot Streets.  
LONDON, - - ONTARIO.

**5 & 5½ Per Cent.**  
PER ANNUM  
ALLOWED ON DEPOSITS.

OFFICE HOURS—Nine to Five O'Clock.

HON. ALEX. VIDAL, D. J. CAMPBELL,  
Senator, President. | Manager.  
198-a

## SAWYER'S Grain Saver THRESHER



### READ WHAT THE FARMERS SAY OF IT:

John Burkell, Rosemeath, Ont.—“Runs easy, light and very steady.”  
John Beemer, St. George, Ont.—“No time lost, runs all day without stops.”  
Pulfer & Charters, Brampton P. O., Ont.—“Works well in all kinds of grain, wet or dry.”  
C. Nelson, Burn-Brae.—“Second to none; stands at the top over all threshers.”  
Jesse Perry, Lowbanks, Ont.—“No dust; no breaks; no coppages.”  
John Sigsworth, Harrowsmith.—“Threshes clean without wasting grain.”  
Alcock & Fleming, Ravenna.—“Beards barley, wet or dry, perfectly.”  
C. B. Taylor, Trenton.—“Works splendid; gives universal satisfaction.”  
Anglin Bros., Brewers' Mills.—“Runs and feeds easy; is superior to all others.”

Address us for Illustrated Catalogue of  
**Threshers, Clover Mills,  
Horse Powers, Reapers  
and Mowers.**

**L. D. SAWYER & CO.,**  
HAMILTON, ONT.,  
CANADA.

173-1p

## CITY HOTEL

LONDON, ONT.

The Best Farmer's Hotel in Can. Lon.

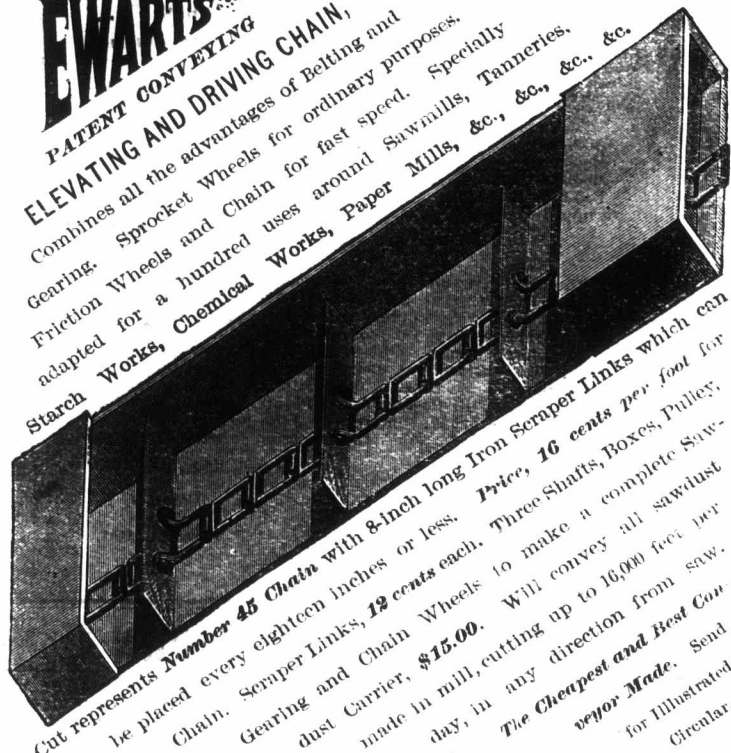
Notwithstanding the recent burning of our large stable, we have made suitable arrangements for the horses of our guests until ours are rebuilt.  
194-1f  
**McMARTIN BROS.**

**JOHN CAMPBELL,**  
King Street, LONDON, ONT.  
Manuf. of Carriages, Buggies, Cutters, Sleighs, &c.,

Modelled from the Newest Designs; which, for Elegance, Durability and Workmanship, cannot be surpassed in the Dominion.  
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## EWART'S PATENT CONVEYING, ELEVATING AND DRIVING CHAIN.

Combines all the advantages of Belting and Gearing. Sprocket Wheels for ordinary purposes. Friction Wheels and Chains for fast speed. Specially adapted for a hundred uses around Sawmills, Tanneries, Starch Works, Chemical Works, Paper Mills, &c., &c., &c.



Cut represents Number 45 Chain with 8-inch long Iron Scraper Links which can be placed every eighteen inches or less. Price, 16 cents per foot for Chain. Scraper Links, 12 cents each. Three Shafts, Boxes, Pulleys, Gearing and Chain Wheels to make a complete Saw-dust Carrier, \$15.00. Will convey all sawdust day in any direction from saw. The Cheapest and Best Conveyor Made. Send for Illustrated Circular.

THE WATEROUS ENGINE WORKS CO., BRANTFORD, CANADA,  
Sole Manufacturers and Proprietors of Canadian Patent.

## CANADIAN PACIFIC RAILWAY COMPANY.

The CANADIAN PACIFIC RAILWAY COMPANY offer lands in the FERTILE BELT of Manitoba and the North-West Territory for sale on certain condition as to cultivation, at

**\$2.50 PER ACRE.**

Payment to be made one-sixth at time of purchase, and the balance in five annual instalments, with interest at Six per cent.

### A REBATE of \$1.25 PER ACRE

allowed for cultivation, as described in the Company's Land Regulations.

### THE LAND GRANT BONDS

of the Company, which can be procured at all the agencies of the Bank of Montreal, and other Banking Institutions throughout the country, will be

### RECEIVED AT TEN PER CENT. PREMIUM

on their par value, with interest accrued, on account of and in payment of the purchase money, thus further reducing the price of the land to the purchaser.

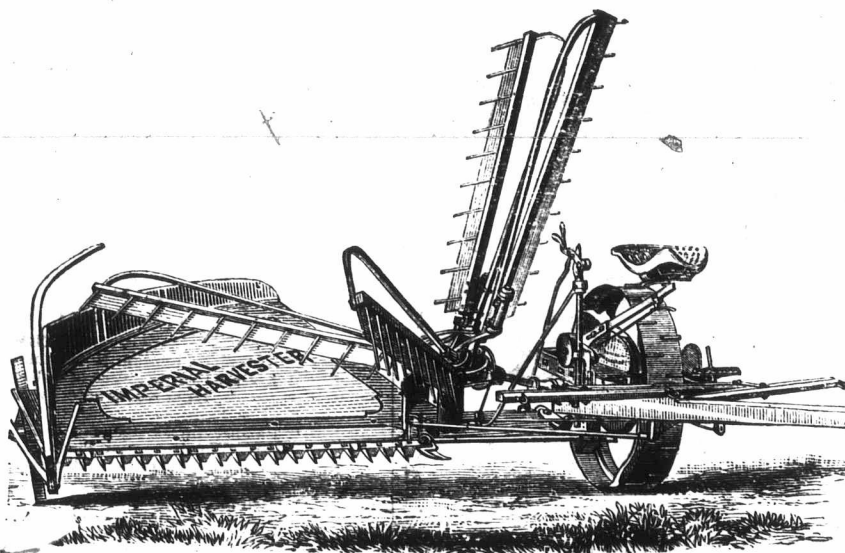
Special arrangements made with Emigration and Land Companies. For copies of the Land Regulations and other particulars, apply to the Company's Land Commissioner. JOHN McTAVISH, Winnipeg; or to the undersigned.

By order of the Board.

**CHARLES DRINKWATER, Secretary.**  
197-c

Montreal, December 1st, 1881.

## IMPERIAL HARVESTER!



The most perfect and complete Reaper in the world. Contains more practical patented improvements than any other Harvester in the market. It is the only machinemade with platform and raking apparatus tilting independently of truck. In simplicity and durability it excels all others. It can not get out of order, and is guaranteed to work in any kind of grain. It is the cheapest machine ever offered to the farmer. It has no equal, and every farmer wants one. For particulars send to

**GLOBE WORKS CO., London Ontario.**

N. B. — AGENTS, if you want to sell the BEST machine made, see the  
192,1  
**IMPERIAL HARVESTER**

## INTERCOLONIAL RAILWAY

SEALED TENDERS will be received by the undersigned until the

**1ST JULY NEXT**

FOR THE

## GRADING AND BRIDGING

of the Eastern Section of the

## ST. CHARLES BRANCH

from St. Charles Station, Intercolonial Railway, to a point about eight miles west of that Station.

Plans, Profiles and Specifications of the work may be seen at the office of the Station Master, Point Levis, on and after the 17th June next.

A certified bank cheque for one thousand dollars must accompany each tender as a guarantee of good faith, and this amount will be forfeited if the person tendering neglects or refuses to enter into a contract for the work when called upon to do so.

The person whose tender is accepted will be required to deposit to the credit of the Receiver-General cash or Government securities for money to the amount of five per cent. of the bulk sum of the contract.

Tenders must be marked on the outside "Tender for grading St. Charles Branch."

**D. FOTTINGER,**  
Chief Superintendent.  
Railway Office, Moncton, N.B., May 26, 1882.  
198-1f

## BROWN'S PATENT HAY LOADER



### Advantages of the Use of the Hay Loader:

It saves as much manual labor as the mowing machine or horse rake; it requires no extra man or horse, and the draft when in operation is hardly perceptible; it can load one ton of hay in five minutes; it can be used in heavy, unranked hay, or for windrows; you can save double the quantity of hay in the same time by using the loader; it can be instantly attached or detached to a wagon.

For price list and particulars address,

**JOHN RUSSELL & Co.,**  
successors to THOS. BROWN & Co.,  
Ingersoll, Ont.,  
Manufacturers of Reapers, Mowers, and all kinds  
193-f of Farm Implements

### Agricult'! Savings and Loan Co'y

Incorporated by Act of Parliament.

OFFICES:  
Cor. Dundas & Talbot-sts., London, Ont.

Capital, - - - \$1,000,000  
Subscribed do. - - - 600,000  
Paid Up, - - - 410,700

Money loaned on the security of Real Estate at lowest rates. Mortgages purchased.

### SAVINGS BANK BRANCH.

Deposits of \$1 and upwards received. Interest owed at from 5 to 6 per cent per annum.

JOHN A. ROE,  
da-12  
Manager.

### SALESMEN WANTED

to begin work at once on Sales for Fall 1882 for the

## FONTHILL NURSERIES!

The LARGEST in CANADA.

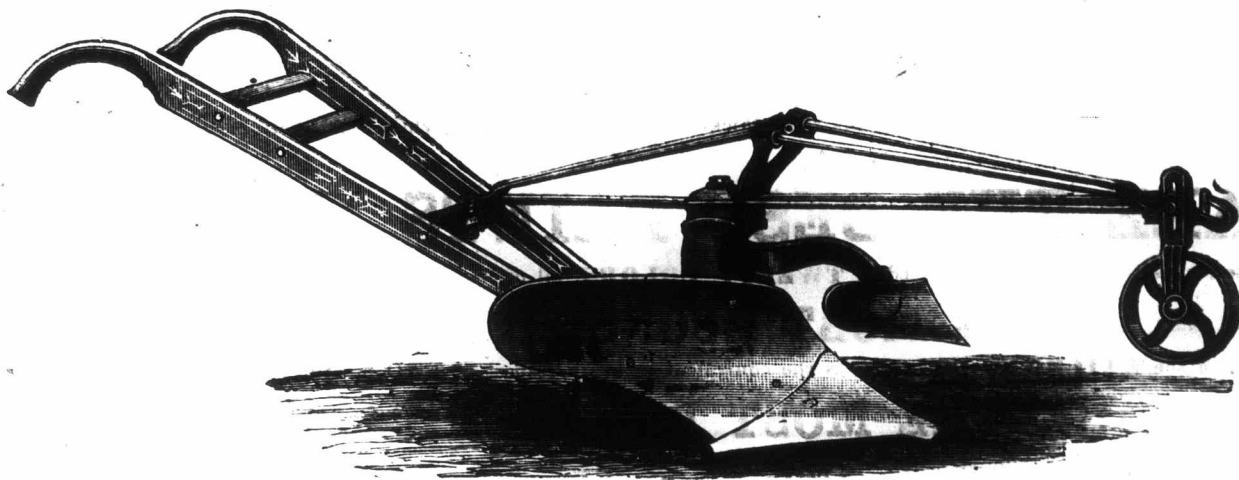
Head Office—Toronto, Ont. Branch Offices—  
Montreal, P. Q., and St. Paul, Minn.  
NURSERIES—Fonthill, Ontario.

We can start, in addition to our already large force, 100 ADDITIONAL CANVASSERS, and want men who can give full time to the business. Steady employment and good salaries to successful men. It does not matter what your previous occupation has been. If you are willing to work your success is almost certain. The best of references required. Apply to  
**STONE & WELLINGTON,**  
196-c  
Nurserymen, Toronto, Ont.



# THE "SEEGMILLER" TRUSS BEAM PLOW!

Flexible Wheel, Universal Standard Jointer Attachment.



This Celebrated Plow is made in Canada. It combines all the advantages of the best American chilled plows, with additional improvements. The material used in their construction is the best made; they are constructed by the most skilled mechanics; their durability and efficiency are unsurpassed. The thousands of testimonials from those using them are such as to satisfy all that this is the plow for the million.

I desire to inform the farmers of Canada that, although I am about to remove to the United States, to take charge of the Benton Harbor Plow Works, Benton Harbor, Michigan, I shall still retain an interest in the Seegmiller Plow Works, at Goderich, Ont. The Benton Harbor Plow Works have been erected for the special purpose of manufacturing the "Seegmiller" Plow to supply the demand which has arisen from its introduction among the farmers of the West. The manufacture of the "Seegmiller" Plow will be continued at the Goderich Factory by the firm under the style of Seegmiller & Co. They have already at this factory manufactured 2,500 plows for this season's trade, and are continuing their manufacture at the rate of 600 per month. However, the demand is increasing, and to meet this increasing demand they are enlarging their premises and hope shortly to be in a position to supply the Canadian trade. They will also continue to manufacture shares of the best charcoal iron for the "No. 40" and "E 2 Oliver" Plows, unequalled for wearing qualities. Farmers desiring the "Seegmiller" Plow, or repairs of either it or the "Oliver No. 40" or "E 2," and who are not near an agency, can be supplied by addressing Seegmiller & Co., Goderich, Ont. To such persons a reduction in the price of shares will be made if they are ordered by the dozen. Where Seegmiller & Co. have no agents, for \$16 they will send a Seegmiller Plow to any farmer in Ontario, Quebec, New Brunswick, Nova Scotia or Prince Edward Island. Parties willing to act as agents will do well to correspond with Seegmiller & Co. These plows sell very readily wherever introduced, and the discounts to agents are liberal. I desire to thank my numerous customers for their patronage, and also the many intelligent farmers and agents who have assisted me in bringing the "Seegmiller" Plow before the public, and who, by making manifest its merits, have contributed to gain for it the favor with which it is so universally regarded. SAMUEL SEEGMILLER.

Plows sent, freight prepaid, to any firm in Ontario, Quebec, the Maritime Provinces and Manitoba. Address—

**SEEGMILLER & Co., Agricultural Foundry, GODERICH, ONT.**

## BRANTFORD PLOW WORKS

I MANUFACTURE THE

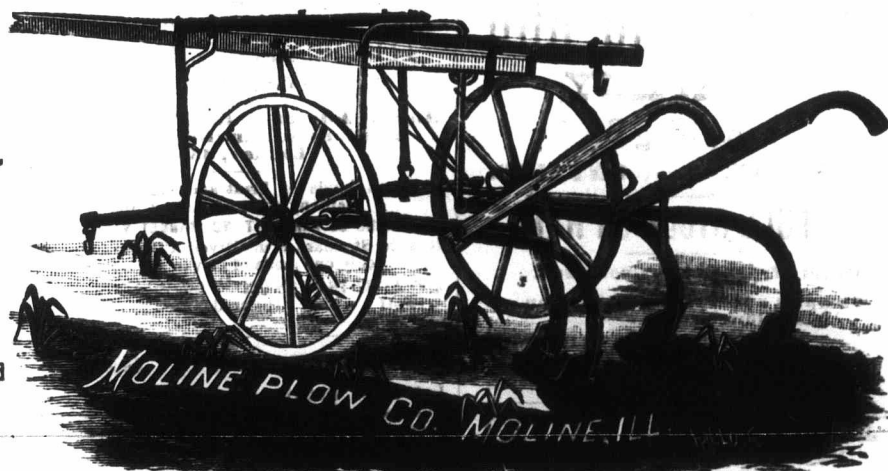
### Western Corn Cultivator

THE BEST IMPLEMENT EVER USED IN A CORN-FIELD.

—THE—

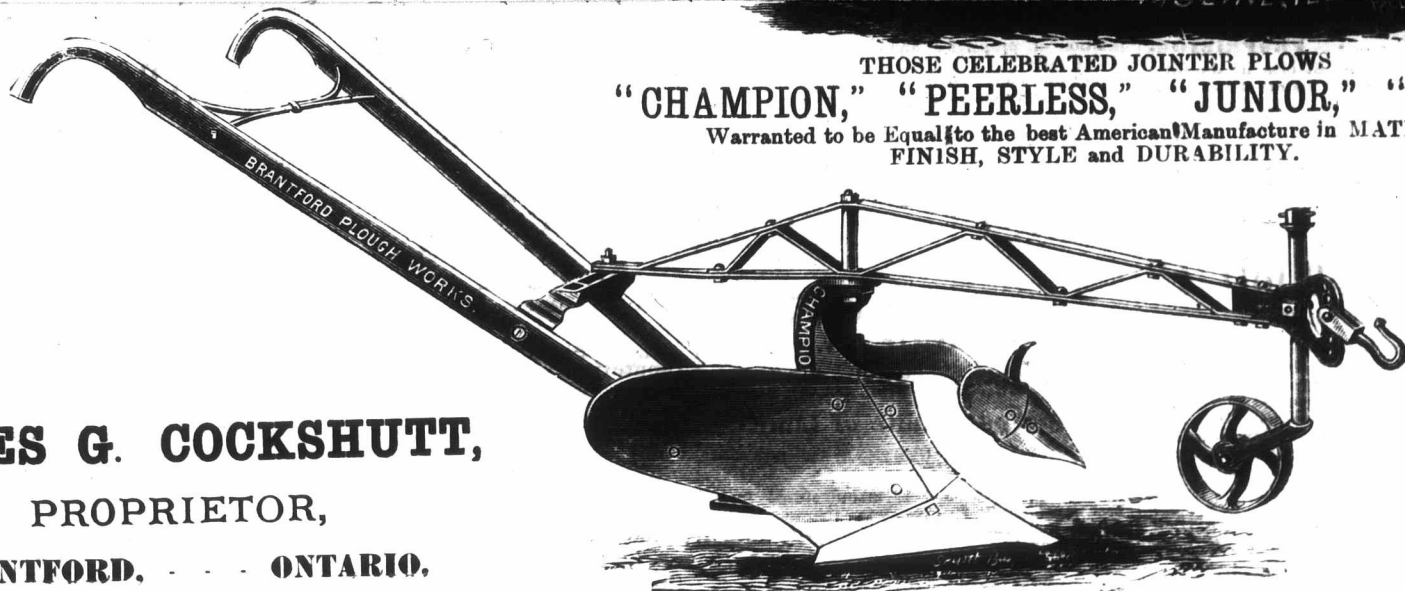
### Diamond Point Single Cultivator

Perfectly Adjustable for any Style of Root Cultivation, and a Splendid Hiller.



THOSE CELEBRATED JOINTER PLOWS

"CHAMPION," "PEERLESS," "JUNIOR," "UNION,"  
Warranted to be Equal to the best American Manufacture in MATERIAL,  
FINISH, STYLE and DURABILITY.



**JAMES G. COCKSHUTT,**  
PROPRIETOR,  
BRANTFORD, . . . ONTARIO.



— T H H —

# RAILROAD COLORS

These COLORS are very finely ground, and are of the same thickness and consistency as white lead, only requiring to be thinned with raw linseed oil or turpentine to be ready for use.

**THEY ARE THE BEST PAINTS IN THE WORLD!**

for all interior or exterior painting, and are composed of **TWENTY COLORS**, all of which, in combination or contrast, are suitable for either purpose.

**THE MOST ECONOMICAL PAINT.**

ONE PAINTING with the **RAILROAD COLORS** is the equivalent in every respect of TWO paintings with colors made of the best white lead.

**THE MOST DURABLE PAINT**

which can be obtained by any means and at whatever cost, and they will resist the influence of light, heat and moisture longer than any other paint.

**THE SUPERIORITY OF THE RAILROAD COLORS**

For House Painting, Agricultural Implements and General Use

is no mere matter of assertion. They have stood the test for years, and more than **one hundred thousand houses** stand at this writing throughout Canada and the United States painted with the **RAILROAD COLORS**, and among all the owners of these there has not been in a single instance a reasonable ground for complaint.

MANUFACTURED BY

**WILLIAM JOHNSON,**

578 William Street, Montreal, P. O. Box 926.

Sample sheet and book on painting supplied on application.

R. LEWIS, Agent, London, Ont.

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**GLOBE  
LIGHTNING ROD  
COMPANY,**

94 King St.,  
LONDON, - - ONTARIO.  
**A FULL STOCK ON HAND.**

Orders from Dealers Solicited.  
Samples and Price List Sent on application.

**T. C. HEWITT,**  
MANAGER.

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**BEAUPRE'S HOTEL**

Market Square, KINGSTON, CANADA,  
**R. BEAUPRE, - - PROPRIETOR.**  
Largest Yard and Best Stables in the City. Murray's Sale and Boarding Stables attached to this House. Table supplied with the best the market affords. Headquarter's for Brewer's Mills, Seeley's Bay, Morton, Delta, Newboro', and Bath and Gananoque Stages, and Cape Vincent Stage during winter season. Horse Dealers will find it to their advantage to stop at this House. 197-e

**HARRIS'  
DOMINION CURD CUTTER**

(Patented July 21, 1879.)

Is now offered to the factorymen of Canada with the confidence that it is just what they want to prepare the curd for setting. The cheese that took the first prize and gold medal at Toronto, 1879; at New York International Fair, Dec. 1879; Sweepstakes of the World at Hamilton Provincial, 1880; Toronto and London Provincial, 1881; and all the gold medals that have been taken the last three years, was made with it.

Sold by C. F. Smith, Belleville; E. McDougall, Brockville; W. R. Marshall, Stratford; G. S. Climie, Listowell; R. G. Wright, Napanee, Ont.

**J. B. HARRIS, Proprietor,**  
197-1f BROCKVILLE, ONT.

**ZIMMERMANN  
Fruit and Vegetable Dryer!**

MANUFACTURED BY  
**RICHARDS BROS.,**  
494 & 496 Yonge St., Toronto, Ont.

Highest Awards at the Provincial Exhibitions at Hamilton, 1880, and London, 1881.

Dries all kinds of Fruit and Vegetables better than any other apparatus, and **ADDS 50 PER CENT TO MARKET VALUE.** It is the Standard Fruit Dryer of Canada, and the only one made of galvanized iron.  
AGENTS WANTED. Liberal discounts to the trade.  
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**FARMS FOR SALE**

In Western Ontario a number of choice Farms. Full descriptive list sent on application. Correspondence invited, full information given, and on personal application at my office plans of the townships shown, enabling strangers to see the position of properties and their proximity to towns, railway stations, &c. Farms with acreage to suit every one. Send to

**CHARLES F. BRYDGES,**  
Real Estate Agent.  
Land Office, 98 Dundas street west, London, opposite to the City Hotel, for list of farms for sale.  
176-1f

**FERTILIZERS.**

The Brockville Chemical and Superphosphate Co'y (Ld.)

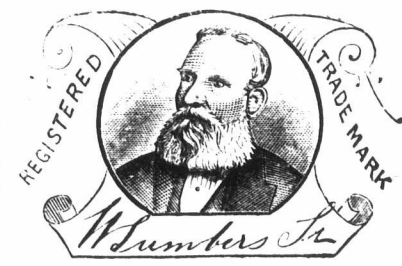
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