

FARMER'S ADVOCATE

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THE FARMER'S ADVOCATE AND HOME MAGAZINE,

WILLIAM WELD, Editor and Proprietor.

Circulation over 20,000 Copies.

THE FARMER'S ADVOCATE is published on or about the 1st of each month, is handsomely illustrated with original engravings, and furnishes the most profitable, practical and reliable information for dairymen, for farmers, gardeners or stockmen, of any publication in Canada.

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T. E. CLAY.

Gov't Immigration Office, HALIFAX, N. S.

Our Monthly Prize Essay.

A prize of \$5.00 will be given for the best essay on "The Best Methods of Economizing Work on the Farm." Essays to be handed in no later than the 15th of July.

Our prize of \$5.00, given for the best essay on "How Can Farmers Make the Best and Cheapest Cheese for Their Own Use," has been awarded to Miss Maggie Webster, Augustine Cove, P. E. Island. The essay appears in this issue.

Sheaves from our Gleaner.

Weeds!
Fix fences.
Pasture pigs.
Like begets like.
Now grass is king.
No stock, no manure.
No manure, no crop.
Breed out scrub blood.
Eggs absorb bad odors.
Economy begins at home.
Bravery—Fighting insects.
A dear article—Cheap help.
Late spring—Busy summer.
How not to farm—By proxy.
Wet days—Repair your tools.
Thin out over-loaded fruit trees.
Cut suckers from the fruit trees.
Poor pastures—Unprofitable stock.
Good pastures—Good meat and butter.
Old cows produce thinner milk than young ones.

If you don't lead your work the work will drive you.

Soap-suds and all kitchen water are valuable fertilizers.

It is said that wheat is being adulterated in New York city.

If your hens have vermin put tobacco leaves in their nests.

The biggest not the best—Paint is cheaper than new timber.

Turnips fed immediately after milking will not taste the milk.

When to color butter and cheese—Before they leave the cow.

Poor pasture land is better adapted for cheese than for butter.

Bathe the horses' shoulders once a day with cold water; keep their collars and feet clean.

The cheapest way to mend the hole in your pocket—Study nobody's business but your own.

Farming for profit—Good drains are cheaper in the end than doctors, "vets" and nostrums.

Prevent fires.
Fix ajar gates.
Pigs need grass.
Go to the picnic.
Tailings—Bad farming.
Tyrants—Noxious weeds.
Improve your native stock.
An honest price for honest milk.
Feed the sown crop, not the weeds.
Improve the farmer; then the farm.
Don't keep a vicious cow for breeding.
Don't put a dairy cow to a beefing bull.
Learn from last year's mistakes.

A good farmer—Known by the papers he takes.

Don't be led astray by fanciful colors when breeding.

Now is the time to make calculations for next year's dairy.

Double pay—Soap suds fertilize plants and destroy insects.

Improve animals of mixed blood by using pure bred males.

Seek early maturity for a beeper, but length of use for a milker.

What you can't do—Change your diet or rotate your crops too much.

If you want to know what you are going to get, don't mix the breeds.

Give and take.—If you give your farm nothing, it will owe you nothing.

Caution to farmers—The biggest bonanzas in these days are in live stock booms.

If you want the race to deteriorate, breed before the animals are mature.

Put lumps of rock salt in the pasture where the stock can have free access to it.

First consider your sources of loss, and then begin to figure your sources of profit.

In Edmonton, N. W. T., the total value of buildings erected in 1883 was \$31,100.

It is better to buy a good animal with a poor pedigree, than a poor animal with a good pedigree.

Doing business backwards—Signing a document, leaving the reading of its contents for a rainy day.

A heifer which has been stunted in growth by poor food or bad management should never be kept for breeding.

If you want to raise fine steers for fattening, now is the time to make calculations before your cows are served.

The newest and most effectual way of suppressing contagious diseases in live stock is by cremation of the carcasses.

Editorial.

Dairy Cows.

Before getting the cows served there are many important questions to be considered. If there is a heifer in the herd, at what age should she drop her first calf? Is there an aged cow, at what period does she cease to be profitable for the dairy? Does the farmer want to raise beef or dairy stock, or does he want to combine these industries by raising a class of animals suitable for all purposes? Now is the time to determine the character of the herd for all time to come.

In sections where only one breed exists, and where only one line of live stock industry prevails, there can be no difficulty in selecting a sire; but in an all-purpose district where there are different stamps of native cows, as well as different breeds, it would frequently pay to go a score of miles in search of a desirable sire. It is against the laws of animal economy that perfection can be attained both in the milking and the beefing qualities of the same breed. Even if an equivoque were once established, it could not be maintained, until a much profounder knowledge of the breeding art than usually exists in the farming community be first acquired. A cow that keeps in a uniformly good condition carries on her bones an investment sunk for years, which would have yielded quick and profitable returns had it been converted into milk or young. In beefers the desirability of early maturity cannot be questioned; but in dairy stock care must be taken not to do violence to conflicting laws. If early maturity in the heifer be encouraged, fecundity becomes impaired by the process of high rearing; if the feeding be moderate or scanty, a late maturing propensity will be developed in the offspring. Our conditions not naturally favoring early maturity, the question of maternity should incline more to the third than to the second year, even in the lighter classes of dairy cows. The principle involved is this: A heifer rationally fed always assimilates a uniform percentage of her food, and if she is served while immature, a portion of the nourishment which should have been expended in building up her frame is transformed into young, whereby either the mother or the calf, or both, must suffer in development; and while she is giving milk, there still remains a double strain on her system. It will not do to avoid this by milking her sparingly the first season, for then her udder and secretory vessels would remain but partially developed, and her usefulness for the dairy would be checked. There is still another violation of the same principle amongst farmers and dairymen. Forgetting that a calf is nothing but condensed milk, they sometimes expect the cow to give as large a yield of milk all the year around as if she were not pregnant. If their expectations were realized, how could there be a calf? Hence the desirability of letting her dry six or eight weeks before calving. What is lost in milk is gained in the calf; and in this case the "quick returns" argument has no weight; in fact the slower the returns, within certain limits, the greater the final profit.

Another advantage in allowing a heifer to mature before dropping her first calf is that the period of her dairy usefulness will be length-

ened. Having a beefing propensity, she cannot be profitably kept for the dairy after her sixth year, while if she is exclusively of a milking stamp, and allowed to mature before parturition, she will be profitable till her eighth or even her tenth year.

It costs considerably more to fatten old than young animals. The most profitable returns in the production of beef ceases between the fifteenth and eighteenth month of the animal's age. A well-fed beefing grade will gain an average of 2.25 lbs. per day, during the first 18 months of its life, while in its sixth year it will scarcely gain a pound a day, proving that it cannot be profitably fed at this age for the reason that it will be more profitable to feed at an earlier period. The same principle holds good with regard to the production of milk; that is, although a cow may yield ever so much profit, the investment may in one sense be regarded as a loss so long as the same quantity of food invested in another cow would produce a still greater profit. If the cow is old, and belongs to a beefing breed, the loss is ruinous. Deal peremptorily with superannuated cows.

The most desirable qualities of a dairy cow are large digestive organs, indicated by a full barrel; a wedgy frame; a large, well formed udder; large, winding milk veins; a gentle disposition, and a sound constitution.

Canadian Agents.

The Canadian Manufacturer urges that Canada should be represented in the different British colonies by agents whose duty would be to push the trade of the Dominion. It thinks that our manufacturers can find profitable markets in Australia on the completion of the Pacific Railway, as the trains-Pacific voyage is much safer than one down the Atlantic and around either of the two great capes. The Manufacturer also favors the appointment of Canadian agents in foreign countries. It is in part to meet the necessity of having some offices with whom persons might correspond who desire to learn the nature and extent of the English market for our produce and whose interest it would be to develop the trade of this Province with England that the Local Government have appointed an Agent-General in Great Britain, for New Brunswick. We think the appointment of consular agents to foreign countries, and of agents in other colonies, would be a move in the right direction.

The General Purpose Cow.

It is the practice of many farmers to keep a class of cattle which is equally well adapted to all departments of their live stock industry. It makes a fair butter and cheese record, and when superannuated, so far as the dairy is concerned, its usefulness for the flock is not yet gone. Many other authorities also uphold this practice, thinking that unless an aged cow can be turned into beef, a serious loss is the inevitable consequence. A little figuring will throw light on the question. Let us take the Devon as a representative of the general purpose cow, and let the Ayrshire represent a milking breed—supposing, for the sake of convenience, such animal to weigh 1,000 lbs. Granting that the Ayrshire is no longer fit for the dairy after the age of ten years, and that her carcass is of no

use for beef, while the Devon, at the same age, in store condition, realizes say \$30. But the carcass of the Ayrshire must not be lost sight of altogether; it is not fair to suppose that it is hauled into the bush for crow feed, as is the practice amongst most farmers. Such a carcass should contain 30 lbs. of nitrogen, 25 lbs. of phosphoric acid, and 28 lbs. of lime, besides small quantities of potash and other ash constituents, which at current prices, would bring nearly \$9 for the compost heap. Credit also \$4 for the hide. Subtracting these \$13 from \$30, we have an actual loss of \$17 when compared with the value of the Devon's carcass. What gains are to offset this loss? The Devon will give say 2,800 lbs. of milk per season for six seasons, and the Ayrshire 5,200 lbs., continuing eight seasons. Counting milk at 1½ cents a pound, \$252 would be realized from the former, and \$624 from the latter, leaving a balance of \$496 in favor of the Ayrshire on the milk account. From this amount subtract the loss of carcass, and there is still a balance of \$355 to her credit. Putting it in another way: If the Ayrshire give only 2,941 lbs. per season, or 141 lbs. per season more than the Devon, this difference would make up for the loss of the carcass. If one breed is bred for general purpose, and another exclusively for the dairy, will any farmer now assert that the difference in their milk productions will not be greater than this? Although these figures may only be regarded as approximate, they are sufficient to prove the absurdity of breeding general purpose dairy stock.

The American Humane Association is effecting a goodwork towards mitigating the cruelties inflicted on live stock during the process of transportation. Thousands of animals are daily succumbing to the tortures of their railway accommodation. Congress has passed a law compelling railway companies to remove live stock from the cars, allowing the animals five hours rest in every twenty of travel. This is only a partial alleviation, even if the enactment could be strictly carried out; for the goading of them into their repulsive quarters would scarcely be less agonizing than the method of through shipment. The association have offered a prize of \$5,000 for the best live stock car that would prevent these cruelties. This has stimulated invention, but some of the patentees thought it more profitable to have their cars patented, and some of these cars are now in use on two of the American lines. Mr. W. S. Hunter, of Belleville, received a gold medal from the association for a car invented by him. It is to be hoped that Canada will soon move in the same direction. The inspectors of the association stationed at the stock yards have also been a means of relieving suffering and preventing deaths amongst live stock.

If you like the *ADVOCATE*, why not speak a good word for it to your neighbors? It takes but little time, and we pay you well for the little trouble you are put to, in the useful and valuable premiums offered in our premium list for new subscribers sent in by our friends. If you have not seen our premium list send for a copy. Let us hear from you right away.

Wheat Prospects.

A recent circular from the Bureau of Industries contains statements relating to the state of the crops in Ontario. The condition of the fall wheat, on the whole, is much more encouraging than it was a year ago, but there is a decrease of fall wheat acreage. The spring weather has been favorable, and has brought to life many apparently dead fields. In the Lake Erie counties there is prospect of an average crop. In the Lake Huron counties the reports are not so satisfactory, although the light soils and well drained clay lands have escaped damage. The average of these counties is estimated to be from one-half to two-thirds of a full crop from the acreage sown. The wire-worm is reported in Moore township, Lambton county. There are good and bad reports from the Georgian Bay counties, most of the damage being attributed to late sowing. One report from Innisfil, county Simcoe, mentions the Hessian Fly, although not causing serious damage. A full average crop is expected from the west Midland counties, Perth being the least encouraging. The Lake Ontario border is extremely encouraging. The reports from the St. Lawrence and Ottawa districts vary considerably, but, on the whole, they are not very flattering, and the reports from the east Midland counties cannot be said to be extra encouraging. The comments prove the necessity of proper drainage in the heavier soils, and of thorough cultivation. The raw, cold, April winds have been the most fruitful cause of damage. The wheat, however, is making wonderful progress, and farmer's expectations may yet be more than realized.

Tape-worm.

We have been forwarded a portion of the entrails of a sheep that died a few days ago, the result of a long tape-worm contained in the entrails. One of our subscribers from another county has informed us that one farmer near him lost all his lambs last year from the same source. There appears a decided reluctance on the part of some to allow these and similar facts to appear, but we deem it our duty to caution you against procuring sheep or lambs from farms on which the disease has been known to exist, as you may introduce it. Once on your farm, it may cost you greater loss to extirpate the disease than you may at first estimate. If you should have an outbreak of it, or sheep or lambs die from some unknown cause, examine them. If the tape-worm is found, adopt the following cure:—

Raw linseed oil, one-half pint; turpentine, one-half ounce. This is a dose for shearlings or lambs; in older sheep the turpentine may be increased to nearly an ounce. Four or five doses may be given at intervals of three or four days. If the worm attacks one sheep in the flock the others may be suspected of having taken it, and the same dose may be given to the whole flock. This is the safest remedy for farmer's use, but oil of male fern may be given with good effect by a skillful veterinary.

The most profitable beeper is the animal which produces the greatest weight in the shortest time, consuming the smallest quantity of food; and the most profitable cow is the one that gives the greatest quantity and best quality of milk on the least food.

Government Importations of Stock.

The Government are making a large and expensive importation of different kinds of stock for the Model Farm, at Guelph, Ont. We have previously expressed our opinion of the inexpediency of bringing cattle from countries where diseases are known to exist, when we have in Canada as good a lot of animals from which to select as can be found almost anywhere. We must protest against these newly imported cattle being placed on the Model Farm, which, according to the published official report of that institution, is infested with disease. It would therefore be only reasonable to expect that if these fresh importations are placed there they would soon be in the same condition as the stock already there. As we understand the purchases have been made, we would therefore suggest that a farm be leased in the vicinity of the Model Farm, upon which the imported stock could be kept for a year or two; but better still, in our own opinion, would be to sell them while in quarantine at Point Levis. As the purchases have been so loudly heralded there ought to be no difficulty in disposing of them, and at a profit. The Government could thus recoup themselves for the expenses of the trip made to the old world by their officials, instead of adding to the burden of the tax payers.

Danger.

Being aware of the ruin caused by diseased animals in England, we have deemed it our duty to call the attention of those in power to cases from which injury might arise in Canada. We have allowed our reputation for veracity to pass unheeded, when we deemed you might be injured by our justification. We have used our influence to make the quarantines as efficient as possible, and in some instances endeavored to check importation of diseased meat and diseased animals. We have also suggested the propriety of placing a quarantine on the Model Farm, for the numerous diseases that have existed there; for instance, Tuberculosis has existed in the following classes of animals on the Farm: Shorthorn, Polled-Aberdeen and Ayrshire. We very much regret that it should fall to our lot to call your attention to it.

Tape-worm, or Fluke, or Liver-rot in sheep (there is a dispute regarding the name), and the Foul-in-the-foot in cattle has also appeared. Neither of these diseases are as yet known to the average farmer of Canada, but the stock from the Farm has been introduced to many localities. Perhaps no evil effects may have as yet arisen, but danger exists. Other diseases still more dangerous than these have been introduced into Canada, but fortunately for us, they have not taken root, as up to the present we have enjoyed a great blessing by this freedom from disease. It is only by care that we can hope to maintain our reputation, and for your benefit we have tried to protect your interests. We regret to inform you that officials have tried in a most designing manner to suppress this journal. It has been attempted to turn facts into falsehoods; very garbled accounts have been published of statements made by us, and open and fair information has been suppressed. An indignant feeling has been worked up, which

must tend to injury, and instead of open and fair discussions, that fell monster, "boycotting," appears to have now been introduced into our country and to have gained a hold at the College, as a resolution was introduced at a recent meeting held there to censure or check the influence of your ADVOCATE; and at the last meeting of the Board of Agriculture and Arts, one of the Government officials said the ADVOCATE should be boycotted. This implies that an open war is possible. Boycotters may be met by anti-boycotters.

It is our impression that honor, truth and justice are too apt to be disregarded when boycotting gains its full sway, and in this instance we believe the principal object in view is to suppress truth.

On the Wing.

Since our last we have taken a trip to Barrie, Ont. This is naturally the prettiest location for a Canadian home of any spot we have visited in the Dominion. A beautiful bay nine miles long runs into the land from the lake, affording beautiful locations for residences along its shores on either side. Many half-pay officers have settled here, and some very beautiful dwellings are erected along its shores. There are some fine farms in this locality, and its name as a stock centre has been in the ascendant. The late Mr. Brydges had established a great reputation for his fine herd of Herefords, at Shanty Bay, only six miles from Barrie. He had a large farm there, and was improving it rapidly, but since his demise some of the stock has been sold and we believe it will soon be all disposed of, and the farm will also be sold. Mr. O'Brien, living near, has a small herd of Devon cattle. Mr. W. Hicks has Shorthorns and some fine bred sheep. Dalton McCarthy, Esq., Q. C., M. P., has a fine herd of Shorthorns and a fine flock of Shropshire sheep, at Oakley Park Farm, situated within the limits of the corporation of Barrie, and is considered one of the most desirable farm properties in the county of Simcoe. Near Aurora, Mr. Seth Heacock has an old established breeding farm, and has a large lot of Shorthorn cattle and Southdown sheep. He is in a commanding position to supply improved stock for Muskoka. His cattle, although well-bred, are not in as high a condition as the majority of the breeders south of him keep their animals, but probably his stock may be more suited to the north than those that have been fed heavier. Mr. Lemon's farm is but a short distance from Mr. Heacock's. The land on Mr. Lemon's farm is rolling, lying in such a position as to command a view of every field and nearly every part of the fields from the road. The soil is good. This gentleman appears determined to excel in his undertaking as a stock raiser. He has some as handsome Shorthorns as can be found, and takes every care of them. Here we find the Oxford sheep are in vogue, Mr. Lemon having just commenced to establish a flock of this class. We called at the farm of Mr. W. Linton, who has established a rather enviable name as an importer, as we hear from others that he is a most particular person in the importing business, bringing none but superior animals. His European connections give him great advantages over many importers. The crops in the vicinity were looking well.

Special Contributors.

A Chatty Letter from the States.

[FROM OUR CHICAGO CORRESPONDENT.]

The recent panic in the New York stock and money market is said to have caused a shrinkage in values in the States of some billions of dollars in about sixteen days. It seems almost incredible that such a flurry, the result of too much gambling, in a genteel way, on boards of trade and stock markets, could cause such stupendous contraction of values in such a short time. It was pre-eminently a gambler's panic, and if they were the only ones to suffer the country at large would rather have cause to rejoice, but as it is the weak and innocent ones who are always made to suffer the most by such breaks, they always occasion widespread consternation. If the gamblers in stocks and money could be made to suffer alone, there would be an element of pleasure in seeing them punished.

That there is too much speculation abroad in the country cannot be successfully gainsaid. Values are inflated by watering stock and other wild-cat schemes, and periodical panics are induced thereby. On the large boards of trade the amount of dealing in "futures" is out of all proportion to the sales of actual stock. People who never saw a barrel of mess pork or a tierce of lard, freely buy and sell those articles on future delivery with the greatest of freedom. In other words, they freely wager their money that certain articles will sell lower or higher, as the case may be, by a certain time.

The credit system is being largely used in the west among stockmen, and together with the closer management and narrower margins, is making the stock business much more unsafe than it ever was before. In the olden times, and to a considerable extent up to within a few years, the speculative element did not enter into the stock raising business whatever. Every farmer owned his own store stock and fed it on fattening material from his own place. If he had no stock or no feed, he had no fat cattle or sheep or hogs. But now methods on farms in the west, at least, are different; of course, the great majority of farmers still adhere to the safe and sound principle of dealing only in what belongs to them, but the credit system is almost as general in the raising and handling of live stock as in mercantile business. Western stockmen form huge stock companies, and borrow money at high rates of interest to do it. The writer knows numerous individuals who have each several hundred thousand dollars loaned at ten to twelve, and as high as fifteen per cent. on cattle that are being prepared for the market. Should the money market become seriously tight there would be a good many failures among western stockmen who have been doing business on borrowed capital and at high rates of interest.

Exporters of American live stock have not been much encouraged by the returns of their business thus far this year. The prices of cattle on this side of the Atlantic are relatively much higher than on the other. Our prices are not much lower than one year ago, while prices in foreign markets are at least one to two pounds per head cheaper than one year ago. This, in view of the high freight rate which ves-

sel owners are exacting, leaves very little margin of profit for the shipper.

Among the novelties at market recently were some grade Hereford cattle from western ranges, which had been fattened at Omaha on distillery slop. One lot of two and three year olds averaged only 1,235 lbs., but they sold for \$6.75, the highest price of the market on the day they were here. The other lot, averaging 1,443 lbs., dressed a fraction over 64 lbs. of net beef to the hundred. Distillery fed cattle continue to arrive very freely, and they sell right along with corn-fed stock, and at equally good prices.

The proposed scheme of sending north-western American store cattle by way of the lakes and Canada to England, bids fair to fall through entirely, for the present at least. If store cattle were admitted free, by that means it would be hard to discriminate against fat cattle, and many of that kind would be sent forward to compete in the interior markets with Canadian and home raised cattle in the interior markets.

Prices for young stock and feeding cattle are not so high as they were a short time ago, but prices for young cattle are relatively \$1 per hundred higher now than they were three years ago, as compared with fat cattle. This of course narrows the profits of the feeder. It has been the custom of a good many farmers of the east to buy large numbers of young, thin cattle in the spring, to graze on rich, tame pastures during the summer, but, in conversation with an old farmer of the Genesee Valley, New York, the writer found that winter feeding on hay is profitable, and is being done a great deal. On good, tame hay, with ample sheds for shelter, young cattle from Dec. 1st to May 1st will put on about 150 lbs. of flesh.

An astonishing amount of young stock has been sent from the Eastern States to the ranges of the far west. Hundreds of thousands of young cattle, both for breeding and for fattening, have gone forward to Wyoming, Colorado, and Montana. During the past winter a good many of these cattle were lost on account of not being acclimated, but the losses from this source were lighter than predicted by many old heads.

The fine stock markets are moderately active, but there is a total absence of excitement, and not a few speculators who had hoped to realize small fortunes by selling a small herd or two of favorite cattle, are inclined to think the market is positively dull. There is a great deal more of speculation in fine stock than is generally realized. There are schemers and sharpers in the business who would not hesitate to misrepresent by manufacturing pedigrees; using shears and coloring matter on sheep to give them the proper shape and color; or misrepresenting the yield of a cow's milk by torture. Any business that pays is sure to be infested with rogues, and the fine stock trade is not exempt.

There ought to be a heavy fine imposed on anybody who tortures a cow by compelling her to retain her milk so as to make a fine display in the show ring. It is a custom that is very prevalent among some who are termed our best breeders. There are all kinds of sharp and cruel tricks resorted to by stockmen for gain, but, as a rule, they are detected sooner or

later, and the good old fact remains: "Honesty is the best policy." By dealing honorably and uprightly, a man is not unfrequently outstripped by his unscrupulous competitors, but there is a peaceful satisfaction that comes from right doing which all of the gold and blue ribbons in the world cannot buy.

Much depends upon the success of western crops this year. The affairs of the country are in such condition that a failure or even a partial failure of the crops would be very keenly felt. The spring has been somewhat backward, but there are as yet no indications of anything but a bountiful harvest. A failure this year, if accompanied by a general commercial depression such as has been largely predicted, would result in much trouble, no doubt, as it would make work scarce and bread dear. The country is filled with hundreds of thousands of foreign anarchists, and is not in condition to withstand anything like a famine. There does not appear, however, to be any danger of crops being short.

American farmers have not as yet learned to depend upon any kind of fattening material, except corn and peas, and in that way are much more dependent than those of Great Britain and Canada, who make much of cheaper materials.

PRIZE ESSAY.

How Can Farmers Make the Best and Cheapest Cheese for their Own Use.

BY MISS MAGGIE WEBSTER, AUGUSTINE COVE, P. E. ISLAND.

This process is a simple one, and the needs for it are few. Every pound of cheese requires ten pounds of milk, and a ten-pound cheese is about as small a one as can be conveniently made. A clean tub which will hold the milk, and a boiler large enough to hold ten gallons, will be needed. A small press, which any smart boy can make, with a lever to hang a stone upon, will also be required, and then the "know-how" is all the rest. Making cheese is a chemical operation, and depends greatly, like all other such work, upon temperature. One cannot be safe without a thermometer, as a rule of thumb will not be precise enough.

The first thing to do is to bring the milk to a temperature of 90 degrees. This makes a soft cheese; a higher temperature will make a hard one. The milk may be of two milkings—the evening milk set in a deep pail in the cellar, and stirred late at night and early in the morning, to keep the cream from separating; and the morning milk mixed with it as it is strained after milking. If any cream has risen on the evening's milk, it may be skimmed off. The evening's milk may be warmed to 100 degrees, and then added to the fresh morning's milk, which will be about 80 degrees; the whole will then be about the right temperature, which is 90 degrees. The rennet is then added. This is the liquid made by steeping a piece of the dried stomach of a sucking calf in warm water. For 100 pounds of milk, or 45 quarts, a piece of the rennet about as large as one's thumb, or two inches long by one inch wide, is put in a quart of warm water in the evening, with half a tablespoonful of salt. In the morning this liquid is strained into the warmed milk in the tub, and well stirred through it. The tub is

then covered to keep the milk warm until the curd is formed, which will be in about half an hour. As soon as the curd is formed enough to cut, a long-bladed knife is drawn through it both ways, so as to cut the mass into inch cubes. This causes the whey to separate, and when this separation has been effected, the whey is dipped out or drawn off, and the curd gathered into a mass at one side of the tub, the tub being raised at one side to cause the whey to drain off. The tub is kept covered to retain the heat, or if the curd has cooled considerably the whey that has been drawn off is heated up to 100 degrees and turned on to the curd until it is warmed through again, and the whey is then drawn off. The curd remains thus for about an hour, until it attains a very slight degree of acidity, when it is broken up fine with the hands, salted with about half an ounce of salt to the pound of curd, and put into the hoop. The hoop for a ten-pound cheese should be about eight inches in diameter and ten inches deep. It has neither top nor bottom. It is placed upon a smooth board or a bench, and the curd is pressed down into it with the hands. When the curd is all loose, a cover is placed upon it, and the hoop is put under the lever, which presses down upon a block resting in the cover. Very little pressure is required, and this only until the curd has become solid enough to keep its shape; 24 hours in the press is quite enough, the cheese being turned twice in that time. The cheese is then taken out and the outside is rubbed with butter and wrapped in a cotton bandage, the edges of which are turned down on the two faces for an inch or so. The cheese is then placed in a cool room or cellar, and is turned every day for a month, after which it should be turned once a week for another month, when it is fit for use. A very nice cheese for immediate use may be made in smaller quantities. The milk is curdled in the same way as above mentioned, but as soon as the curd is set it is dipped out and put into moulds 6 inches in diameter and 3 or 4 inches deep, resting upon clean straw, through which the whey drains off on to the board under it and drops into a pan. The moulds, with the curd in them, are turned daily, and in 3 or 4 days it is firm enough to be turned out of the hoop on clean straw, when it is sprinkled with salt and turned daily for a month, when the cheeses may be put into a cool cellar to ripen for a week or two longer, and are fit for use. Skimmed milk cheese made in this way are very well favored and are very nutritious, and furnish an agreeable change of diet for a farmer's family, and indeed sell very readily in village stores when they are made well.

An Illinois farmer thinks that every farmer should do something in the line of experimenting and report the results to his agricultural paper. We might say that the Illinois farmers already do more of this in a month than all the farmers in Canada do in a year. There are thousands of farmers who put more confidence in this sort of experimenting than in that controlled by legislatures. If farmers would learn a little more of the art of experimenting and report their results in the way above mentioned, they might save millions of dollars squandered by governments for experimental purposes, and the farmers would also be benefited to the extent of as many millions more.

The Dairy.

Gambling with the Weather.

BY PROF. L. B. ARNOLD.

The spring has been unusually favorable for giving grass a strong and healthy start. It is not as far advanced as it often is at this date. The weather has been cooler than usual over the whole face of the country, but it has been quite even, and this has contributed to the welfare of grass, and also to the condition of winter wheat. Both have now made an excellent stand. Though the temperature has been too low to push grass forward rapidly, it has neither been stunted with drought nor frost, nor flooded with excessive wet to make the ground so hard and clammy as to interfere with its future growth. A very wet spring is pretty sure to be followed with a feeble growth of grass afterwards. Excessive drenching of the earth in spring with heavy rains, settles the soil together so compactly that it cannot hold much moisture, and with a little dry weather following, it bakes, as it were, into such a hard and solid mass as to seriously check the later growth. Less moisture in spring leaves the ground in a more friable, light, and porous condition, so that it holds water like a sponge without appearing wet, and retains it with much less evaporation than when harder and more compact. The amount of rainfall has been just about enough, over most of the dairy districts, to keep the grass and ground in good condition, making the prospects now for a good season for grazing very flattering. If the season holds out as it has begun, pastures must be flush and meadows very heavy, and the dairy products of the season overwhelmingly large. Though it all looks promising now, there is no foretelling what a season may bring forth, Vennor and Wiggins to the contrary notwithstanding. About three years out of every five a severe and protracted drought occurs during the middle of the summer through all the Northern States, and the southern part of Canada shares the same fate. Farther north it is not so bad. The seasons are a little shorter between spring and fall, and showers in the summer are more frequent and regular; but even there it is often quite too dry to rely on having good pasture all summer.

In furnishing summer keep for their herds, dairymen generally follow one of three courses. The first is to turn out so much land for pasture that the excess of grass, above what the herd eat, grown in the fore part of the season while the ground is moist, will be sufficient to carry it through the season when it is too dry for grass to grow. A second method is to furnish a range of pasture that will just supply the herd in the best of the season, hoping that the weather will be favorable all summer, and half starving them if it happens to be unfavorable, until they can be let into the grain fields or aftermath. A third custom is to supply grazing till the grass is expected to fail, and then depend on soiling crops to supply the cows till they can live wholly, or in part, upon a revival of pasturage in the fall. Each course has its advantages and disadvantages. The first can only be tolerated where land is of little value, as in the new settlements of the West, where "squatter sovereignty" prevails, or where

land can be had at government price, or a moderate advance upon it—or in other words, where the interest on the investment in extra land is less than the cost of labor for producing the same food on less land. Exclusive pasturage cannot be afforded where land is high, and it is continually receding from the east towards the west as the price of land advances. It is not much followed in the better dairy districts either of the States or Canada, as it requires more capital than dairymen can command.

The second course is the popular method. A majority of dairymen adopt it. Everywhere we see pastures stocked with just animals enough to keep the grass down till a dry time sets in, and then the cows shrink down to diminutive yields, and loud complaints about the weather follow. The extent of the practice is evidenced by the fact that when anything of a drought occurs there is a general shrinkage all over the country and the loss is heavy. If the third course—grazing spring and fall, and soiling in midsummer—was followed, a drought, even a long one, would make little or no impression upon the quantity of milk. I saw a good demonstration of this eleven years ago. I travelled some sixty or seventy miles along the valley of the Mohawk River, about the first of September, and spent several days in visiting farms and cheese factories to observe the current of events. There had been a drought in July and August, and the growth of grass was almost at a stand-still, and the consequence was that the receipts of milk at the factories were reduced to thirteen pounds to the cow as a rule. The cows were dividing their scanty rations between their milk and flesh, and were losing in both. This was general all through that valley, so noted for its leading position in the world of dairying. Had the practice of providing green crops for the customary dry time in the season been general, no such ruinous shrinkage could have happened. But the great body of farmers in that intelligent land—and for that matter it was so all over the State—had made, as was their custom, little or no preparation for the drought, although such droughts were customary. Harris Lewis was the only one I found who had foresight enough to provide for the emergency. He was doing as he had been doing for many years, soiling his cows with orchard grass, and they were giving almost double the quantity of milk that other cows, naturally just as good as his, were giving at the time. Although the drought had lasted two months they had lost nothing in their messes except the natural decrease due to distance from the time of coming in. While the rest of the community were mourning over their losses, and growling about the weather, Mr. Lewis was happy and making money. He was getting a full yield of milk, and cheese was high, because the crop was short. His milk at the time was costing him less per 100 than it was costing his neighbors. The cost of soiling was less than the value of the excess of his milk over theirs, and he had considerably less land involved in the keeping of his cows than they had. His cows being in full flow, made good use of the fall feed, while the starved cows could not rise above their diminutive messes, no matter how good the feed might afterwards be.

The number of dairymen who employ mid-

summer soiling is much greater now than it was then, but it is lamentably small still, and smaller in Canada, so far as my acquaintance extends, than it is in New York. Nothing would contribute so much to advance the profits of dairying as a universal custom of preparing every year for maintaining a full flow of milk through the entire season, whether wet or dry, and it seems a sad lack of intelligence and common prudence to omit doing so. No matter how promising the spring may be, no dairyman can afford to stake the income from his cows on the uncertainty of the season. It is equivalent to gambling with the weather, and the weather beats four times out of five, and it is a needless risk, because the production of soiling crops will pay their cost for winter use, if not wanted in summer.

London Cheese Association.

The first meeting of the London Cheese Association for the present season was held in the City Hall on the 17th ult., a large gathering of makers and dealers being present. Considerable cheese has already been manufactured, and several factories offered lots for sale. London market promises this season to continue to occupy first place among those of the Province. The following were elected officers of the Association: President, Mr. John Wheaton; Vice-President, Mr. James Creighton; Secretary-Treasurer, John A. Nelles; Board of Directors, L. H. Richardson, Strathroy; J. W. Scott, Elgin; B. Wood, London township; J. K. Little, of Lambeth; L. Cleverdon, Strathroy; R. Boston, Melrose; J. S. Pearce, city; James Carmichael, London township; M. Wellington, Vyner P. O.; A. Vining, West Nissouri; G. Decker, Delaware; F. Elliot, Westminster, and J. B. Lane, North Dorchester.

Don't let your cows drink from stagnant pools.

Of course there is money saved by feeding a cow below her capacity, but then this kind of gain is the base of the greatest losses that occur in dairy farming.

Professor L. B. Arnold says that the milk supply of Rochester is excessive in water and defective in cream, largely on account of free use of brewers' grains and glucose meal.

Prof. Sanborn, of the Missouri Agricultural College, claims to have proved by a long practice that corn fodder has a practical feeding value of two-thirds to three-quarters that of good hay.

Several shipments of Canadian cows have been made to England, and have proved a profitable investment. It is said that the English like the Canadian cows very much. Canada is importing ship loads of English cows, and likes them very much. Why can't every nation learn to like its own cows very much?

Professor E. M. Shelton, farm manager of the Kansas Agricultural College, has handled three or four distinct breeds of swine, and studied them carefully during many years. When asked which is best he admits that he would be "sorely puzzled to tell." Each has sterling points and counterbalancing weaknesses.

The Farm.

Weeds.

A weed has been defined to be a plant out of place. The more out of place, the more noxious the weed. A plant when placed under the best conditions for development, becomes a weed; whereas under other conditions, having less tenacity of life, it may be regarded as a wholesome herb. Indeed, most all our so-called noxious weeds, when fed in a succulent state, are wholesome food for stock. Some of our most nutritious grasses, when in the grain field—in other words, out of place—may be denominated weeds. A plant frequently ceases to be a weed when we understand its properties. But, whatever their virtues may be, they must all be branded as robbers, and should be summarily dealt with accordingly. Farmers have tried every art tending to their extermination, and they can be taught very little in this respect; but very few have studied the art of prevention, which is indeed the only safe remedy. A fruitful way of spreading weed seeds is when the tailings of winnowed grain are cast into the barn yard, and the manure spread on the field before it is properly fermented. Purchased grain used for seed frequently contains pestiferous seeds; indeed, home raised grain is too frequently not exempt. No wonder good farmers are discouraged in their attempts to keep their farms clean, for the wind, the birds, and the threshing machinery from their reckless neighbors increase the terror of the scourge. Remove the cause. If this advice were more strictly followed in, instead of continually warring against the effect, the enemy would be routed more expeditiously. Seeding down will usually exterminate the least pertinacious kinds of weeds; but seeds that still retain their vitality after years of dormancy cannot be destroyed in this manner: the best plan is to encourage their germination by tillage, and then destroy the tender shoots. The practice of inverting the soil so frequently is an egregious blunder. It should be understood that stirring, cultivating, spudding, or any method by which the weeds may be prevented from running to leaf, is more efficacious. A plant without leaves to inhale the carbonic acid of the atmosphere will soon die; but when the roots are large and tenacious of life, they should be collected and burnt, or composted with lime. There are economical methods of destroying weeds—just as much so as in doing anything else. Commence the experiment on a patch of weeds by sowing some soiling crop. If this is frequently cut, not only will the weeds be destroyed, but the cuttings will make wholesome food for stock. The practice of cultivating crops in rows and of summer fallowing for the purpose of destroying weeds, is too well known to require comment. There is no royal road to weed destruction.

Weeds always being in their natural element, both with regard to soil and climate, it is natural to suppose that they take away food and drink from the cultivated crop. They contain the same chemical constituents as other plants, and the fact that they readily take up these constituents is a condition of their noxious existence. This is the chief *casus belli*. With this fact in mind, it will be easily

seen why roots, especially mangels, exercise a beneficial influence in the destruction of weeds. Mangels very readily take up all the constituents necessary to their development, so that in this respect they fight the weeds with the latter's own weapons. If farmers would study a little botany, at least so much as to know what weeds are annuals, biennials and perennials, also the effects of specific manures in the destruction of weeds, they would find it easier to destroy weeds with their heads than with their hands.

We are pleased to see that the Ontario Government took the matter in hand at its last session. A bill was passed empowering municipalities, on petition of fifty or more rate payers, to appoint an inspector whose remuneration they are intrusted to determine. The weeds specially enumerated are the Canadian thistle, the ox-eye daisy, the wild oat, the rag weed, and the burdock. It shall be the duty of such inspector to notify, in writing, the owner or occupant of land containing noxious weeds, or in case of railway land, the nearest station master shall be notified, to cut or destroy such weeds within ten days, notice to be given not later than July 10th, or earlier if fixed by the by-law. It is to be hoped that this law will be strictly enforced, so that whole neighborhoods will not be permitted to suffer from the negligence of a few shiftless farmers.

A meeting of the Association of Ayrshire Breeders of Canada was held at the office of the Council of Agriculture, on 30th ult., in Montreal, Que., and was largely attended. Mr. Wm. Rodden, of Plantagenet, presided, and Dr. Geo. Leclere acted as secretary. After discussing matters connected with the exhibition, the election of officers was proceeded with, and resulted in Mr. Rodden being elected president, and Mr. Jas. Drummond, of Petite Cote, vice-president. The following committee was also appointed:—Hon. Louis Beaubien, Alex. Somerville, Wm. Rodden, Jas. Drummond, Thos. Irving, Thos. Brown, Robt. Ness and Jas. Henderson. The committee was authorized to publish an Ayrshire handbook for Canada and to obtain an act of incorporation.

DISEASE AMONG PIGS—A farmer in Puslinch reports a strange disease which is killing off the young pigs in that township. He has lost several himself and states that a number of his neighbors have been deprived of whole litters. In all cases the animals were five or six weeks old and seemingly healthy, when they swelled up about the throat and died suddenly.

The Annual Industry Bill has been passed by the United States Senate. It is under the control of the Commissioner of Agriculture, and provides for the establishment of a bureau whose chief shall be a competent veterinary surgeon, who shall investigate the condition of domestic animals, and report on the causes of contagious, infectious and communicative diseases. The staff is not to consist of more than twenty persons. Two practical stock raisers shall be engaged to report on the caring of animals during transportation. Transportation companies are forbidden, under heavy penalties, to convey cattle afflicted with disease. The sum appropriated is \$150,000.

Improved Draught Equalizer.

The engraving represents a draught equalizer for three horses, so constructed that the draught is direct, and each horse exerts a like draught. The arms, A C, are fastened to opposite sides of the tongue, and the pivots in their ends are at equal distances from the tongue. To the free end of the arm, A, is pivoted a double tree, B, to one end of which a single tree, G, is held permanently, and to the opposite end a single tree, F, is held adjustably by a pin which is passed through a clip on the single tree and through one of a series of holes in the end of the double tree. The double tree is pivoted about two-fifths of its length from the outer end. To the free end of the arm, A, is pivoted a double tree, D, on the outer end of which a single tree, H, is held by a pin passing through a clip and one of a row of holes on the end of the tree, D. The inner end of this double tree is connected by loops E, with the middle of the double tree, B. The double tree, D, is pivoted about one-third of its length from its inner end. The middle horse may have a leverage of two-thirds over the horse on the other side of the tongue, while the horse attached to the tree, H, will have a compound leverage over the middle horse.

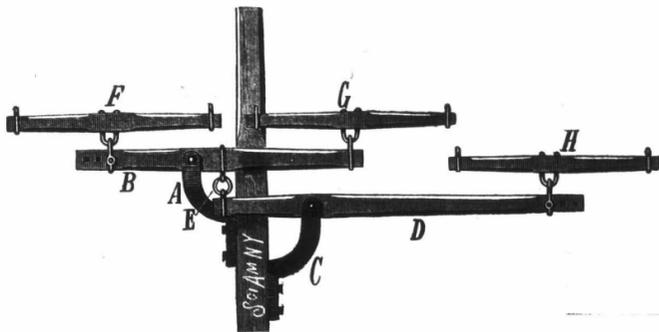
By means of the holes in the ends of the two double trees the leverage can be varied to suit conditions. The direct draught of the tongue is in the centre of the two draught points. To turn, the horse at F eases up while the horse at H pulls, and the turning in this direction is accomplished without the aid of the neck yoke. The device is simple in construction, and can be easily adjusted in varying conditions.

This invention has been patented by Mr. John Bowers, of Brookville, Illinois.

Which is the best self-binder, is a question that has been frequently asked us. Every salesman claims to command the best. We have had some complaints about the inefficiency of some binders to work in lodged grain, as there is a likelihood of there being a good deal lodged this year from present prospects. During last year's harvest we had an opportunity of seeing three machines work. Two were working in standing grain and did good work, but some of the observers remarked that they could do nothing in lodged grain. We saw a binder made by A. Harris, Son & Co., of Brantford, Ont. It was working in a field of oats on a side-hill farm near Paris, Ont. The grain was lodged and twisted in every conceivable manner, and laid as flat as any we have seen. The machine went through and through the piece without stopping, and took the crop off cleaner than it could have been taken off with the cradle. This was the first time we had ever seen a binder go through a field of real lodged grain without stoppage or breakage. We do not say that no other machine can equal this, but we say we have never seen it done, and it takes a great deal of talking to make us believe all that some attempt to.

Feeding Grain on Pasture.

The farmer who has not utilized the soiling system will not likely go a step further and feed grain to his cattle on the pasture field. Grass is the natural food for cattle, just as milk is the natural food for calves, and from this standpoint it is difficult to see how the addition of grain would produce profitable results; but the practice is fast gaining ground amongst the better class of dairy farmers in Europe and the United States. There are principles, however, upon which the practice can be justified. Some grasses have a lower feeding value than the fattening or the milk-producing standard, others a higher value, in which cases the ration can be regulated by the addition of grain; but this pre-supposes that the farmer has not sown the proper mixture of grass seeds. Again, grain is a more concentrated food than grass, and has a higher digestive co-efficient. The practice may also be defended when the grass is getting scarce or parched, but this is just the time when the soiling system works to advantage. Experiments have proved that cattle will, under most all circumstances, increase their weight or their dairy products when grain is fed to them on pasture; but this extra



BOWERS' DRAUGHT EQUALIZER.

increase is often produced at a loss, which can only be justified when feeding for the show ring, or for gilt-edged butter.

Prof. Sanborn, of the Missouri Agricultural College, has been making extensive experiments in this line, and has summed up the results of his observations in the following language:—

The facts given do not determine, nor is it practicable to determine, the exact value of meal when added to pasture. First, when eating grain less grass will be eaten; second, the manure, added to pasture, has some value; the English often pasture feed to enrich their pastures; third, the steer will fatten quicker and dress more per hundred pounds live weight and sell a little better. Our steers, meal fed, showed to better advantage as manifested in the looks of their hair; fourth, dairymen assert that the butter is of better quality and that the cows will be more vigorous, giving more milk per day the year round. The value of these points cannot be measured. The great butter producing herds, selling also high priced butter, with which I am acquainted, pasture feed. Upon good pastures of mixed grasses, these trials and other observations lead me to believe that it is very doubtful whether any food can be economically added to them for the best months of the season, for steers grown for beef; and open to question whether it will pay for cows and other stock in the West at present. Breeders who make growth with less reference to cost than to early maturity and appearance, and dairymen who sell fancy butter whose quality is affected by small factors, will reason from a different basis.

No sharp line of demarcation can be drawn between pasture-feeding and soiling, providing the pasture is flush, and contains a dense foliage thicker of shade trees, so that the same remarks will apply to both systems of feeding.

A bank that will never break—Your soil.

Importations to be Stopped.

We are pleased to see that the cause we have been espousing for years relating to live stock importations, is endorsed by calm-headed and independent stockmen and agricultural journals in the United States, notably the New York Tribune. We regard this journal to be one of the highest authorities on all matters pertaining to agriculture and live stock. In a late issue it treats of the subject in the following manner:—

“Mr. F. D. Coburn, editor of the *Live Stock Indicator*, objects decidedly to further exposure of the vast cattle interests of the United States by continued importations from the infected fields of Europe of cargo after shipload, any one of which might result in planting the germs of deadly pestilence among the herds and flocks of the entire continent. ‘Put up the bars,’ he says, and this is his sound argument:

‘Originally the object of importation was to secure better blood than this country possessed for the improvement of the common or scrub stock, but that is no longer a necessity, as Americans now have large numbers representing each of all the more desirable breeds, that are of as great excellence as any in the world, while at the same time nine-tenths of the importing now done is for mere speculation, and not at all for any good results that may accrue from careful, systematic breeding. The man who wants breeding animals and cannot be suited with such collections as can be made on this side of the Atlantic, cannot be suited anywhere, and if he simply desires to bring animals from infected regions beyond the seas, to speculate with, when there are such enormous dangers to the community connected with and involved in it, he should be heartily—legally if need be—encouraged to let ergies in some other direction than jeopardizing the fortunes and homes of tens of thousands of his fellow-countrymen. In consideration of these facts, it would surely result in on loss and possible millions of gain, if Congress should at once prohibit the bringing within our borders of any cattle, sheep or swine from abroad for a term of years.’

‘There is, happily, a growing sentiment among disinterested, thoughtful stockmen to the same effect. It is not sufficient to depend upon quarantine. This has been especially demonstrated of late at Portland, Me., where the inefficiency of officers under Government pay was so conspicuous as to call for the severe criticism which we quoted a week or two ago.’

Ominous.

At the last meeting in Toronto of the Board of Agriculture and Arts, the minutes of the previous meeting were read, the Secretary had omitted to insert a resolution of a vote of thanks voted to Mr. Weld, and the Secretary was ordered to enter same on minutes. The truthful reason of the omission should be made known to every farmer. As one member of the Board introduced the term “boycotting,” this also should be fully explained. There were also other subjects discussed at the meeting alluded to which are of untold interest to the live stock interest of the country.

Messrs. Woods and Fellis, of Brewster, Ont., have purchased a complete set of machinery for manufacturing syrup from the Early Amber sugar cane. The variety is better adapted for this climate than any other. It ripens earlier and is almost certain to be harvested before the fall frosts. The most satisfactory results have been experienced by farmers and others in places where this industry has been tried.

- Grass—A lazy man's crop.
- Crude petroleum preserves wood.
- Throw all rubbish on the compost heap.

Agricultural Education.

The accompanying cut represents what we regard to be a model school house for the country. It was designed for us by Messrs. Stewart & Denison, architects, Toronto, who have made a special study of school buildings. The cost is only \$1,300, including blackboard, bell, fences, play sheds, side walk, and all complete. It is ventilated on the most improved plan. The walls are of brick on a solid stone foundation. The roof is painted slate color. The class room is 25x40 feet, 12 feet high, and will seat about 100 children.

But the bare building is only a mite, compared with the whole requirements. A model school suggests model surroundings, a model teacher, and model pupils taught modelly. The "cramming" business is a crying disgrace to our school system, and any change, having for its object the introduction of more practical modes of teaching, would be hailed with delight. Young children especially should be taught pleasing things, and in order to accomplish this end a variety of pleasing objects should be presented to them. Their little faces should not be "sicklied o'er with the pale cast" of dry tasks, or their sports

much so as the soil supplies all the products necessary for the bodily wants. The boy who can accurately formulate and work out an equation which gives the proper feeding ration for a cow, or formulate what chemical reactions are taking place in the manure heap or in the soil, need not go any deeper into arithmetic or algebra; and if he can be taught to appreciate the inspiring scenes of those surroundings which his own hands have helped to embellish, he need not wander back into the dark ages of antiquity to have his imagination brightened up and made more fanciful.

Even the bright youth who has his eye on a profession, or a course in science or in arts, or a business pursuit, need not feel demeaned in studying agriculture—a science which has engaged the attention of the greatest minds of the age during the past thirty years; an art which is of the greatest and most immediate utility in every phase of our well-being, and is engaged in by men of the greatest wealth and

spectacles, which will enable them to read at the natural distance of twelve inches.

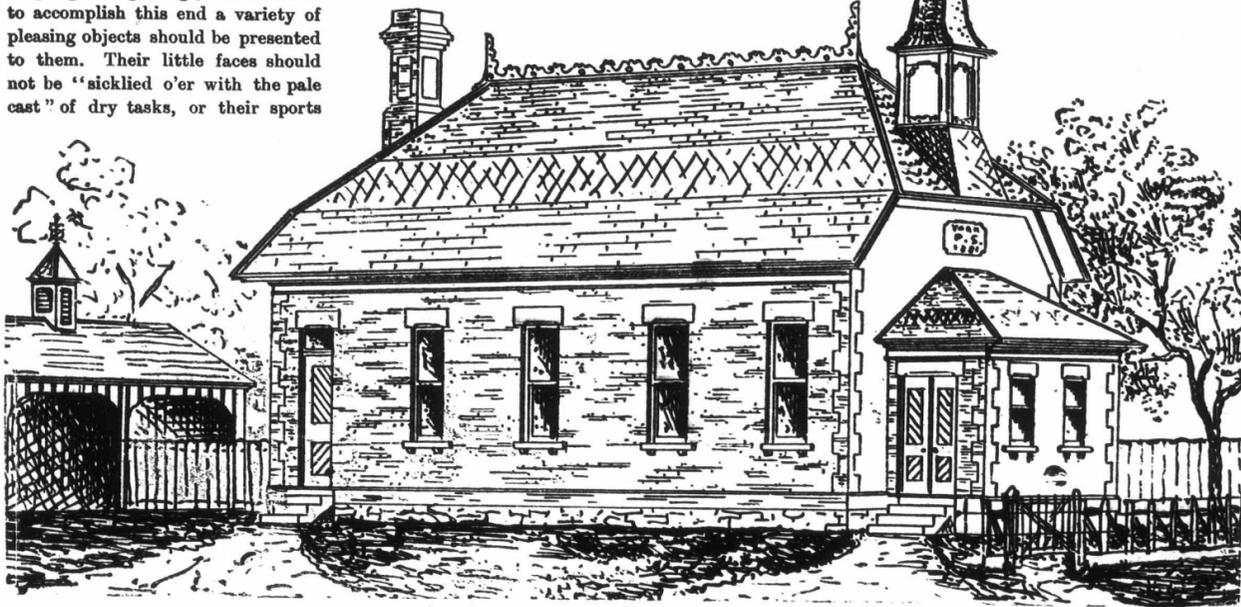
8. Furnish pupils with well printed books.

9. Furnish abundance of light, without producing glare. Let it come from the left side, if the room is narrow; from both sides, if the room is wide.

10. Provide for the physical education of school children, and teach them the importance of out-door exercise.

Ornamenting of Country School Grounds.

The grounds of every country school ought to be an exponent of its pupils, for it is upon them that the future ornamentation of the whole country mainly depends. Much talk is



A MODEL COUNTRY SCHOOL.

deadened within the narrow limits of the dusty highway. Why should not a portion of the play ground be a model arboretum, in which every child may have a hand in its establishment?

Our ideal of a model teacher is the man who is ready to devote his life's energies to the study of the best method of making the boy a man, correcting any mistakes made by the parents in the process of making the child a boy. Putting it into proverb shape, we should say, Cultivate the masters; weed out the pedagogues.

The most complete drill in gymnastics is to be found in farm work; but it is falsely supposed that the public school cannot furnish all the necessary elements of training for the mind. Classics are thought to be required to enliven the fancy. In our educational system the fact is not recognized that the study of agriculture in its different bearings furnishes a complete drilling for every faculty of the mind—just as

highest rank; a profession which demands the deepest erudition; a business which requires the greatest tact, policy, and enterprise.

Dr. Lundy has summed up the subject of school hygiene in the following few sentences:

1. Avoid the cramming process in education, and the nervous excitement due to the spirit of rivalry.

2. Reduce the number of subjects in the curriculum, and shorten the periods of study.

3. Ventilate the school rooms in accordance with the most approved methods.

4. Regulate the temperature of the school room; an atmosphere which is too warm debilitates the system.

5. Provide properly constructed and arranged seats and desks.

6. Instruct pupils to sit erect, and to hold the book or paper at least twelve inches from the eye.

7. Provide highly myopic pupils with proper

wasted about planting trees, shrubs, etc., for the beautifying our homes. Give a school-child, as a prize, a cutting to propagate, or sapling to plant, show him how it is to be attended to, and give him another prize if he brings it up better than his mates bring up theirs, and you do more for the cause of arboriculture than if you literally strewed the land with literature on the subject. These prizes, arranged artistically around the school grounds, would soon become the admiration of the whole neighborhood, instead of (as is often the case with book prizes) being hidden from the view on a dusty shelf. This would make every boy and girl in the country wish that he or she had a home like that. These prizes could be removed to the children's homes, and the parents instructed in ornamenting their grounds.

Feed superior cows to their utmost limit and the result will be a gain; but if inferior cows be so fed the result will be a loss.

Entomology.

Destructive Insects.

All eyes should now be turned to the fruit and shade trees, as well as to the vegetables. Every tree has destructive insects, and every insect has its parasite. Most insects are partial to certain kinds of plants, but there are others which show little partiality. One year is no guide to another in the destructive work of insects, as they appear and disappear in constant succession, frequently new forms springing into life. In addition to those already illustrated in the *ADVOCATE*, we herewith present a cut of the Cecropia Moth, fig. 1, and the Apple-leaf Aphid, fig. 2, both of which have

THE CECROPIA MOTH.

The wings of this insect are brown, the anterior being greyish tinged with red, measuring, when extended, five to seven inches across. The cocoon — an ovoid, greyish pod about three inches by one inch in size, will be found attached to the twigs of trees and shrubs, especially the apple tree.

Here the chrysalis hibernates, and the moth bursts out about the first of June, sometimes earlier. It then matures very rapidly, and the female lays her eggs on the underside of the leaves, fastening them firmly with a glutinous substance. The egg is nearly round, about one-tenth of an inch long, and has a creamy-white color. In a week or two the larva, a knobby-black creature, eats through the shell, and feeds in the leaves, rapidly assuming different forms until it becomes three or four inches long and about an inch thick, the body being distinctly segmented and the color a pale green. Reddish processes appear on the third and fourth segments, the tubercles on the back being mostly yellow. It now eats very ravenously, the loss of foliage being often great, endangering the life of the trees.

Insectivorous birds are the most natural remedy; but there are also numerous parasitic insects which assist in their extinction, especially the long-tailed ophion, the Cecropia chalcid, and another Ichneumon-fly called *Cecropia cryptus*. The most practical remedy is to pull the cocoons or pods from the trees in winter and destroy them. The larvae may also be picked from the leaves by hand.

THE APPLE TREE APHIS.

This insect is also known as the Apple-leaf Aphid, but is popularly called the Apple-louse; but no plant appears to be free from its ravages. The black eggs of these lice, deposited the previous autumn, colonize during winter in the crevices of the bark, and around the base of the buds. This insect is exceedingly prolific. It has a sharp, slender beak, with which it penetrates all parts of the tree in quest of juices. The young louse is almost white, but gradually changes to a greenish color. The mature female is usually wingless, as seen in the cut. These lice have been named "ant's cows," from the fact that ants take them prisoner, and feed on a liquid secretion which they exude.

day appearing after the eggs are hatched will destroy myriads of them.

THE CURCULIO.

This is the Latin name of a beetle meaning plum insect, and corresponds to the Anglo-Saxon word weevil. It attacks almost every species of fruit. It is grayish or blackish in color, has a rough appearance, and is about one-fifth of an inch long. The female lays her eggs on the young fruit. In warm weather the larva, a small, soft, footless grub, hatches out in a few days, feeding on the flesh of the fruit and boring its way into the core. Its length is about two-fifths of an inch, and is of a bright, yellowish-white color. The grub matures in about a month. The irritation of the grub causes the fruit to fall before it is mature, the

larva maturing in the fallen fruit. The grub then leaves the fruit, burying itself in the ground, when it changes into the chrysalis, and from three to six weeks afterwards the beetle appears, escaping through the surface of the soil.

The most effectual remedy is to jar the trees, small ones with the hand and large ones tapped sharply with a mal-

let padded with cloth, continuing the process every morning and evening for three or four weeks after blossoming. A large sheet should first be placed under the tree, on which the beetles fall, when they, as well as the fallen fruit, should be destroyed. Turning hogs, poultry or sheep into the orchard is a good plan. Burning tar or sulphur under the trees has also been recommended. Spraying the plum trees with Paris green (three ounces to forty gallons of water), when the plums are about the size of peas, has had a good effect.

THE CODLING MOTH.

This is a small prolific and destructive insect. It attacks the apple, plum, pear, crab and peach. Three to four broods appear each season, the early one appearing about the time of blossoming. The fore wings are greyish brown, with variegated spots, the hind ones having a yellowish brown lustre. The female deposits her eggs in the eye of the young apple, rarely in the stalk end or on the cheek, the eggs hatching in a week, the larvae boring into core. They attain maturity in three or five weeks, when the immature apple falls to the ground, the worm generally escaping before this. The larvae of the apples which remain on

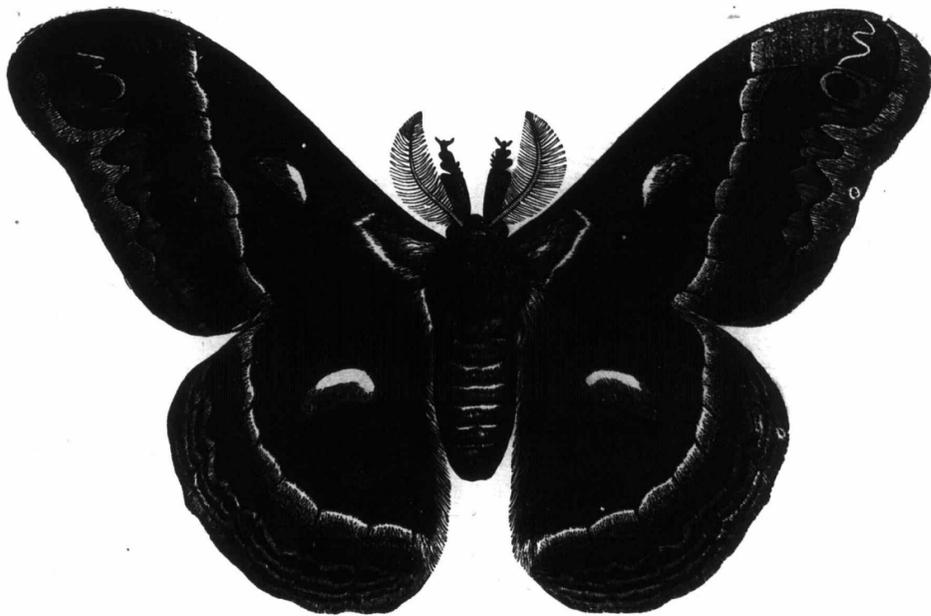


FIG. 1.—CECROPIA MOTH.

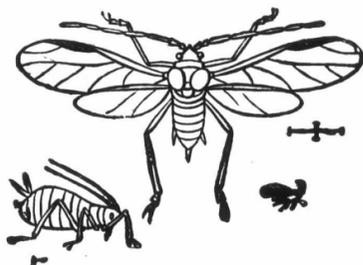


FIG. 2.—APPLE-LEAF APHIS.

the tree either crawl down the tree, or spin a thread by which they descend to the ground, from which they ascend the tree, spinning their cocoon in the crevices of the bark, the moth escaping in about two weeks. The moth appears only at night. The second brood appears the latter part of July, the larvæ maturing in autumn. If they escape before the fruit is gathered, they seek a sheltering place under the loose bark, or other hiding places. Wherever the fruit is stored they will be seen crawling around in search of hiding places. The most effectual remedy is to trap the larvæ and chrysalids by putting a band of cloth, hay or brown paper around the trees, in which they will find hiding places in their ascent. These bands should be examined every week until the end of August, and all the worms destroyed. The wormy fruit should also be taken off and destroyed. A correspondent of the Canadian Horticulturist trapped the moths by setting out vessels of whey, filled to within two inches of the top, into which they fall, attracted by the odor of the whey.

BOBERS.

These insects attack all kinds of shade trees, mostly when newly set. The bark on the sunny side of the trunks will be found dead. Look for gimlet-like holes at the base of the trees. A good prevention is to place a piece of board upright so as to shade the trees; or wrap a hay rope or piece of paper around the trunk. There are various remedies from which farmers may make a selection to suit their particular circumstances. Wash the trees spring and fall with strong lye. Wood-peckers will usually destroy those above ground. Coal ashes or lime and ashes heaped around the trees will also be a good mulch, retaining moisture and keeping the soil cool. But the surest way is to remove the earth and then cut out the grubs with a sharp knife. The following compound has been successfully used for destroying the larvæ of the peach borer: To 10 gallons of soft soap add the same quantity of hot water; stir in one-pint of crude carbolic acid, and let it stand over night; in the morning add three times its bulk of water, when it will be ready for use.

THE CABBAGE WORM.

A great many nostrums have been afloat for the destruction of this worm, but the U. S. Entomologist has recommended a simple and inexpensive remedy, viz., water heated to a temperature of 130 degrees Fahr. A thermometer to test the heat need not be necessary, for if the water is too hot it will color the leaves. A little scorching on the outside leaves will do no harm.

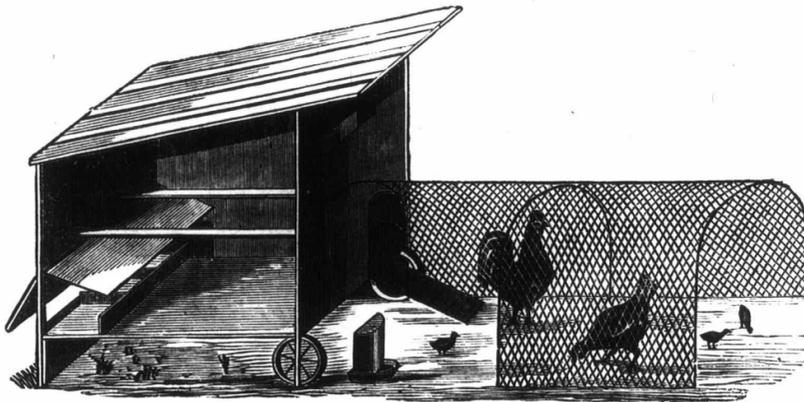
THE CURRANT WORM.

This insect somewhat resembles the gooseberry worm, but the latter has sixteen legs, while the former has only ten. When matur,

it is about five-eighths of an inch long, and arches its body when in motion; it has various colors and markings. There are usually two or three broods in the season. The same remedy does for both insects. Apply a solution of finely powdered white hellebore, or sprinkle the dust of the hellebore over the leaves.

General Insecticide Remedies.

Numerous experiments have been carried on under the direction of the U. S. Commissioner of Agriculture, for the destruction of insects which infest trees and plants. The most recent experiments have shown that common bar soap and whale oil soap may be used for making kerosene emulsion, and the following receipts will be found to be of great value to gardeners and fruit growers: Kerosene, two gallons; common soap, or whale oil soap, half pound; water, one gallon. Heat the solution



MOVABLE POULTRY HOUSE.

of soap, and add it boiling hot to the kerosene. Churn the mixture by means of a force-pump and spray-nozzle for five or ten minutes. The emulsion, if perfect, forms a cream, which thickens on cooling, and should adhere without oiliness to the surface of glass. Dilute before using, one part of the emulsion with nine parts of cold water. The above formula gives three gallons of emulsion, and makes, when diluted, thirty gallons of wash. The percentage of kerosene may be increased somewhat without danger, and stronger washes may be needed for some kinds of insects. Prof. Hubbard, who gives the above formula, says: "There seems no longer any reason to doubt that in kerosene properly emulsified and diluted, we have a nearly perfect remedy, more effective than any other insecticide in destroying scale insects, and having as slight an effect upon the plant as can probably be expected from any remedy with sufficient penetrating power to reach and kill the eggs of these insects." The cost of such a wash per gallon, after being diluted, need not be over a cent and a half. Large trees may require ten cents' worth of the wash for making the work of destruction complete.

In severe cases too much cannot be said in favor of pasturing the orchard, especially sowing clover for young pigs, soil, fruit and pigs being benefited thereby. Poultry may also be improved in the same way.

Poultry.

Movable Poultry House.

Movable poultry houses are rapidly coming into popular favor. We present a cut of one in use in England. It mounted on wheels, with a floor raised high above the ground to form a dry run. There is a set of movable nests at the rear, an outside flap-door with lock, a large door with lock for attendant, a small sliding door and ladder for fowls, two shifting perches and a sliding window. Being divided into sections, it can be easily taken to pieces and packed into a small space.

Sales of Stock.

At the Kansas City sales last week, Mr. M. H. Cochrane, of Compton, Canada, sold 33 Galloway heifers for \$10,030, an average of \$303.94; 26 Galloway bulls were sold for \$6,685, averaging \$256.92. Two Aberdeen-Angus bulls sold for \$605. The Short-horn bulls, of which six were sold, averaged \$244.16, and four Jerseys brought \$350, an average of \$87.50. The Messrs. Leonard Bros. sold six Galloway bulls and five heifers, the former fetching an average of \$300, and the latter of \$291; also two Aberdeen-Angus bulls, which brought, respective-

ly, \$250 and \$350. Mr. Cochrane has already claimed Tuesday and Wednesday of the third week in April, 1885, for another sale at the same place.

VALUABLE COLT SOLD.—Isaac Garbutt, of Maryborough, recently sold a bright bay colt, rising three years old, 15½ hands high, well broke, of the roadster class, to James Inglehart, of Lowville, Halton Co., for \$250. The colt was sired by "Young Champion," imported from the United States.

SHIPPING HORSES.—Mr. Wm. Russell shipped to Mr. R. G. Reed, C. P. R. contractor, Jackfish Bay, thirty horses, all purchased in the vicinity of Guelph, at a cost of over \$4,000. James Palmer shipped fourteen heavy draught horses bought at high prices, to Lancaster, Pa. Still another lot of driving horses will be sent by two American horse buyers on the same day to Pennsylvania.

Messrs. Hodgson & Co., who have been several days in Peterborough, shipped fifteen head of fine cattle and two span of horses for the Northwest—about 150 miles west of Winnipeg. Among the cattle, which were all good and in good condition, were six cows purchased from Mr. Joseph Walton, of North Monaghan, the price averaging \$45, and a thoroughbred, eleven month's calf, bought of Mr. Jos. Redmond, of Otonabee.

Garden and Orchard.

The Garden, Orchard, &c.

BY HORTUS.

Every effort should be made to encourage the growth of newly planted trees by frequent watering, if dry weather prevails—by applying liberal mulches of any old litter of any description that will retain the moisture. It is well to stake the trees so as to prevent any swaying to and fro by the wind. The early part of June is a good time to plant young evergreens from the woods or swampy places. All kinds, pines, hemlocks, cedars, etc., thrive well if planted now; the main thing is to see that the roots are kept damp, and when planting them, have the roots dipped in thick mud. The proper distance to plant depends on the size of the young trees. One foot apart in the row will be found about the right thing for all sizes, and rows two feet apart. Evergreens thrive better by being planted close at first, taking care to thin them out as they grow larger.

Young grape vines newly planted should only be allowed to push two shoots at first, and then finally removing one, leaving but the one straight cane, which should be tied up as the growth progresses.

This is the month that insects are most troublesome, and the careful gardener will need

to look sharply after his numerous foes. Hellebore, lime, London purple and Paris green should be kept on hand, and applied as may be needed.

Currants and gooseberries will have worms on them. Dust them with hellebore early in the morning before the dew is off the leaves. If done in time, one application will generally clean them out. Paris green seems to be the only effectual remedy against the attacks of the curculio, there being no fear of any danger hereafter, as such very small quantities of the poison are required to sprinkle a whole tree. Leading practical horticulturists now recommend this plan: A barrel of water in which a tablespoonful of Paris green is dissolved is placed in a wagon and hauled from tree to

tree, as needed; the water is forced on by using a small hand pump, which may be procured for the purpose from the hardware or seedsmen.

This is the time to gather elm and maple seeds. These two important and valuable trees bloom and ripen their seeds early in summer, and about the same time. From about the fifteenth of June the seeds begin to ripen, when they should be gathered and sown like ordinary garden seeds, at once.

Flower beds should be always raked or stirred up after showers; this prevents the soil from baking, and encourages the growth of plants, besides having a nice effect.

Persons fond of ferns will find this the best time of the year to make selections and to

Cider.

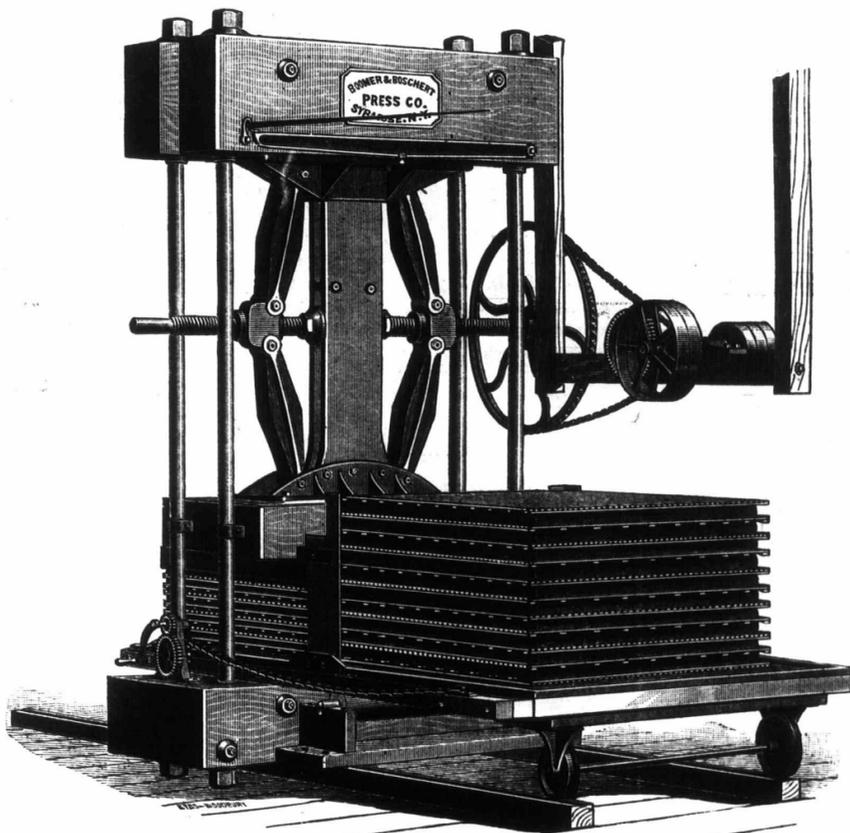
The manufacture of cider in Canada does not receive that attention it deserves. True, there are a few factories scattered here and there over the country, but, as a rule, these establishments are old fashioned and not well fitted up, consequently a great portion of the juice is left in the pomace, and some farmers have small hand presses, but the making of cider by this latter process is both slow and tedious. In many localities we have seen the ground literally strewn with the earlier varieties of apples, which, if not eaten by the sheep and hogs, were allowed to rot, whereas if there had been a cider factory within a reasonable distance, the apples that were then wasted would have been valuable.

There is always a good demand for vinegar, and vinegar made from cider is of the finest quality. As an apple growing country Canada is unequalled, but excepting selling for home consumption and a small export trade, comparatively little is done towards manufacturing our apples into cider or vinegar. Our cousins in the States are more alive to the importance of the industry than we are. They extensively carry on the trade, even shipping large quantities of fruit in bulk by the car load for that purpose.

In America the most improved machinery is used to extract the juice

from the apples. The cider press of which we give an illustration is the one most extensively used; it is made by the Boomer & Boschert Press Co., of Syracuse, N. Y., and has since its manufacture completely revolutionized the cider business. It has a kuckle joint press, and by its great power extracts more juice from the same amount of apples than any other device. We understand they are made in several sizes, some of the larger ones having a capacity of 100 barrels a day. This firm supply an entire outfit for a first class cider mill.

We furnish free specimen copies to those wishing to obtain new subscribers, together with blanks for subscribers' names and a printed return envelope. Send for them.



CIDER MILL.

plant them. Cool, shady corners, where nothing else will succeed, will be found a capital place for these beautiful plants.

Hot lime wash will destroy lice on the bark of apple trees. When cool it will prevent iron from rusting.

Cut the black-knot or warts from the fruit trees. They make breeding grounds for injurious insects. Be sure and burn these knots.

A Massachusetts farmer says he restored a worn out farm by the use of artificial fertilizers alone, and has realized large profits by the investment. We don't doubt his statement, but think he must have had all the fertilizers analyzed before application.

Editor's Diary.

Don't use animals for breeding which have prominent defects, especially when sire and dam have the same defects.

In-and-in breeding is more injurious where muscle and spirit are required in the offspring than when fat is the prime object.

The greatest profits in farming are made by raising good stock under good management, and the greatest losses are sustained by raising bad stock under bad management.

English experiments made with manure protected from rain and heat, compared with manure left unprotected, have shown that the former produced four tons of potatoes and fourteen bushels of wheat more per acre than the latter.

If it were not for the chemist the human race would soon become extinct by means of the adulteration frauds. It is wicked enough to adulterate food for plants, but when human food becomes poisoned there is cause for alarm. The only way to eradicate the evil is to increase the army of analysts.

If you have a good bull that is no reason why you should let him serve all your cows, especially if you have a varied stock; he can't be good for all purposes. By doing so you may save a few dollars in one pocket, but by not making the best use of your neighbor's bull, you may lose as many hundred dollars out of the other pocket.

Dr. Salmon, of the Department of Agriculture, is of the opinion that abortion in cows is due to two classes of causes. 1. It may be caused by improper food, by mechanical mishaps, by standing in a wrong position in the stable, etc. 2. It may also occur in a form that is contagious. In this form, daily disinfecting the stable with a 1 per cent. solution of sulphuric acid has been found useful.

The farmer's conception of manures should be changed. Instead of saying that farm-yard manure is good for this and that crop, or that certain artificial fertilizers are beneficial or injurious for this and that crop or soil, he should say that such and such a field or plant would be benefited by nitrogen, phosphoric acid or potash, as the case may be, and it would be easy to learn in which manures these constituents predominate.

Feed your calf well, especially if you want to make a prize animal of it. But good feeding is one thing and stuffing is another; bad feeding is still another. Of all these the gorging system is the worst. Everybody knows what a foolish thing the calf is. It will guzzle through sheer obstinacy. The milk curdles in the stomach and enters into decomposition. The unwitting owner curses the calf and all the breed—everything, in fact, except himself. It should be known that high feeding does not mean gorging; it means the proper quantity of the ration fed in sympathy with the percentage of the different nutritious elements contained in the food. It is moderation that builds up the prize animal, not excess.

Don't buy a pound of artificial fertilizers till you know how to use your farmyard manure to the best advantage.

The quantity and quality of milk and butter are influenced by breed, food and management, but breed influences the products more than food.

Our natives are not model cattle because they have not been bred for any special purpose. However, they have strong leanings towards the dairy.

The flesh of young animals which have been uninterruptedly well fed has better flavor and nutritive quality than that of older and irregularly fed animals.

The maturity of grade steers is now a year earlier than it was ten years ago. See what can be accomplished by a knowledge of the principles of breeding.

It is better to keep the cattle in small pastures, changing them frequently from one field to the other, than to allow them to roam over a large pasture continuously.

Do not forget that swine require green food, as other animals. If you do not wish to turn them loose feed it to them in the pen. That which they get in ordinary "swill" is sometimes not enough.

In 1882 the Spanish stock of cattle shipped from Florida averaged \$15.05 per head; Short-horn grades exported from New York in the same year averaged \$99.72 per head. Those figures show the value of improved stock.

One acre of well cured meadow hay will keep a cow five or six months in winter; she will require, on an average, about three acres of pasture for her summer support. One acre on the soiling system will support her all the year round.

Worth remembering.—A good cow is as easily kept as a bad one; a rich field is as easily tilled as a barren one; good grain is as easily marked as "chicken feed;" good animal and vegetable products are as easily masticated and digested as bad ones.

In 1883 Canada exported to Great Britain 55,625 head of cattle, and 114,352 sheep. So long as this trade is active the Dominion will easily be able to bear a partial failure of the cereal crops, especially if our export trade in store steers and cows continues to increase.

As the casein in the milk is always a constant percentage, it is evident that foods which increase the quantity of milk are the best for cows fed for cheese—such as succulent foods. On the other hand concentrated foods should be fed when a large yield of butter is desired.

A Connecticut farmer kept an account with half an acre of onions, and his books when closed showed a clear profit of \$249.95. The rent, manure, labor and other expenses amounted to \$101.45. The manure applied was tobacco stems, superphosphate and wood ashes, costing \$36. The half acre yielded 502 bushels of onions.

Correspondence.

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. If an answer is specially requested by mail, a stamp must be enclosed. Unless of general interest, no questions will be answered through the *Advocate*, as our space is very limited. 3. Do not expect anonymous communications to be noticed. 4. Matter for publication should be marked "Printers' MS." on the cover, the ends being open, in which case the postage will only be 1c. per 4 ounces. Non-subscribers should not expect their communications to be noticed.

Voluntary correspondence containing useful and seasonable information solicited, and if need, will be liberally paid for. No notice taken of anonymous correspondence. We do not return rejected communications.

We do not hold ourselves responsible for the views of correspondents.

SIR,—I tried the iodine you recommended on lumps on three of my oxen, and found it a perfect success. 1.—One of my cows has a sore foot; it seems very tender on the heel, and is a little swelled, and there is a raw sore near the centre of the hoof which discharges a small quantity of matter. The hoof seems to be slowly decaying. What is the best cure? 2.—How shall I treat a cow that calved a week and has not cleaned? 3.—Last year I tried to grow black seed onions after taking the seed off newly broken prairie, but they proved a failure; they started to grow a little, but are coming up nicely this spring. Is it any use of me trying to cultivate them.

MCGREGOR.

E. M.

[1.—For cure see answer to T. W. in this issue. The complaint seems to be foul in the foot. There is another disease with similar symptoms caused by ergot in the feed, but foul in the foot is caused by standing in foul stables. In the early stages the two diseases are difficult to distinguish, but if allowed to run on the mortification caused by ergot may extend over a large portion of the limb, and cannot be permanently cured without changing the food. The blood ceasing to circulate in the feet they easily become frozen, and when the cattle lick their feet, the affection may easily be mistaken for foot and mouth disease. 2.—The cow should have been attended to within two days after calving. Give her a pint or a pint and a half of raw linseed oil every four or five days, and laxative food. 3.—Black seeds will thrive as well as any others when sown in a sandy or clay loam soil with a firm bed.]

In answer to a subscriber we certainly would not advise breeding from a bull purchased at the Model Farm and suspected of being affected with Tuberculosis.

The name and post office address of our correspondent is withheld, as there are certain parties who would be only too glad to institute legal proceedings against us, even for telling the truth.

SIR,—I have a mare colt two years old with a rupture the size of a goose egg where the navel cord was severed. Can anything be done for it? 2. How should alfalfa or lucerne clover be sown? Can it be mixed with other grasses, or should it be sown alone? 3. Are there different kinds of the Russian Mulberry? Some are very dear and some very cheap, ranging from fifteen cents to one dollar apiece.

LUTON P. O.

[1.—Your colt can be cured by an operation. Be sure and have it performed by some skillful veterinary. 2.—Lucerne being deep rooted, requires a deep porous soil, and may be sown any time between April and August. If required for green fodder, it may be sown with other fodders, such as rye, oats or barley; for pasture it may be sown with any number of grasses or clovers. Maturing about two weeks earlier than red clover, it should not be mixed with timothy or red clover for hay. Pulverize the soil fine. 3.—There is only one species of Russian Mulberry.]

In order that one may read a few consecutive numbers of the *FARMER'S ADVOCATE*, and thus learn its value, we offer a 3-months' subscription for 25c. Payment of 75c. in addition before expiration of 3 months, will secure the balance of the year's subscription.

Sir,—I notice in your prize essay on fencing, published in the April number, a suggestion that trees may be used instead of posts for fastening and supporting wire fencing, and your essayist mentions that staples will not materially affect the trees. Now, is this a fact? I have fastened wire staples to trees, and in the majority of cases the trees have died. I refer to saplings, say five to eight inches through, and I concluded that the killing was caused by the iron; but I still believe in the economy and convenience of using trees on which to strain wire fence. I last season fitted posts to the trees, fastening them by the nails, for which I bored the holes slanting upwards so that water would not follow the nails into the heart of the tree, and I stapled the wire on to these posts. I then painted the posts as nearly as possible in each case the color of the bark of the tree, for I take it one of the principal merits of wire fencing is its invisibility, that having at any rate been one of the reasons for its introduction in England, to give an idea of expanse to a limited enclosure. The suggestion of an upright wire midway between the posts is good, as it prevents animals separating the wires and forcing their way through, and where invisibility is not desired I may suggest a plan followed by a friend, residing near Ottawa, of placing ordinary laths at regular distances between the posts and fastening them to the wire with clinch nails. However, the point on which I would like information, and should like to hear both from practical and scientific men, is whether iron staples or nails driven into trees will injure the trees.

J. W. L.
NOVA SCOTIA.
[Driving nails into trees does not ordinarily injure them. We know of numerous instances in which nails have been driven into fruit trees under the delusion that they would be a remedy against worms, but the trees have not been sensibly affected thereby. Our correspondent does not inform us what sort of trees has fallen a victim to his experiment. Some trees may, perhaps, contain some organic acids which may form injurious oxides of iron with the nails, but we don't know of science having thrown any light on the matter.]

Sir,—Will you please give this a place in your paper. About sixty years ago, in the first settlement of Bear-Creek, there were but few settlers along the Creek and with small clearings and no orchards, and on the River Thames there were large clearings and large orchards, and such a thing as worms in apples was not known. You might go out on a May morning and the music of the solitary birds of the forest was delightful. You might see them on the branches of the trees spying out and picking up the small insects. After a few years the settlers came and made improvements and set out orchards, and the young men thought it a fine piece of sport to make shooting matches to kill off the birds, considering them destructive. And what was the result? There were webs of worms on every fruit bearing tree, even to the wild cherry, and now the fruit is nearly a failure. Does anyone think there is a remedy? Remember that at certain seasons of the year the insect can fly, and if one orchard were left overgrown, with moss and gone to destruction for the want of trimming, it would be a drawback on all those who undertook to destroy the worm. Even the little sparrow is accused of picking off the blossom while he is killing the little fly. Some say, turn the hogs in the orchards and let them eat all the fallen fruit; others say they won't have the hogs turned into their orchards to root up their clover, but I can tell what I would do. I would turn the hogs in, plow in the fall and spring, and put up shelters of different kinds to suit all species as far as I could. Some have plowed up their orchards and have sown grain, but while the worm is on hand I think it will do but very little good. The stirring of the soil no doubt has a good tendency, but a few years of perseverance in keeping a lot of swine in the orchard I think would overcome the evil.

S. W.
MORPETH, ONT.
Sir,—You mentioned in your February issue something about the best and most speedy method for destroying Canada thistles. My plan is to summer fallow, and never let the thistles through the ground for that season.

H. F.
WALKERTON, ONT.
Sir,—I like the ADVOCATE well. In your last issue I see that one of the subscribers of the ADVOCATE recommends every good farmer to take the ADVOCATE. I would say it would be well if all bad farmers would take it and become good farmers.

J. D.
LUTHER, ONT.
Sir,—I. In May, 1882, No. of ADVOCATE, page 130, is an article by Prof. S. W. Johnson, in which he recommends the reducing of bones by water and wood ashes. He also names Hienkoff as authority for this method. Supposing this to be a good way to turn bones to manure, I made arrangements for buying a large quantity, and felt quite enthusiastic over the prospect of getting so good a manure, and so cheaply. I made this arrangement only this spring. Judge of my chagrin when I saw your remarks on page 80 of March number for the present year, where one of your correspondents proved the thing to be a failure. 2. I see that bones can be reduced by oil of vitriol (ADVOCATE, May, 1882). Is this a good method, and is it expensive? What is the price of oil of vitriol? 3. It is said that swamp muck is not a good absorbent of urine. What is a good absorbent?

R. W.
GERMANTOWN, N. B.
[1. You may safely follow Prof. Johnson's instructions. Many farmers have also been successful in reducing bones with ashes. If our March correspondent has not been successful, he must have neglected instructions. If the ashes are bad, or the instructions not followed, it may

take six months or more to reduce them. If the bones are not all reduced, they may be put through a second process, or fermented with fresh stable manure. 2. Bones can be dissolved by oil of vitriol (sulphuric acid) very expeditiously, but the process is expensive, the acid costing four to seven cents per pound, according to the quantity required. Pulverizing the bones would be better and cheaper; they will soon become soluble in the soil. The soluble form reverts to the insoluble in a few days after application, especially where there is an excess of lime in the soil; hence the superiority of finely ground bones. 3. If it is said that swamp muck is not a good absorbent, the meaning is that it is not good compared with other absorbents. For example, dry manure and tanned bark will absorb many times more liquid than muck, but as this information is of little practical value to most farmers, it may be said that dry muck, for all practical purposes, is an excellent absorbent, being cheap and always procurable. Road dust, or any form of dry earth, is also a good absorbent in this sense. Please let us hear the result of your experiment.]

H. F.
WALKERTON, ONT.
Sir,—My method for destroying wild oats is to sow barley as early as possible, so that it will get ripe before the oats.

J. C.
CAMPBELLFORD.
Sir,—I have a valuable milch cow, but this year she does not give over one-third her usual quantity of milk. She has a soft tail; that is all I can see wrong. What is the cause and a cure?

A. F.
CHATHAM.
[The cow's soft tail has nothing to do with the quantity of milk that she gives. Give her one quart of raw linseed oil once a week as a drench. Put in her feed every night about two drams of nitrate of potash and a tablespoonful of sulphur.]

S. M.
SUNBURY, ONT.
Sir,—I have a two-year-old heifer on whose throat a lump appeared from the chin back over the gullet, which affected her breathing. I rubbed it with lamp-oil and turpentine, when it went back, leaving a bag of loose skin, but in about a week it came back again. I rubbed it again, but it leaves a loose swelling. I can't tell whether there is matter in it or not. She has lost flesh since it came. Please give a remedy? 2. I enclose a specimen of a pod I find on my apple trees. Please state what it is.

S. M.
SUNBURY, ONT.
[Give your cow a dose of purgative medicine (about three quarters of a pound of salts); repeat this once a week for a time, and dress the lump with iodine ointment every second day, after cutting the hair short. Give her every night in feed two drama of nitrate of potash and one dram of iodide of potassium. 2. The pod is a cocoon of the Cecropia Moth. See page 169.]

S. M.
SUNBURY, ONT.
Sir,—Please tell me what kind of soil strawberries thrive best on; also the mode of preparing soil for fall planting and the best varieties for general cultivation?

S. M.
SUNBURY, ONT.
[Strawberries thrive on most any well-drained soil, but a sandy loam is specially suited for them. Dig or plow, then spread at least three inches of well-rotted barn-yard manure; if you have not enough of this, bone-dust is usually the best substitute. Dig or plow again, mixing the manure with the soil as thoroughly as possible. Plant from pot-layers; the sooner you plant the larger will be the crop. If you plant in beds put the rows fifteen inches apart each way; otherwise make the rows two feet apart with fifteen inches between the plants, pressing the plants firmly with the foot. Before snow mulch with straw or most anything else of the kind, two or three inches deep, covering the plant and soil completely. So much depends upon soil, climate and other conditions, that it would be difficult to say which is the best kind. There are several very excellent varieties. However, for your purpose we think the Jersey Queen is the best; but you might also try Longfellow Improved, Prince of Berries, Bidwell, or Nectar, if you want variety.]

W. C.
WALSINGHAM CENTRE.
Sir,—1. Is it legal for a Union Agricultural Board of two electoral districts, at their March meeting, to pass a resolution to dismiss a part of their Board, and have the business done by a committee for the year, when there is a strong opposition? 2. Is there a regular authorized book for registering hogs in Ontario?

W. C.
[It is quite regular for the Board of Directors to refer any particular question to a committee, and not only regular but judicious to do so. If our correspondent means by the word "dismiss" to remove from office, we say most decidedly they have no power to "dismiss" a part of their Board and have the business done by a committee." Instead of this the Agriculture and Arts Act makes provision for filling vacancies when they occur. 2. We are not aware of any.]

W. D.
PROVIDENCE.
Sir,—What is the best treatment for contracted feet?

[Have the feet well pared down and the shoe put on so that it will have a tendency to spread the foot. Soak the foot in hot water night and morning, and put a poultice of either bran, flax seed, or boiled turnips every night for a time until the foot gets softened; then apply a cantharidine blister around the coronet (top of foot once every two weeks, and grease the part blistered the third day afterwards. While the feet are blistered it would be well to stuff them every night with linseed meal.]

To J. McP.—Write to T. Gould & Co., Brantford. They have the most extensive factory for the manufacture of the Langstroth hives we have seen. The Langstroth hives are considered the most popular. We presume they could ship you all you would require any day. Their catalogue will give you information about other appliances.

W. A.
QUERENTON, May 20, 1884.
Sir,—I forward you an insect I would like to know something more about, also grub in lead. I do so cheerfully, because I know you interest yourself greatly in anything that may be instructive and a benefit to the fruit grower. I am also glad to inform you that the principal fruit growers of this district have organized themselves into what is called the Niagara District Fruit Growers' Association. This association has held two very interesting meetings lately in the town of St. Catharines. Last Saturday evening, the 17th inst., the association held what is called a township meeting, in a school house on the Niagara River Road. A large number of the fruit growers residing in the vicinity were present. Dr. Warren, of Niagara, in the chair. The manager of the Erie Preserving Co., of St. Catharines, being present, gave some interesting remarks. Also Mr. Montgomery, manager of Beadle's Nurseries, St. Catharines, and secretary of the association, urged on those present the advantage of combination. Dr. Warren spoke of the reckless manner in which our fruit was handled after leaving the grower's hands, and that grower and consumer should raise their voices in denouncing this crying shame, and especially against the express company for the reckless way they handle the fruit. He spoke of one instance where he shipped, per express, 70 baskets of peaches to Toronto, and when they arrived there they had to be dumped out on the dock like any other rotten stuff. He said this lot of peaches was shipped in round baskets in first class order, and on making enquiries he found out that the express company had piled them one upon another, and as the baskets are much larger on the top than bottom, the weight crushed the tender, juicy peaches into mash. The express company were prepaid for freight. One of the objects of this combination of fruit growers is to forward their fruit by those and only those who will give the best satisfaction, whether by rail or boat, or can and preserve the fruit where grown, and ship as little as possible. Dr. Warren is not the only grower who has thus lost consignments of fruit, not only the fruit, but the many other expenses in connection. Every grower has the same complaints in a more or less aggravated way.

W. A.
QUERENTON, May 20, 1884.
[The insect belongs to the genus *Hymenoptera*. Its name is *Dolerus aprilis*. The larvae feed on willows. As far as known, it is not injurious to fruit trees.]

A. C. H.
SWAN LAKE, MAN.
Sir,—May I be allowed to supplement your articles on fencing with a method I used with success, to reduce the cost of erecting a wire fence. I had to enclose 100 acres in a ring fence. Wire and posts were dear and hard to get, and I determined to try two wires. I put my posts two rods apart. (I was only fencing against cattle.) After the fence was up the cattle belonging to neighbors half-breeds used to choose the centre of the space between two posts and spread the wires sufficiently to squeeze through. I then got some small pickets, about 2 inches in diameter, and four feet long (the height of the fence) and stapled them to the wires, three to every space, after which I had no more trouble. A great advantage of this plan is that, though the fence is perfectly stiff perpendicularly, it has a certain amount of spring sideways, and cattle charging against it will be thrown back without breaking a wire. Where the posts were closer I have had cattle break the wires frequently.

E. M. S.
TURTLE MOUNTAIN, MAN.
Sir,—1. Would you kindly inform me, through your paper, what would be good for a ewe close on lambing with a heavy cold in her head, and frequent discharges from the nostrils? It seems to distress her very much. I have put pine tar on her nose and temples, but it does not seem to relieve her a great deal. 2. I have also two turkeys which have had their heads swelled all winter, especially under the eyes, and are still in the same state; they are both healthy birds. Will it effect the hens laying or the robbers for treading?

E. M. S.
TURTLE MOUNTAIN, MAN.
[1.—Keep the nostrils washed clean and use the pine tar; we have found the tar the best remedy in such cases; give her sulphur in feed along with salt. She will get better when turned to grass. We do not think the affection will disturb the usefulness of the turkeys or hens, but not knowing the conditions we cannot tell the cause.]

COOK & SON.
AULTVILLE, ONT.
We are glad to see the ADVOCATE wielding such a great influence in the farming community. We wish it continued success and increased patronage.

SIR,—I again remit for your valuable paper. I don't see how I could get along without the ADVOCATE; it should be in every farmer's house. Please answer the following questions: 1. As my old barn was burnt, crop and all, I am compelled to build a new one. The new one is to be a bank barn, and I should like to know how to ventilate it. I was thinking of running a sort of chimney from the basement to the roof up each gable. The stable is 40 x 50 feet. 2. How shall I drain the barn-yard so as to save the liquid manure? 3. Are there any machines or carts made to draw out liquid manure, and how much do they cost? 4. Do you approve of cedar blocks for stables?

SELBY, ONT. W. J. M.

[1. Your plan is a good one. The ventilators may be made of boards or planks nailed together, about 12 x 18 inches, but it makes little difference about the size, as all ventilators should contain slides to regulate the draft and temperature, the only danger being in making them too small. 2. Build a tank in the barn-yard, and lead ducts into it from the stable gutters. If the manure heap is exposed to the weather, this tank may also be made to collect the drainings from the manure heap. 3. We know of no carts in this country built specially for the purpose; but street watering carts, by modifying the sprinkler to suit the consistency of the liquid, may be made to suit. The ordinary sized ones contain about 30 barrels and cost \$200. They are built in any of the cities, and by writing to the city engineer you will be able to ascertain the names of the manufacturers. If there is a street sprinkling cart in your nearest town you can also find out there. But we don't recommend your method of saving the liquid manure. If you use straw for litter the urine is required in the manure heap to promote fermentation. The best way to save the urine is to put absorbents under the cattle; if dry earth or muck is used fermentation will be aided and the value of the manure heap doubled, provided it be under cover. If sufficient dry earth be used so as to do away with the necessity of using straw for litter, no fermentation is necessary, and the manure may be hauled directly from the stable to the field and spread at once. In your plan the ducts are apt to be frozen up in winter, and large quantities of the urine wasted. 4. Cedar blocks will do very well in the passages between the stalls and as pavements outside adjoining the stable doors, providing the location be free from excessive wet; but in the stalls their utility is doubtful, unless a smooth and waterproof surface be attainable, or sufficient absorbents used to prevent the blocks becoming impregnated with urine, causing diseases of the feet in cattle and foul odors in the stable. No quantity of straw will prevent this. A smooth, water-tight plank floor would give better drainage, but would not prevent said disease or odors. Perhaps you could utilize stone cheaply.]

SIR,—Can you inform me how to make superphosphate out of fish? During the month of June we can catch large quantities of small fish which are useless for anything except manure. I hear that on the sea coast they manufacture small fish into superphosphate.

CONSECON, ONT. J. H. Y.

[There are several ways for you to prepare your fish, but the waste incurred in converting them into superphosphate would be enormous. Superphosphate can only be made from the bones, and the other parts are just as profitable for manure. The cheapest, easiest and least wasteful plan would be to scatter the fish on the land and plow them under. The bones of small fish being already fine, would soon be made available for the crop. If, however, you want to decompose the bones, you can do so by composting them with ashes—in barrels or boxes, keeping the mass moist. The best method of making superphosphate from bones is by treating them with sulphuric acid. We would not advise you to reduce the fish with ashes or acids, unless you have no land which you can manure during the fish season.]

SIR,—I have a young mare that runs a kind of dirty matter out of her eyes all the time. Can you give me a cure for it? 2. Also this same animal, when I drive her on the road say five or ten miles, when she makes water, it is a dirty blackish or bloody color; she is all right in her urine when she is working. Please give me a cure for these two things in your next ADVOCATE.

AILSA CRAIG, ONT. A SUBSCRIBER.

[1. Your beast has ophthalmia. Bathe the eyes and all around twice a day with warm water and milk equal parts. After bathing apply a wash to the eyes, sulphate zinc half dram, acetate plumbi one dram, fluid extract of belladonna one dram, soft water one pint. 2. Give diuretic medicine, as saltpetre one dram, three times a week. It might be well to give a pint of raw linseed oil once a week until you find a change.]

How to Preserve Timber.

SIR,—The subject is naturally divided in two parts. First, timber used for posts, stakes, and other purposes where a part of it is on the ground. Secondly, that which is exposed to rain and sunshine, as the roofs and coverings of buildings, fence boards, and similar objects. If we place a thin cross section of timber under a microscope, it will present the appearance of a honey comb. In the growing and unseasoned state these pores or openings are partly filled with sap or water. In seasoning the water is driven out; and could we keep the timber dry, it would last almost forever. It would be found impracticable to keep posts and stakes dry. Paint or tar them as we might, water would soon find its way in, and at the surface of the ground dry rot and decay would soon commence the work of destruction. Brush and timber used in the construction of dikes in Nova Scotia 60 years ago, are still sound, being preserved by the salt water of the Atlantic. To preserve posts and stakes, remove the bark and let them season. Then immerse them in strong brine to the depth they are intended to be sunk in the ground. Let them remain until thoroughly salted, and they will be ready for use. To preserve the roofs and boarding of buildings, the best method, and the cheapest in the end, is to paint them with good oil and some light color. The oil fills the pores of the wood and makes it water-proof. Two coats will generally be enough, and if the materials are good will last from ten to twenty years. Dark colors absorb the heat, and the paint is soon destroyed. Salt or lime sprinkled over old roofs covered by moss will destroy the moss and help to preserve the shingles.

GLENWILLIAMS, ONT. R. S.

SIR,—There is a general feeling in N. B. that the money expended for agriculture by the Government does not do so much good as it ought. What is the best system of fostering agriculture by governments?

H. J. POINT DE BAH, N. B.

[Begin with the young, in a pleasing, interesting and instructive manner. Beautify the school grounds with trees and flowers, reserving space for the play ground in the centre. Give plain, practical and pleasing instruction in the school room—pleasing illustrations of agricultural scenes, stock, plants, trees, etc., with interesting descriptions. Point out how success is obtained. Encourage township agricultural exhibitions, and free, open, untrammelled farmers' clubs. Leave all other agricultural expenditures to the voice of a majority of the farmers in each township; give them the power to unite and hold combined exhibitions or alternate exhibitions. The counties and cities will offer inducements to the townships, which they should have the option to make arrangements with, but not for a longer term than five years, or the township exhibitions may be entirely destroyed. Wealthy and practical farmers, and educated gentlemen, will, if left alone, establish all other necessary and profitable means of advancing the farmer's interest, in experimenting, in importing or raising improved stock, and in disseminating seeds, trees, etc. Accept with caution the opinions and advice of the army of recipients of Government moneys, who are already far too numerous, and rapidly on the increase, and whose suggestions are mainly intended to benefit or promote schemes of their own, and not really for the benefit of the farmers. Tax as lightly as possible, and avoid the thwarting of individual enterprise.]

SIR,—Please inform me in your next issue how to make grafting wax?

ARRELL, ONT. J. I.

[Melt together resin, beeswax, and tallow in equal parts, and spread on cotton cloth. Tear into slips and wrap round graft.]

SIR,—There is something the matter with the cows in this locality; they become lame and gradually get worse until finally the toes drop off, and they become so weak and thin from suffering that they cannot rise, and have to be killed; one has been killed and I fear two more will have to share the same fate. These cows are not all in one herd, but belong to people living three or four miles apart. Please say in your next issue what is the matter, and what is the treatment.

T. W. ELK HORN P. O., MANITOBA.

[This disease is not contagious. Pair of dead hoof, and if matter is formed, let it out. Blister on the hair or coronet with one dram of cantharides to one ounce of lard; mix one ounce of corrosive sublimate in four ounces of spirits of wine, and dress the sore places with it once a day, and afterwards dress with pine tar; feed well, and give bi-carbonate of soda, salt and resin in the feed. Give dose of purgative medicine, Epsom salts, once a week. Give iodide potassium, in dram doses, once a day.]

SIR,—I have moved to the West. The spring is a little late this season, but appears to have opened fairly. This morning farmers are busy sowing or preparing to do so. This is the country for farmers. There will be an immense breadth of wheat sown this season. Prices are good; prospects good.

BRANDON, MAN. April 15th, 1884. J. K.

SIR,—I think the ADVOCATE the best agricultural paper in America, and I take a great many papers. I have taken it since the first paper and would not be without it for four times the price.

H. S. BRISBANE, ONT.

SIR,—I do not believe there is a better place for raising sheep in "this Canada of ours," than on the hills along the St. John River. They do so well, many not receiving any shelter whatever during the long and severe winter, that it is a wonder that they are not better appreciated and cared for. Wool is a fair price, and lamb sold occasionally in the St. John market last summer as high as twelve and fourteen cents per pound. New Brunswick will never be as able to carry on the heavier branches of agriculture as those Provinces farther west. As the North-West becomes more settled, settlers will have to depend (if I understand correctly it is not a successful sheep raising country) upon the Eastern Provinces for their supply of woolen wares. I would like to know through your valuable columns what would be the best breed of sheep for the hilly pastures of N. B., the most profitable for wool and mutton, the probable cost of a good ram to cross on good native stock, and to get him to St. John, and lastly if the breeders can be relied upon to send what has been bargained for, providing the animal had not been seen by the purchaser?

LONG REACH, N. B. FARMER.

[Altitude and climatic and physical conditions have a great deal to do with selecting breeds for different localities; but for your purpose we think that the Southdown would be the best breed for crossing with your natives. There being vast tracts of land in your Province, as well as in Nova Scotia, adapted to sheep raising, has led capitalists into a lively discussion on the subject. It is estimated that there are about 2,000,000 acres of sheep runs, capable of producing an annual revenue of \$2,800,000 in sheep and mutton. The following estimate has been made by parties interested in the N. B. sheep grazing business.

AREA REQUIRED, 6000 ACRES.

Dr.

Cost of 2,000 Shearlings, averaging 100 lbs., 1st May, at \$5.50.....	\$11,000
Expense of purchasing and concentrating.....	500
Freight, 15 cars, Toronto, Moncton.....	1200
Food by rail.....	100
Capital required.....	\$1,800
Two shepherd, 6 months.....	400
Assistance in shearing.....	150
Freight to seaboard, 1st Nov.....	300
Grazing, 50c. per head.....	1000
Interest on capital.....	500
Incidentals.....	200
Total debit.....	\$15,350

Cr.

Clip of 2,000 head, 15th May, medium wool, 7½ lbs. at 17c.....	\$ 2850
Value of 1940 (60 deaths) at seaboard, average 140 at 5½c.....	14388
Total credit.....	\$17,688
Balance, clear profit.....	\$2,338

From these figures you will be able to draw conclusions to suit your particular circumstances. If you write to any of the sheep breeders who advertise in the ADVOCATE, you will get reliable rams, with the prices for which they can be delivered.]

SIR,—Will you be kind enough to answer through your valuable paper the two following questions:—1. What is the best season to plant young pine trees or evergreens? 2. What should I do to prevent worms destroying the apples? I think something could be done when the trees are in bloom; if so, what is it?

RIVERSDALE, ONT. A SUBSCRIBER.

[1. In May. For further particulars see answers to correspondents in last issue or other issues of the ADVOCATE. 2. You can do nothing with the trees or insects while the trees are in blossom. Your only hope lies in the prevention of ravages in succeeding seasons. The same remedies apply both to the Codling Moth and the Apple Maggot, namely, pasturing swine in the orchard when the half-developed fruit is falling to the ground. You may also let in the poultry; they will eat up the worms which escape from the apples. But these precautions will be useless unless your neighbors follow your example. See also under Entomology, page 169.]

SIR,—How are prize stock fed until killed?

TRACADIE CROSS, P. E. I. J. A. M. D.

[Every feeder has his own way of feeding his prize animals. It would be unwise to give fixed rules, the best plan being to make the best use of the fodder you have, or can easily procure. A judicious change of food with good management is more important than sticking to any particular system. Good hay (timothy and clover mixed), straw, bran, oil cake, ground meal and pulped or sliced roots, are very common rations, but these can be given in a great variety of relative proportions. In summer green fodder may be given instead of hay. A good ration would be 4 parts hay, 10 parts roots, 3 parts meal and 1 part bran or oil cake. Foods rich in flesh forming ingredients, such as peas, bran, beans and oil cake, should be fed with those rich in fat forming materials, such as straw, chaff, roots and corn. Hay, oats and barley are a medium between the two.]

The Household.

An Ounce of Prevention.

Our great epic poet says: "Love hath its seat in reason and is judicious;" and though this may seem a rather cold statement it is in harmony with the facts. The contract of marriage should be based in the first place on common sense, on the fitness of the two parties to contract with each other, and on their probable ability to carry out their contract. Some couples seem wedded after the manner of one of Dickens' characters, who in passing a church exclaimed, "Halloo, here's a church! let's go in!" On going in, he put his hand in his vest pocket and exclaimed, "Halloo, here's a ring! let's get married!" Of course such marriages can be nothing but a lottery, with the likelihood of drawing only blanks.

In matching horses we are careful that in height, gait, outline, movement, they shall be alike, so that they can pull equally and help without fretting each other. A man who should yoke before a carriage an elephant with a goat, or a camel with a donkey, or a cow and a horse, or a Shetland pony with a Clydesdale, would be deemed an idiot or a lunatic. But we find matches among men and women even more incongruous than these would be among animals.

Not even Eads or De Lesseps would undertake to make the tributaries of the Columbia and Mississippi flow together. They are on different slopes and naturally flow apart. Nothing less than a great upheaval which should change the surface of the earth could make them flow together. Now in the happy marriage the two souls of the wedded pair love first the same things and then love each other, or first love each other and then love the same things. The intense heat of their love fuses their souls and their lives into one. The graet slopes of their lives run in the same general direction, so that streams running down those slopes flow easily and naturally together and interchanges are readily made. St. Paul expresses the whole thing when he says, "Be ye not unequally yoked together with unbelievers: for what fellowship hath righteousness with unrighteousness, and what communion hath light with darkness? And what concord hath Christ with Belial? or what part hath he that believeth with an infidel? and what agreement hath the temple of God with idols?" "Fellowship," "communion," "concord," "agreement," must be between things like or "like in difference."

The eagerness of mothers to dispose of their daughters in marriage, to secure for them rich husbands if they can, but at any and all hazards to secure for them husbands, has been the theme of satirists since the oldest of us can remember; and though the title "old maid" is not quite such a stigma as it was, yet most mothers are as eager as ever to see their daughters "settled in life." One would naturally think that this eagerness would be accompanied by a desire and effort on the part of mothers to prepare their daughters for the duties, the responsibilities, the self-abnegation imposed by the yoke of marriage, for the forbearance required, the labors demanded, and the total consecration of self on the hymeneal

altar which both husband and wife must make if their marriage is to prove a happy one.

She who misses the culture of wifehood and motherhood misses the supreme happiness of life, but there are many wives and mothers who miss this culture, and there are many "old maids" who in fidelity and devotion to noble purposes attain the nearest possible to supreme happiness. Wives who become such for the sake of a home, of a support, to escape being old maids, and with no aptitude or aspiration to become "true yoke-fellows" with their husbands, dishonor the name of wife. Mothers who reluctantly accept the crown of motherhood and shirk the duties that crown imposes, dishonor that holiest human name—mother.

The Vicar of Wakefield chose his wife "as she did her wedding-gown, not for a fine glossy surface, but for such qualities as would wear well." When his example is followed by the majority of men, and the majority of women admire in men only what is admirable and cultivate in themselves a "meek and quiet spirit," we shall hear less of unhappy marriages than we now do.

The Farmer's Wife.

"Oh! give me the life of a farmer's wife,
In the fields and woods so bright,
Among the singing birds and the lowing herds,
And the clover blossoms white.
The note of the morning's heavenward lark,
Is the music sweet to me;
As the dewy flowers in the early hours,
The gems I love to see.

"Oh! give me the breeze from the waving trees,
The murmur of summer leaves;
And the swallow's song as he skims along,
Or twitters beneath the eaves!
The plowman's shout, as he's turning out
His team at set of sun.
Or his merry 'good night' by the fire-fly's light
When his daily work is done.

"And give me the root and the luscious fruit,
My own hands rear for food;
And the bread so light, and the honey white,
And the milk so pure and good!
For sweet the bread of labor is,
When the heart is strong and true,
And the blessings will come to the hearth and home
If our best we bravely do."

Loosening Glass Stoppers.

The glass stopper to a bottle often becomes so firmly fixed that it resists all ordinary efforts to remove it. Many methods are given, such as a sudden tap with a hard stick, the neck of the bottle surrounded by a cloth wet with hot water, etc. When all these have failed, I have always succeeded by saturating a thread with sulphuric ether, surrounding the neck of the bottle with the thread, and touching a lighted match to it. As soon as extinguished, the cork can be lifted with ease. I have never seen this method in print, and give it, hoping others will be relieved from the vexation of giving up all hope of removing a glass stopper from a bottle of value, or containing valuable drugs, as I have known this vexation until I made this discovery in 1880.

The young man who was kicked out by his sweetheart's father, says, "I had no objection to the old woman's shoe being thrown after us when the wedding was over, but tossing the old man's boot before the event is quite another affair, and it hurt my feelings."

Family Circle.

HETTY.

A STORY.

(Concluded.)

The cousins went to church together, and I staid with Mrs. Deacon meanwhile, listening with quiet yet keen attention to reminiscences of bygone days—of Jack's boyhood—of Hetty's girlhood.

"Jack was the orphan son of Mr. Deacon's only sister, and was never grudging nothing no more than if he'd been our own," said my informant with a certain air of pride in the late Mr. Deacon's generosity toward his wife's kin. Jack had not been unmindful of these benefits received, and when the evil days came many a welcome bit of help did he send to his more than mother.

"Never forgetting Hetty," added Mrs. Deacon, complacently. "He's main fond of Hetty, is Jack, I can tell you."

This last remark was made with a certain gentle defiance, and the dim eyes were turned to me with a sort of wistful hope that I might make some further comment. But I had none to make.

I read the mother's hopes and fears; I read my dear girl's heart; but I kept silence. The evening was warm and still; from the far distance came the sound of church-bells pealing; from somewhere near at hand the sound of an organ and of hymn-singing. Mrs. Deacon had fallen into a doze, and as I sat there waiting for the cousins to come home, a mist came over my eyes, something rose in my throat and tried to choke me, and a voice in my heart cried out: "Oh, Hetty, Hetty—what can I do for you, my dearie?"

The Summer was at its height. In Western London the great folks were setting themselves to think where they should go for their Autumn outing. We folks at the East End just had to make the best of things, and be grateful for small mercies such as water-carts to lay the dust, and the peripatetic ice-vendor with his truck and little tumbler of lemon and strawberry.

I had got to know Cousin Jack quite well by this time. I was able to read "between the lines" in my dear girl's heart-story.

Hetty was very dear to her sailor cousin; dear, as things weak and helpless are apt to be dear to the strong; dearer because of her affliction; sacred, in his eyes, as a suffering child is sacred to all of us who know the beauty of tenderness and pity. Hetty was all this to her cousin Jack, but nothing more.

Of what Jack was to Hetty I cannot speak. I dared not try to gauge it at the time. I put the thought of it from me, as we put aside a thing we dare not look upon—that is, for a time.

The day came when I had to take my courage by both hands, and face all the cruel truth: for the young sailor took a great fancy to me, though I was a little old woman with a Quakerish cap and a shabby gown. Not only so, but he opened his heart to me.

We were walking side by side in the park, where everything looked parched and dried up with the baking heat, when Jack first told me that after the voyage upon which he was just about to start, he was going to be married. "I hope Aunt Ann and Hetty won't take it unkind that I haven't told them all about it from the first," he said, doubtfully; "but, to say the truth, Miss Heath, I find it a difficult thing to tell. I want them to be quite sure that I shall never be any different to them; that I shall always be the same Cousin Jack. I am so afraid they will fancy—all kinds of things."

"I don't think they will fancy anything that is not true," I put in, perhaps with more warmth than wisdom. "Do you mean to say you think so meanly of me as to suppose I shall forget those two dear, gentle women, just because I have a home and wife of my own?" "No," I said, looking up into his brave and bonnie face—"No you will not forget them; but, it cannot be the same—it never is."

We paced up and down and talked together a long while after this. It was dusk and gray when we went in, I to my own lonely room, Jack to supper with Mrs. Deacon and Hetty. Once alone, I sat down in the dark, untied my bonnet-strings and fung them back, unfastened my shawl and let it fall over my chair.

I was stifling—choking; I felt like the veriest coward that ever drew breath. I had a task before me from which I shrank with every nerve of my poor little shriveled body—the hardest task that had ever been set me yet: to wound cruelly the one creature I loved on earth.

And yet it must be done.

The womanly pride and self-respect of a sister-woman is dear to any woman worth the name. Jack must not tell this thing to Hetty. The girl's secret was safe so far. It should be my work to keep it so.

It was the following night. Hetty had come to pay me a visit. I had been listening to the account of a grand historical picture in which she was to figure.

I let her talk on till the room grew dim and shadowy with the coming of the Summer night, which was but a picture done in grays at its deepest, and no black shades at all.

I let its misty blue-gray veil fall on my girl's sweet face before I told my sorry tale, before I redeemed the pledge made to my own heart the night before.

She played up to my hand herself. "You and Jack had a long talk last night, Patience." "Yes. Sit down here in this low chair by my knee while I tell you what it was all about."

Hetty was between the window and me. The perfect profile showed like a silhouette against the dusky gloom outside.

"We were talking about you."

The silhouette was turned away from me. Hetty's voice was faint and breathless.

"About me?"

"Yes. Jack was telling me about you when you were a little girl—how he used to carry you about; how dearly he loved you."

My task was even harder than I thought it would be. I dare not touch Hetty's hands—those meek hands—long, slender, helpless, folded in her lap, for my own were cold and trembling.

"He was very, very good to me, always."

"Yes; and I am sure he always will be. He told me last night that he felt you had a stronger, deeper claim upon a man's tenderness than any other woman could have."

"Because I am—different to other women?"

"Yes; set apart, as it were; sacred; doomed to a certain extent to stand alone in the world, without those nearer ties—"

"He meant that I ought never to marry?"

your stead I would; but I cannot—I cannot; no one can."

The white face lay back against my bosom. Hetty's eyes were closed. I could see the wonderful silky length of their long lashes even in that faint and feeble light.

Had the cruel blow killed her? Had I lost the one thing I loved on earth?

No, for her arms close about my neck; fast—fast and close she holds me.

Tears ran down her poor pale face; sobs choke her utterance.

It is best so, and I let her weep on.

At last she speaks:

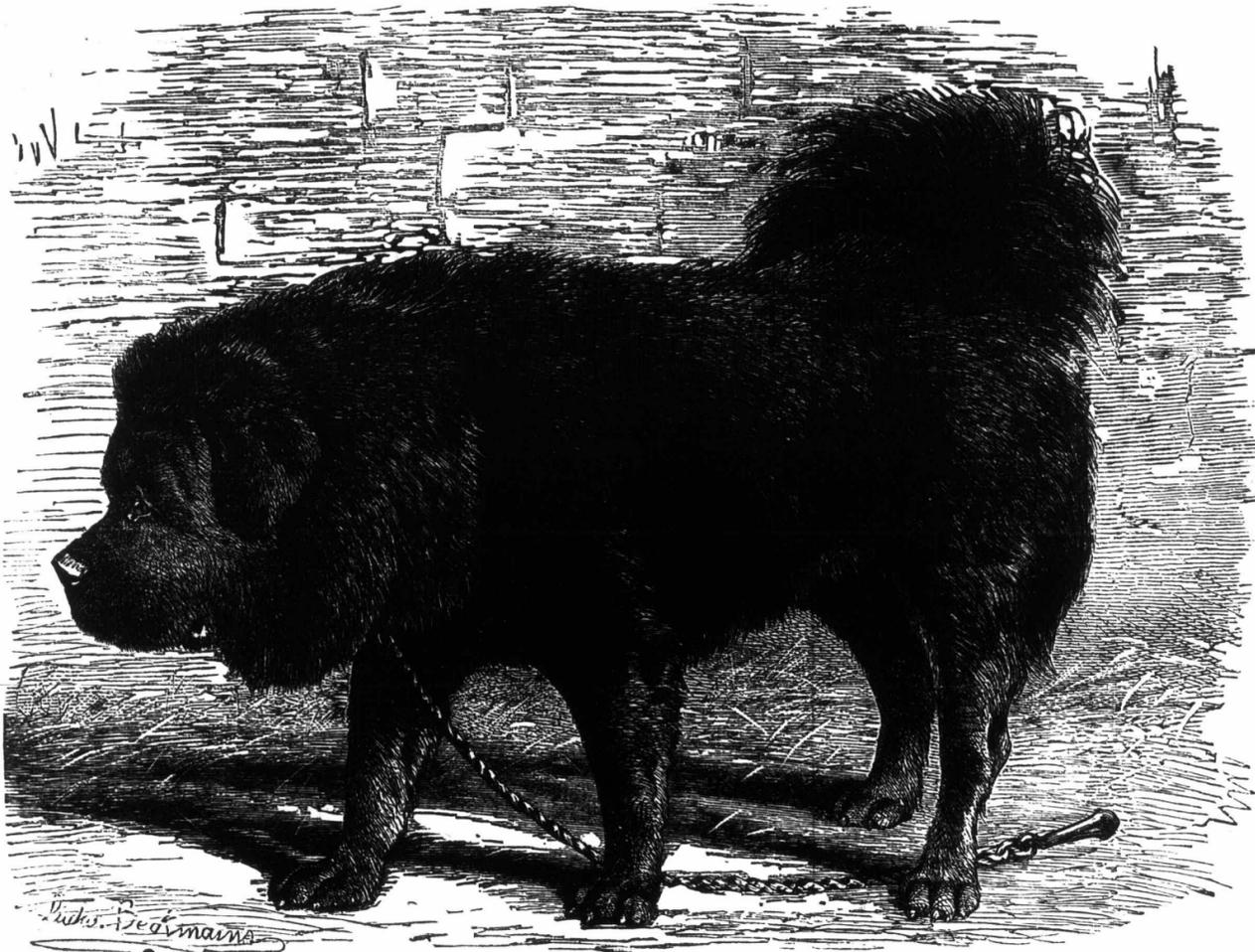
"It must have hurt you terribly to say all this to me.

You did it, I know, to save me from myself. How good you are to me, my dear! I have been wrong; I have been selfish, thoughtless, wicked; but he grew so dear—

so dear that I forgot, quite forgot that my life must be different to that of all other women forever. See," she went on, drawing a little packet from the bosom of her dress, "this is the posy he wore that happy Sunday when he and I went to church together, and the bells rang sweetly, oh, so sweetly, and all the world about me seemed full of music."

The Thibet Dog.

The peculiar dogs of Thibet have frequently been described by travellers, and generally the size and strength of the same have been exaggerated. A very fine specimen of these animals was exhibited at the Vienna Dog Show, a picture of which is given herewith. The animal is about as high as a large pointer or setter, and has some resemblance to those Newfoundland dogs known as "Labrador dogs." His long, thick, and soft hair lies closely against his body and is not kinked; the color is a deep, brilliant, glossy black, with yellow spots over the eyes and light colored spots on the paws. The



THE THIBET DOG.

I could not see Hetty's face. I saw the folded hands clasping each other closer and closer. Once I felt a shudder shake the poor misshapen frame that made my dearest girl "different to other women."

Said I not rightly that my task was hard?

"Yes; he meant that your life was different to others."

"Yes; I had forgotten."

A long, deeply drawn breath told me my arrow had gone home.

"And so, just because he holds you in such reverence, such tenderness; just because he is so ready to fear you might fancy he might change to you, it is hard for him to tell you—"

She turned her face—white in the gray ghastly light—fully toward me. Her eyes wild, wide, full of fear met mine. She threw up her hands as if to keep off some horrible knowledge that threatened to crush her to the earth.

All my courage, all my calmness, forsook me.

"Oh, Hetty, Hetty!" I cried, flinging my arms about her, gathering her to my breast, rocking her to and fro as one would a sick and weary child. "It is true what you think, what you fear. Oh, my darling! If I could suffer in

All this happened many, many years ago.

Hetty and I live together now.

We have done so a long while; ever since Mrs. Deacon died.

Jack's marriage turned out a very happy one, and his children dote upon and tyrannize over their Aunt Hetty beyond anything I ever saw.

Not only so, but their father has the same gentle, loving tenderness, the same reverential love for his old playmate—the woman who is "different from others"—as ever he had.

The withered posy still lies in a corner of Hetty's desk. I know, for I have seen it many times and oft.

It serves, I doubt not, to remind her that she once forgot—once loved but too well, and then lived her sorrow down and took up her life as it had been ordered for her—as a brave woman should.

My tale has no plot in it after all. It is not half as full of incident as those I used to write in Paradise-place, while the hoarse dog put me out by his barking and the lark cheered me up with his song. It is only the story of one woman's heart, told by another woman who loved her dearly and loves her dearly still.—*All the Year Round.*

wrinkled forehead, the small eyes, and hanging upper lip give the animal a threatening appearance, which corresponds with its ugly and vicious disposition.

These animals have generally been known as "Thibet hounds;" but this name is not correct, for although they resemble hounds somewhat in their appearance, they do not belong to this class of dogs.

The wise gardener never allows any soap-suds to be wasted. It is a valuable fertilizer for all forms of vegetation, and is especially serviceable for small fruits.

Minnie May's Department.

MY DEAR NIECES,— We are greatly pleased to find what a deep interest is manifested by our young friends, both far and near, in the essays for which each month we offer a prize. Though but a short time since we began, the letters piled upon our desk each month present such a formidable appearance that we feel almost unequal to the task of weighing the merits of the different competitors. So, dear girls, because we have considered some other essay a little more deserving than yours, and have awarded it the prize, do not think that your efforts have been all in vain. Far from it. We cannot do everything with equal perfection. Some of you may write better upon one subject and some another, so "if at first you don't succeed, try, try again," and you may come off with flying colors after all.

Now, to those who have not yet made an attempt—none can tell of what they are capable until the trial is made. Such things awaken the powers of thought, which might otherwise lie dormant, therefore make a thorough search into all the little corners and crevices of your mind, and see if you cannot find some treasures stored away, about which even you had almost forgotten. Then give your fellow beings the benefit of them, instead of allowing them to rust with time.

That all may have a chance, the householder as well as the young school-girl, we intend varying our subjects. This month we offer a prize of a handsome silver pickle-cruet for the best method of canning or preserving our common fruits, as rhubarb, strawberries, currants, gooseberries, cherries, apples, peaches, etc., stating which method is best adapted to the fruits. We refer strictly to fruits, and will deal with vegetables in a later number.

The prize of a silver napkin-ring, with winner's initials engraved, for the essay on woman's influence, has been awarded to MISS BERTHA WILSON, of Hensall, Ont. We hope to receive a greater number of letters than ever this month; kindly bear in mind that all communications must be in by the 25th of June. MINNIE MAY.

A Summer House.

Most people who have grounds to adorn, want and frequently build summer houses. The above is a very pretty design, and will greatly add to the embellishment of any country place, besides being a quiet and cool retreat on a hot summer day. Different varieties of climbers and vines, such as honeysuckles, Virginia creepers, climbing roses, etc., should be planted around and trained over it early in spring. We advise those who have not already one of these attractive rustic arbors, to erect one at once, which can be done at a very little trouble or expense.

He would not marry her because she had false teeth. But when his wife kept him awake nights with toothache and neuralgia he wished he had.

**PRIZE ESSAY.
Woman's Influence.**

BY MISS BERTHA WILSON, HENSALL, ONT.

A woman's influence! What a glorious heritage! We stand by the cradle of a babe which has been pronounced "only a girl," and are borne by thought through the various phases of a woman's life. Daughter, sister, wife and mother—who shall measure the sphere of this tiny life? Who can conceive the achievements of those tiny hands? Pause and consider; this great gift, woman's influence, is ours; it is not only an element of our nature, but its principle—a force for weal or woe—a blessing or a curse. We can make it either, but for the effects of our choice we are responsible. A woman's influence over home-life is undisputed. It was a mind rich in noble thoughts that said, "The hand that rocks the



A SUMMER HOUSE.

cradle moves the world." The influence of a mother for weal or woe can not be estimated; she is the sculptor who adorns the temple, leaving it fit for the in-dwelling of a God, or filled with a rubbishy years of toil cannot eradicate. It is a woman's province to give

"Domestic life its sweetest charm,
With softness polish and with virtue warm."

Home is her platform, from which she speaks to the world. It is such lives as Susanna Wesley's that wear a halo time can never dim. See her snatching an hour morning and evening amid the cares of domestic life, to search for strength from the source of all wisdom for the moulding of the diverse characters entrusted to her care; the force of a cultivated mind and heart aided by refinement and personal beauty, concentrated on this home life—and behold the fruits! Grateful thousands testify to its rich munificence. Looking at that woman now, we are inclined to pronounce her perfect, judging from the completeness of her work. But her immediate sphere was limited; we see but the grand result, we do not see the prosaic details.

The name of Florence Nightingale is synonymous with all that is true and pure, yet we know not over what mire she climbed to the heights at which we behold her; we only know that our lives are filled with sordid cares and petty vices, that seem to clog the wings of every good endeavor. A true woman's life is a continual sacrifice of self; she is but a victim immolated on the altar of her affections. As soon as she becomes a wife, her life, almost her identity sometimes, is absorbed in her husband's; she merges her whole existence in his, taking on an added responsibility for the form and color which she brings to it. Chroniclers say that Queen Victoria wept when called to wear the crown of England, so intense was her appreciation of the great work before her, and her knowledge of her own weakness. Is not this the spirit with which each woman should receive the crown and sceptre of a husband's heart and home? What jewel can be

too rare to adorn this palace? What talent too precious to be used in governing this kingdom, whose well being demands that she spend and be spent in its service? Woman is so apt to neglect the many ways by which she can not only get, but keep, her empire over the heart. No woman likes to lose a lover when she wins a husband. Then let us rally our forces. By all means let us go in for culture; culture of heart, and head and hand. Let us look keenly into our own lives, cultivate each little germ of good, bring it to perfection, make it flower—prune here and foster there, till the whole character becomes rounded out to beautiful symmetry. Mind is the motive power. We must see that our mental food is strong and nutritious, fit to sustain the perfect womanhood after which we yearn. Personal beauty is a power for good; "a thing of beauty is a joy forever." A few strokes of an artist's pencil can render a scrap of paper invaluable; some may put labor and expense on a picture and produce but paint and surface. The truth and genius

that render a few strokes immortal are lacking. So a cultivated mind and heart are the essential properties of true personal beauty. "Soul is form and doth the body make"—so says Spenser; and how many people do we know who might be plain but for the light of a noble soul shining through! Let us cultivate beauty; it is an added force—the work that is possible is so immense, our individual efforts are so puny. England is judged as a nation by the nations; but God does not lose sight of the poor human atoms. Then, sisters, one and all take courage.

"Strive; yet I do not promise
The prize you dream of to-day,
Will not fade when you think to grasp it,
And melt in your hand away;
But another, and holier treasure
You would now perchance disdain,
Will come when your toil is over
And pay you for all your pain.

Wait; yet I do not tell you
The hour you long for now,
Will not come with its radiance banished,
And a shadow upon its brow.
Yet, far through the misty future,
With a crown of starry light,

An hour of joy you know not
Is winging her silent flight.

"Pray; though the gift you ask for
May never comfort your fears—
May never repay your pleading—
Yet pray, and with patient tears;
An answer, not that you long for,
But diviner, will come one day;
Your eyes are too dim to see it,
Yet strive, and wait, and pray.

Answers to Inquirers.

Mrs. F. H.—Wishes to know how to cook egg plant. We give two recipes. 1st.—Boil until soft, and scoop out the inside and season; take a tablespoonful at a time, dip in egg and bread crumbs, and fry in hot lard. 2nd.—Boil until tender, scoop out the inside, mash fine, and to every cupful add a tablespoonful of cracker crumbs, a teaspoonful of butter, and pepper and salt to taste; put into a dish for the table; beat an egg very light and spread part over the top of the dish, then sprinkle with rolled crackers, and lastly spread the remainder of the egg and set into the oven to brown.

Mrs. JOHN R.—Your request will be inserted among queries.

J. GRANT, JR.—There are many methods of protecting furs from moths. Pepper sprinkled over the fur, and cedar and camphor are all good remedies. But one important thing is to have them securely done up in cotton cloth, and kept in a dry place.

R. A. E.—Pimples on the face show a bad state of the blood, and we know of no better cure than sulphur, cream of tartar, salts, molasses and a little spirits, which any druggist would prepare in the proper portions, and give directions as to the required doses.

A READER WRITES:—Will you let me know through the ediquett column of your valuable paper and and oblige. Eff I gave a yong lady of about seventeen years a present of any thing have I a claim on her second have she a claim on me third if a young man goes with a girl for some time and then leaves her can she force him to marry forth when a young man escorts a lady home in the evening what time or how long would be proper for him to stop fifth what would be the proper way of asking a lady to see her home when introduced to a lady should you rise at your feet in speaking to a lady should you offer your hand or not what age shoud a lady be to get married when walking house with a lady should we be locked arms and in what way

ANS.—1st. Certainly not; don't entertain such an absurd idea. 2nd. By no means, and we are sure no sensible girl would desire it. 3rd. We do not know what "going with a girl" means. If it is being engaged we should think the lady so fortunate in her escape of such a life-partner that she would have no desire to use force in the matter. 4th. It depends upon the hour; if late or the family retire early you should leave immediately, neither enter nor hang on the gate, otherwise you might be assisted off by the old gentleman's boot or the family watch dog. 5th. Have you an escort? or may I see you home? 6th. Whose feet? surely you don't mean your own, for their proper place is always on the floor; certainly you should rise to your feet and remain standing until the lady

is seated. 7th. A lady may marry any time from the age of seventeen to seventy-five, when it suits her convenience or opportunity. The latter age would be quite time enough to marry some men we have heard of. 8th. As to your last question, there is no objection to locking arms if agreeable to the lady, and we think a good strong padlock would answer, but if in her place we should much prefer the width of the road between us. If "Reader" would in future spend less time on such nonsense and apply himself to his copy-book, spelling book and grammar it would be much better for him, and with great diligence he may in time gain a little common sense.

ELOCUTIONIST.—Your question will be entered under queries.

A CONSTANT READER.—Would like to know the cause and cure of warts? ANS.—The cause of common warts is not known; in some cases the blood from them is capable of producing similar warts, when applied to the skin. They are so apt to disappear, that they may be often left to themselves. If it is desired to remove them, glacial acetic acid is perhaps the best remedy; it must be applied with a camel-hair pencil till the wart is pretty well sodden, care being taken not to blister the neighboring skin. One or two applications are usually sufficient. Nitrate of silver and tincture of iron are also used.

F. W. wishes to know if it is the moth miller, or the worm which damages woolen goods; does the miller produce the worm or the worm the miller; and what will keep away these insects? ANS.—It is the worm that does the mischief; the miller eats nothing; its business is to seek dark places where it may lay its eggs upon woolen substances or in dust or fluff or feathers. It then dies. The egg becomes a little worm which feeds upon wool and spins itself a little grayish cocoon which it hangs by one end in a dark safe place, usually where it has been feeding. In a few days it becomes a small brown grub, and from that it changes in a short time into a miller, which again emerges from the cocoon, and so begins the round again. The only safety from them is to put all woolen goods away in close boxes or drawers, and keep none in dark closets, and to sweep carpets often.

Queries.

Mrs. JOHN R.—Will be greatly obliged if some of our readers will send the words of the poem beginning thus:

"Sleep, little baby, sleep,
Not in thy cradle bed;
Not on thy mother's breast
Henceforth shall be thy rest,
But with the quiet dead."

They were published in the old fifth reader before the one now in use.

ELOCUTIONIST.—Wishes to know the author of the piece of poetry entitled "Darius Green and his Flying Machine," and where it can be procured.

Recipes.

SPONGE DROPS.—Beat to a froth 3 eggs and 1 tea-cup of sugar. Stir in 1 heaping coffee-cup of flour, in which 1 teaspoonful of cream of tartar and ½ teaspoonful of soda are mixed. Flavor with lemon. Butter tin sheets and drop in teaspoonfuls about three inches apart.

Bake instantly in a quick oven. Watch closely, as they will burn easily.

BERL CAKE.—2 tablespoonfuls of butter, whites of 3 eggs, 1 cup sugar, ½ cup of milk, ½ cup corn starch, 1 cup flour, ½ teaspoon of soda, ½ teaspoon of cream of tartar.

DEW DROPS.—1 cup sugar, 2 eggs, 4 tablespoonfuls sweet milk, 1 teaspoon soda, 2 of cream of tartar, salt, roll in balls and fry in hot lard. When done roll in sugar.

FRUIT PUDDINGS.—1 qt. of flour, ½ pint milk, 1 cup chopped suet, a little salt and 2 tablespoonfuls of baking powder. This may be made into a roly-poly, with any kind of fresh fruit or preserves, and steamed; or line a buttered mold with this crust, fill it with berries, apples, rhubarb, cherries or any canned or preserved fruit. Cover with a crust and steam or bake.

ICE CREAM.—Made with cream is richer than with milk; with eggs it is better and richer than without. The addition of starch or arrowroot injures.—1 qt. of milk or cream, 4 to 6 eggs, 8 to 14 oz. of granulated sugar. Beat the eggs and sugar well together, put the milk into a tin can or pail, and set it into boiling water; when it boils stir in the eggs and let it just come into a boil, then strain and flavor with any desired extract or the juice of fresh strawberries, lemons, pine-apple, etc.; put it in cold water to cool and then freeze. A very good freezer may be made by using a tin pail with a tight fitting cover put into a tub of ice or snow and salt. Whirl often, and scrape from the sides as fast as it freezes. Frequent stirring makes a fine grain. Less eggs may be used by substituting one table-spoonful of corn starch in place of each egg, moisten the starch with a little cold milk, and stir into the boiling milk, with the egg and sugar.

BOSTON CREAM MUFFINS.—1 quart of cream, if sour the better, 4 eggs, flour enough for a thick batter, 1 teaspoonful of soda, 1 small teaspoonful of salt. Stir the eggs well beaten with cream, add gradually the sifted flour, then the salt. Dissolve the soda in as much vinegar as will cover it; stir it in last. Bake in muffin rings on a hot griddle. Send to table hot. Pull open, butter and eat them.

Care of Children in Summer.

The hot weather is especially troublesome to young children and infants, and as the little tender creatures cannot tell their pains and discomforts, they whine and fret, and are thought to be cross and ill-tempered, when they are really suffering. A little care and precaution will tend to relieve them very much. A strip of flannel buttoned about the loins, will be of great service in preventing stomach aches, diarrhea, and to feed little and often, will avoid much discomfort to them. Nursing infants should be supplied often, and with but little at the time, but not too often; once in three hours is enough for them, and the mother should be very careful about her own health and comfort, lest the child suffer with her. Children a year old should be fed upon milk with one half water added; an excellent food for them is made by boiling a pound of dry flour, tied up in a cloth for four hours, and when cold kept for use as follows: grate off a sufficient quantity, stir it into milk

and water, and boil for five minutes to a thin gruel, add sugar, and give it out when new-milk warm. Hot milk sipped from a teaspoon is excellent, given in small quantities now and then. Nursing bottles should be kept in a bowl of water to which a teaspoonful of soda is added to keep it sweet. Avoid all sour food. Bathe in tepid water every evening, before bed-time. Keep one room in the house dark and closed during the day-time, and well aired during the night. It will be cool and free from flies, and the children may rest there when tired in the afternoon.

Christmas Eve.

BY EUGENE J. HALL.

In an old New England kitchen, where a warm wood fire burned bright,
Sat good old Farmer Ketchum, and his wife,
One winter night.
The wind without was wailing, with a wild and woeful sound,
And the fleecy folds of the drifting snow lay deep upon the ground.
But what cared Farmer Ketchum for the tumult out of doors,
For he had foddered the cattle and done the other chores;
And snug in the chimney corner in his easy chair he sat,
Silently smoking his old clay pipe and pouring the purring cat.
While plying her knitting needles, his wife rocked to and fro,
Humming a hymn and dreaming a dream of the long ago.
Over the old-time fire place, a rusty musket hung,
And a score of strings of apples from the smoky ceiling swung;
While back in a dingy corner, the tall clock ticked away,
And looked like the sagging farm house, fast falling to decay.
The knitting fell from the woman's hands, the old man turned about,
He took his pipe from his mouth, and he slowly knocked the ashes out,
And after thinking a moment, he said, with a solemn air:
"Tis *Christmas Eve*, but the stockings don't hang by the chimney there."

The woman sighed, and then replied, in a sad and faltering tone:
"The years have come an' the years have gone, an' we are ag'in alone,
An' I have jest been thinkin' of a Christmas long ago,
When the winders were frosted over, an' the ground was white with snow.
When we sot in the chimney corner, by the firelight's cheerful gleam;
When our lives were full o' promise, an' the future but a dream;
When all o' the rest o' our folks had gone away to bed,
An' we sot an' looked, an' I listened to the whispered words you said,
Till home from Benson's store came rollickin' brother John,
An' a peekin' thru' the winder, saw what was going on.
Then how the neighbors tattled an' talked all over town,
Till you an' I was married, an' quietly settled down."

"While a-rummagin' through the cobwebs in the garret t'other day,
I found a pile o' broken toys in a corner stowed away,
An' a lot o' leetle worn out boots a layin' in a heap,
As they used to lay on the kitchen floor when the boys had gone to sleep.
I looked at the worn out trundle, an' the cradle long laid by,

An' leanin' agin the chimney there, I couldn't help but cry;
For the faces o' my children came back to me once more,
An' I almost heard the patter o' their feet upon the floor.
I thought o' their happy voices, an' the leetle prayers they said,
As they used to gather 'round me when 'twas time to go to bed.

"Of all the earthly treasures we prize in the world below,
The ones we love the fondest are the first to fade and go.
Of all the beautiful children that came to our fireside,
The one we loved most dearly was our leetle girl that died.
Her eyes were blue, an' soft as the hue o' the cloudless summer air,
An' bright as a gleam o' golden light were her curls o' shinin' hair;
Her thoughtful face was white as the flakes o' the newly fallen snow,
Too much o' a leetle saint she was to live in the world below.
How calm in her leetle coffin she looked in her last repose,
As sweet as the fairest lily, as pure as a tuber rose;
An' I can well remember the sadness o' the day,
When my heart was well nigh broken as they carried her away.

"The eldest o' our children was a proud an' handsome boy,
He was his father's brightest hope, an' his mother's pride an' joy.
I used to play with his chubby hands an' kiss his leetle feet,
An' wonder if ever a babe was born more beautiful and sweet;
An' many a night by candle light, when he was snug in bed,
I've patched his leetle clothes, with weary hands an' aching head.
We sent him away to college—he did uncommonly well—
Till he went to live in the city, an' married a city belle.
Of all our earthly trials, of all our earthly care,
The cold neglect o' a thankless child is the hardest o' all to bear.
His wife is a woman with only high notions in her head,
She couldn't knit a stockin', nor make a loaf o' bread;
She plays on the pianer, nor works with her lily white hands,
An' she talks in a foreign lingo that no one understands.

"The youngest o' our livin' boys I never could understand,
He didn't take to larnin' no more'n a fish to land;
He was wayward an' hard to govern, not altogether bad,
He was strong an' proud an' set in his ways, but not a vicious lad;
An' somehow we couldn't keep him quite under our control.
But I know he had a tender heart, an' a good an' noble soul,
An' a mother's prayers will go with him, wherever he may be—
God keep him safe an' bring him home in His good time to me.

"I miss our children's voices, for all have gone away;
One has gone to the better land, an' the rest have gone astray.
I wonder if up in heaven, where all is bright and fair,
If we will meet our children an' they will love us there."

There was a rap at the outside door, the old folks gave a start,
The woman sprang from her rocking chair with a flutter at her heart.

The door swung widely open, and banged against the wall,
And into the farm house kitchen strode a stranger dark and tall.
The woman looked at his bearded face a moment in surprise,
She saw a quiver about his mouth, and a glad look in his eyes;
And lifting up her hands to heaven, she uttered a cry of joy,
And bowed her white head lovingly on the breast of her wayward boy.

The red flames roared upon the hearth, the beech logs cracked and steamed,
And on the floor and time-worn walls the fire-light glowed and gleamed;
That old New England kitchen had never been more bright,
Than it was to Farmer Ketchum and his wife that winter night.

Notices.

We are now pluming our wings for flight to different localities, and might alight in your section of the sountry at any time. We never can fill one-tenth part of the calls now made, but must select those points that we deem of the greatest interest and importance to the numerous readers of this journal, and as far as time and circumstances will permit, visit as many places this year as possible, but as yet are undecided whether we shall be able to leave Ontario and visit the Maritime Provinces, British Columbia or the North-west. During last summer we visited the Province of Quebec, accompanied by our artist. In order to make these visits more interesting and valuable to the readers of the FARMER'S ADVOCATE, we will, at the request of five or more of our subscribers, deliver a short address at any of the places visited.

Now is the time to procure and use the Field Force Pump for spraying fruit trees, watering gardens, etc. Send for a catalogue to the makers in the U. S. A., or to Waterous Engine Co., Brantford, Ont. See advt.

Messrs. E. Leonard & Son, on 30th ult., shipped to Messrs. Wm. Tallman & Son, of Beamsville, one 20-horse power stationary engine and one 25-horse power steel boiler, together with one of Tiffany's Centennial Brick and Tile Machines, of which they are the sole Canadian makers. They report business rather brisk at present, and intend making some large shipments to New Brunswick and Nova Scotia in the course of a week or two.

The Art Amateur for May has been laid on our table, and proves as attractive and meritorious as ever. For any one interested in "Art in the Household," the Art Amateur is indispensable. Besides the usual contents this number has an excellent supplement, with designs for red chalk drawing, panel design for wood carving, panel roses for china painting, brass plaque design, etc., which gives but little idea of the variety and uniqueness of the issue. Certainly the Editor, Montague Marks, is to be congratulated on his great success in building up a really deserving art monthly.

The Ninth Annual Session of the American Association of nurserymen, florists, seedsmen and kindred interests will be held in the city of Chicago, commencing Wednesday, June 18th, 1884, continuing three days.

Continued on page 184.

Uncle Tom's Department.

MY DEAR NEPHEWS AND NIECES,—Just fancy! June is here already, and almost before we know it the year will be gone. Now, then, children, work real hard with the puzzles for the next six months, and let us have a lively contest for the prizes. Some of you who are yet behind may come forward and beat even those who commenced last January. It is the quantity of correct answers to puzzles that counts, and quality, not quantity, of original puzzles. I have a few questions to answer, so will proceed. The correct way to present your puzzles and answers should be neat and in rotation. Any of you can make and send an illustrated rebus if you like, but it must be a good motto and well drawn, and something that has not appeared. I do not see how some letters get astray, but I publish the names of all those from whom I receive one or more correct answers. Address plainly, "Uncle Tom, FARMER'S ADVOCATE, London, Ont."

You thought last month's puzzles hard. I hope these will suit. Now, try and make them all out. **UNCLE TOM.**

Puzzles.

2—CHARADE.

My first is often eaten
With potatoes and eggs,
Although you sometimes see it
Going on legs.
My second every person is
When they do not feel well:
My third is very heavy,
But this is all I'll tell.
Now, if you join all these aright,
A city in Canada they'll bring to
sight. **A. J. TAYLOR.**

3—DROP-VOWEL PUZZLE.

-h wh-l- y- f- l- t-s h-rd t-
t- l-
-nd l-b-r -ll d-y thr- -gh
r-m-mb-r -t -s h-rd-r st-ll
t- h-v- n- w-rk t- d-

CASSIE L. MCSORLEY.

4—SQUARE WORD.

1. Part of every carpet.
2. An open space.
3. Used in guiding horses.
4. A short breathing.

HENRY REEVE.

5—DIAMOND PUZZLE.

1. A consonant.
2. A boy's name.
3. A small hill.
4. To travel.
5. Metal coined for traffic.
6. A boy's name.
7. A vowel.

MINNIE E. WELDON.

6—A ZIGZAG PUZZLE.

Form of Puzzle.

Firstly, I mean wise. O . . .
Secondly, " a State. . . O . . .
Thirdly, " to kill. . . O . . .
Fourthly, " man's name. . . O . . .
Fifthly, " sound. . . O . . .
Sixthly, " a dish. . . O . . .
Seventhly, " a river (Egypt) O . . .
Whole, I am a river of Ireland.

ARCHIE SHIPLEY.

7—TRANSPOSITION.

Het ocetavad, si a peslddin ruojnla.
Si todne orf sti nolkegwde dan nuf.
Os i isarde lal oppeel ot rty ti,
Ti ilwl eeplsa oyu ohtl lod kosfl dan ougny.
ADA HAGAR.

8—TRANSPOSITION.

Mohs si taht saarpide woleb
Fo neinsshu nad fo worlefs,
Erhew wolhelad yosj nerlinape olwf
Yb lacm teereedquss rosbew.

MAGGIE F. ELLIOTT.

9—NUMERICAL ENIGMA.

My 4, 8, 7, 12 is a coin.
My 3, 8, 6, 1 is a dagger.
My 10, 11, 5, 12, 6 is to direct.
My 13, 5, 2, 9, 3, 12, 5, 6 is an animal.
My 4, 2, 6, 5 is dismal.
Whole is a place noted for the manufacture
of carpets. **ADA ARMAND.**

10—BEHEADING.

My whole is what you do with your eyes
When you look at a bright light;
Behead now, and a kind of ring
My next will bring to sight;
Behead again, and you will see
What printers always use;
If you curtail me now, you'll find
A preposition I'll disclose.

A. J. TAYLOR.

Answers to May Puzzles.

1. Righteousness exalteth a nation.
2. Triumphant arch that fill'st the sky
When storms prepare to part,
I ask not proud philosophy
To teach me what thou art.
3. Parliament.



1—ILLUSTRATED REBUS.

4. J U R A
U R A L
R A M P
A L P S

5. B A V A R I A
A S H E R
V A T
A
M A R
U J I J I
S U M A T R A

6. Sackville.
7. Crab-bed.
8. Owl, robin, canary, cuckoo.
9. As a tree falls so it must lie,
As a man lives so must he die,
As a man dies so must he be
Unto the end of eternity.

Names of Those Who Have Sent Correct Answers to May Puzzles.

Jas. Watson, Mary S. Burns, Walter R. Burns, Arthur J. Burns, Sarah H. Pickett, Carrie Christner, Wm. S. Howell, David McRae, Christena Haddock, Wm. Bell, Mark Dearing, Katie Miller, Robert Kerr, Phillip Harding, C. Gertie Heck, Lottie Agnes Boss, Fred. D. Boss, Thos. Armstrong, Isabella McLeod, Elmon M. Moyer, Minnie E. Watson, Susie E. McCallum, Agnes M. Frood, Mary Marshall, Chas. H. Foster, Aggie Willson, Georgina Smith, Lottie Crawford, Belle Richardson, Geo. Pardo, Becca Lowry, Annie

B. S. Scott, Mary McElroy, Adelaide Manning, Sarah E. Miller, Jessie M. Fox, Esther L. Ryan, Eva C. Kelly, Will Thirlwall, Jas. Paterson, Jas. Cowan, Ada Armand, Minnie E. Weldon, Ada Hager, Sarah M. Brett, Maggie F. Elliott, Maggie E. Stenhouse, Neil McEwen, Archie Shipley, Mary McArthur, Peter Lamb, R. J. Risk, Tiny Docker, Robert Wilson, Isabella Heron, Sarah Wessel, G. B. Van Blaricom, Henry Reeve, A. J. Taylor, M. C. S., Wm. Carney, Amelia E. Walker, Robert Kennedy, Mary B. Currie, Byron G. Bowerman, J. W. Forbes, Harry A. Woodworth, Philip Boulton, Wilson Sissons, Addie Davidson, Eva J. E. Henderson, R. Scott, W. M. Head.

How Tony Sold Rosebuds.

He was only a dog, but a very smart dog, indeed. He belonged to the class known as Shepherd dogs, which are noted for their sagacity and fidelity. His master was a little Italian boy, called Beppo, who earned his living by selling flowers on the street.

Tony was very fond of Beppo, who had been his master ever since he was a puppy, and Beppo had never failed to share his crust with his good dog.

Now, Tony had grown to be a large, strong dog, and took as much care of Beppo as Beppo took of him. Often, while standing on the corner with his basket on his arm, waiting for a customer, Beppo would feel inclined to cry for very loneliness; but Tony seemed to know when the "blues" came, and would lick his master's hand, as much as to say, "You've got me for a friend. Cheer up! I'm better than nobody! I'll stand by you!"

But one day it happened that when the other boys who shared the dark cellar-home with Beppo, went out early in morning as usual, Beppo was so ill that he could hardly lift his head from the straw on which he slept. He felt that he would be unable to sell flowers that day. What

to do he did not know.

Tony did his best to comfort him; but the tears would gather in his eyes, and it was with the greatest difficulty that he at last forced himself to get up and go to the florist, who lived near by, for the usual supply of buds. Having filled his basket, the boy went home again and tied it around Tony's neck. Then he looked at the dog and said:

"Now, Tony, you are the only fellow I've got to depend on. Go and sell my flowers for me and bring the money home safe, and don't let any one steal anything." Then he kissed the dog and pointed to the door.

Tony trotted out in the street to Beppo's usual corner, where he took his stand. Beppo's customers soon saw how matters stood, and chose their flowers and put the money in the tin cup within the basket. Now and then when a rude boy would come along and try to snatch a flower from the basket, Tony would growl fiercely, and drive him away.

So that day went safely by, and at nightfall Tony went home to his master, who was waiting anxiously to see him, and gave him a hearty welcome.

Beppo untied the basket and looked in the cup, and I shouldn't wonder if he found more money in it than he ever did before.

That is how Tony sold the rosebuds; and he did it so well that Beppo never tires of telling about it.

Humorous.

"Now, Timothy," said Mrs. Timblethorpe, one Sunday morning not long since. "I want you to go to church with me to-day. You have not been there for three months, and it's disgraceful for a man of family to show such a bad example to his children. "I am tired," remarked Timblethorpe, as he helped himself to another fish-ball, "and besides, I have got to go down to the post-office to see what is in the mail." "Nonsense," replied his spouse in a slightly nettled tone, "your letters can wait until the services are over. I want to show that odious Mrs. Burlap who has just married her third husband, that I can have some one to wait upon me to church as well as she." Timothy groaned in spirit, but he said nothing, while he set his wits to work to escape from the poor preaching and the worse singing of his wife's favorite place of worship. Fortune came to his aid, as she does to all schemers, for on going to his wife's room he saw a new bonnet shining in all its glory upon the dressing case. "Humph, my lady," he murmured to himself, "I have discovered the secret of your sudden influx of religious fervor. I'll punish you for your hypocrisy, and reward my virtuous self at the same time." With this he called "kitty, kitty," in his most seductive voice, and presently there appeared in the apartment an enormous tom cat. Timblethorpe said nothing, but shut the door upon the creature of feline breed, and when Mrs. Timblethorpe opened it in a few moments after she found her bonnet upon the floor, and the heads and feathers of the birds that adorned it scattered about in various directions. Mrs. Timblethorpe did not go to church that morning, but Mr. Timblethorpe went to the post-office as usual, and enjoyed his after-breakfast cigar with the serenity of a man who had done a good thing.

Poot's wife remarked to him, as they started out the other night to take supper with the Browns, that she expected Mrs. B. would have a stunning coiffure. "Well, I'm sure I hope so," grumbled Poots, "I haven't had anything good to eat since the last time we were at mother's."

A recent advertisement read as follows: "If the gentleman who keeps the shoe store with a read head will return the umbrella of a young lady with whalebone ribs and an iron handle to the slate-roofed grocer's shop he will hear of something to his advantage, as the same is the gift of a deceased mother now no more, with the name engraved on it."

"Have you given electricity a trial for your complaint, Mrs. Fishwhacker?" asked the minister, as he took tea with the old lady. "Electricity?" said she. "Well, yes, I reckon I has. I was struck by lightning last summer, and hove out of the window; but it didn't seem to me no sort of good."

During a dense fog, a Mississippi steamboat took landing. A traveller, anxious to go ahead, came to the unperturbed manager of the wheel, and asked why they stopped. "Too much fog. Can't see the river." "But you can see the stars overhead." "Yes," replied the urbane pilot; "but until the biler busts we ain't going that way." The passengers went to bed.

Whistle boys, and girls too, all you want to, provided there is nobody around with an aching head, that the shrill tones set to jumping. Whistling promotes cheerfulness, helps your food to digest, and makes many a hard task easy. There are lots and lots of boys in the world who are denied the pleasure, although it is as natural to them as swimming is to ducks. In some countries the mouth of a whistler is considered unclean for forty days after the act is committed, for the poor deluded natives think Satan has had the boy in his embrace and has caused him to emit the dreadful sounds. In other places they think that whistling in the evening makes the angels weep. Among the Irish there is prevalent a superstition that when a girl whistles the heart of the Blessed Virgin bleeds. Now, just think of the cruelty of repressing whistling by a boy, to whom there is no greater pleasure than to get out in a wood-lot, and free as a bird himself, introduce into some familiar tune, bird-like trills and runs and quavers! He feels so exultant and triumphant at his power over his whistling apparatus that he works with tenfold more zest. The whistling boy generally gets on in the world. So whistle boys, as much as you like.

City and Country.

Away from the city I hastened one day
For a very short time in the country to stay;
Bid adieu for awhile to the noise of the cars,
The whistle of tugs, advertisement of "stars";
To the clouds of black smoke,—to the dust of the street;
To the watering carts making mud for the feet;
To crowds on the side-walk who go their own way,
(No attention to sex nor age do they pay),
To the need to be careful of shoulders and knees,
When into the cars the passengers squeeze;
To the milkman, the iceman, and also the sight
Of meat in the shops—and the cry of "all right,"
To the sad sights we see, to the joys that allure,
All vainly, alas! if we chance to be poor;
To turn from all this to the country away,
Though perchance our vacation may be but one day;
To all the sweet smell; and sounds in the air;
To all that is glad some; to all that is fair;
To the drinking of milk—to the lowing of kine,
To all that is pleasant; to much that's sublime;
To breathe a long breath of air that is pure,
So pure, that it seems all evil may cure;
To the quiet that seems all our soul to imbue,
And expunge all that's false, confirm all that's true;
Then back to the city our work to begin
And our duty to do in spite of its din;
To help all that's good, on all evil to frown,
Since "God made the country, and man made the town."
—[M. P. J., in Farmers' Call.

A Baptist minister was once asked how it was that he consented to the marriage of his daughter with a Presbyterian. "Well, my dear friend," he replied, "as far as I have ever been able to discover, Cupid never studied theology."

In July issue some very attractive premiums will be offered. Subscribers will confer a favor on us and receive a benefit themselves by doing some canvassing among their friends.

Little Ones' Column.

The Emu's Party.

DEDICATED TO THE WRITERS OF CHILDREN'S POETRY.

An ancient maiden Emu
Had a breezy country villa,
With an extensive sea view,
On the south coast of Australia.

This Emu's tastes were social,
And her heart was warm and kindly,
So she gave a children's party
And sent her cards out blindly.

To the Dodos and the Parrots
And the Vultures and the Sea-gulls,
And thoughtlessly included
Six little unfledged Eagles.

Then she called on Madam Duck-bill
At her home beside the water,
And proceeded with effusion
To invite her infant daughter.

"I will take care my dear madam,
If you will be so good
As to trust us with your Susie,
That she eats the plainest food—"

"Some simple vermin chowder,
Or only ants on toast,
With smothered flies in honey,
And a tender larvæ roast;

"Mashed angle-worms and spiders,
Or, if you think it best,
Grub soup with vermicelli,
Which is easy to digest.

"She shall be at home by bed-time—
Or any hour you choose."
Said Mrs. Duck-bill, solemnly,
"Have you asked the Kangaroos?"

"Why, no; the thought, dear madam,
Had not entered in my head:
I have but slight acquaintance with
That fore-shortened quadruped."

"Then I'm afraid, Miss Emu,
That Susie can not go:
Her grandpa was a mammal
Well connected, as you know.

"She can never know wild Pigeons,
Nor those children of the Vulture,
Who seem to be deplorably
Incapable of culture."

"If that's the case, dear madam,
We'll close this interview.
My friends are birds, and so am I,"
Said the dignified Emu.

"I'm sure I know the Eagles,
And many others, who
Move in vastly higher circles
Than that purse-proud Kangaroo.

"Then the Parrots and the Pigeons
Have a regular family tree:
No animals are higher born, nor have
A better pedigree.

"There's my grand-uncle Ostrich
Can hold his head as high
As any wealthy mammal,
And—I wish you, ma'am, good-by."

So little Susie Duck-bill
Was forced to play alone
By the artificial attitude
Of her mother's social tone.

She could see the Parrots swinging,
Hear the Eagles' laughter shrill,
And said, with tears, "I wish we Duck-bills
Weren't so fearfully genteel."

Commercial.

THE FARMER'S ADVOCATE OFFICE,
London, Ont., May 31, 1884.
CHEESE.

The make of May cheese this season is far in advance of that of last year. In Quebec a large number of new factories are said to have been built this season, and we may look for a pretty large make as the season advances, should the weather prove favorable. A leading dairy paper in the States says: "Factory-men must expect to meet the following conditions this season:—First, an increased make of cheese both in the States and Canada. Second, an increased make of cheese in England. Third, the probable low price of most food products throughout the world; and fourth, a possible continuance of disturbance in the financial world. These will tend to make a lower market than we have had for two years past." These are plain facts, and our factory-men will do well to keep these facts before them the coming season.

At the London market on Saturday last, some 3,000 boxes changed hands, at 10c., and a few small lots at 10½c.

The shipments from Montreal up to date are some 20,000 boxes in excess of same date last year.

Salesmen will do well to accept the situation and take the market price for their cheese, and let it go into consumption as fast as possible.

BUTTER.

The market is decidedly weak and dull. Good dairy butter is not worth more than 15c. to 16c. Should the weather prove favorable the make will be heavy.

The Produce Market.

Toronto, Saturday, May 31.

English quotations showed no change to-day. Montreal was quiet. States markets were generally steady. The local market continued dull and inactive. Flour nominally unchanged; if there was any movement effected it was in bagged American; in the absence of transactions it is difficult to quote prices, but as well as we can judge we should value superior extra at \$4 10 to \$5 15; extra at \$4 85 to \$4 90, and spring extra at \$4 40 to \$4 45, our quotations in all cases being for guaranteed. Bran quiet, and apparently worth \$11 50 to \$12. Wheat scarce but in sufficient supply, as it is neglected; No. 2 fall seemed worth \$1 15; No. 3 fall from \$1 12 to \$1 13, and No. 2 spring about \$1 14. Oats rather more steady, and sold at 42c. B rley nominal, but we believe that No. 3 to carry over could have found buyers at about 50c. Peas quiet and unchanged at about 77c. for No. 2 in car lots. Potatoes seem rather unsettled; offerings large, and sales are reported down to 63c. Butter has been coming in rather less in a rush, but receipts have been enough to spare, and prices have continued very weak; really choice dairy might have brought 16 to 17c, but scarcely any of this quality has been offered, and complaints are heard that offerings of all sorts this season are much below those of last year in quality; rolls very plentiful and going slowly at 14 to 15c. for good to choice, and down to 12c. for inferior. Eggs abundant and unchanged at 14c. for round lots. Meats, much as before for bacon, with long clear selling slowly at 10½ to 11c. for cases; hams, the only article in active demand, and these rather fewer, at 14c. for smoked.

PRICES AT FARMERS' WAGONS.

Wheat, fall, per bushel	\$1 00 to \$1 14
Wheat, spring, do.	1 04 1 16
Wheat, goose, do.	0 80 0 90
Barley, do.	0 55 0 60
Oats, do.	0 43 0 44
Peas, do.	0 73 0 77
Rye, do.	0 00 0 00
Dressed hogs, per 100 lbs.	8 00 8 25
Chickens, per pair	0 90 1 00
Ducks, do.	0 16 0 20
Butter, pound rolls	0 15 0 00
Eggs, fresh, per dozen	0 75 0 80
Potatoes, per bag	3 75 4 50
Apples, per bbl	0 15 0 00
Onions, green, per peck	0 00 0 00
Cabbage, per dozen	0 00 0 00
Turnips, per bag	0 00 0 00
Carrots, do.	0 25 0 00
Beets, per peck	1 25 0 00
Parsnips, per bag	0 40 0 00
Rhubarb, per dozen	0 50 0 00
Radishes, per dozen	7 00 13 00
Hay, per ton	5 50 7 50
Straw, do.	

TORONTO WOOL CIRCULAR MAY 28.

The approach of another wool season finds the situation anything but encouraging. Though the defeat of the Morrison Bill has had the effect of restoring confidence, to some extent in the States, and though there is less old wool to be carried over than for several years, still the demand from that market is uncertain, and the unsatisfactory state of the wool market in England, as well as in this country, and the impoverished condition of the pockets of wool dealers and manufacturers, are more than sufficient, in my opinion, to prevent any advance in the price of wool.

The trade in Canada has not been a profitable one. Owing to the low prices of fleece wool a larger proportion than usual has gone into consumption here, but there has been no active sale for goods, and prices have been forced down to such a point as to leave little or no margin. There is still a large over production of goods, and prices of many lines are lower than ever before. In view of this general depression and depreciation of value, low prices, lower even than last year, may be looked for, and a very cautious policy is more than necessary. Buyers must exercise judgment and discretion, and buy wool as it should be bought, getting always proper deduction for unmerchantable wool, such as unwashed, black, burry, cotted or coarse buck fleeces. The early marketing of the wool is strongly recommended.

BRITISH MARKETS BY WIRE.

Cattle Steady—Sheep Lower.

LIVERPOOL, May 26, 1884.

CATTLE.

The cattle market remains dull and weak at about former rates. Supplies of home bred stock are light, but the offerings of Americans and Canadians are excessive.

	Cents @ lb.
Choice steers	14½
Good steers	14
Medium steers	13
Inferior and bulls	7½ @ 9½

(These prices are for estimated dead weight; offal is not reckoned.)

SHEEP.

Supplies of mutton from home and from foreign sources about equal to the demand and prices steady.

	Cents @ lb.
Best long woolled	16 @ 17
Seconds	14½ @ 16½
Merinos	14½ @ 16½
Inferior and rams	8 @ 10

(These prices are for estimated dead weight; offal is not reckoned.)

NEW ADVERTISEMENTS.

ADVERTISING RATES.

The regular rate for ordinary advertisements is 25c. per line, or \$3 per inch, nonpariel. Special contracts for definite time and space made on application.

Advertisements unaccompanied by specific instruction inserted until ordered out, and charged at regular rates. The FARMER'S ADVOCATE is the unrivalled advertising medium to reach the farmers of Canada, exceeding in circulation the combined issues of all the other agricultural publications in the Dominion. Send for circular.

SPECIAL NOTICE.

THE FARMER'S ADVOCATE refuses hundreds of dollars offered for advertisements suspected of being of a swindling character. Nevertheless we cannot undertake to relieve our readers from the need of exercising common prudence on their own behalf. They must judge for themselves whether the goods advertised can in the nature of things be furnished for the price asked. They will find it a good rule to be careful about extraordinary bargains, and they can always find safety in doubtful cases by paying for goods only upon their delivery.

To Importers of Sheep and Pigs:

I will leave for England shortly, and will attend the Royal and will purchase and bring out Sheep or Pigs for any one wishing to import. I brought out a number of Sheep and Pigs last season, and know where to get the best. Write for terms.

JAS. GLENNIE,
Guelph, Ont.

SHORTHORN BULLS, COWS and HEIFERS FOR SALE.

Seven young bulls, yearlings, and three calves, also cows and heifers of all ages. All pedigreed, and guaranteed first class. Also about 20 yearling Southdown Ewes, pure bred. Must be sold. Come and see us or write for prices and descriptions.

SETH HEACOCK & SON,
Oakland Farm, Kettleby, Ont.

I WANT TO SEND, GRATIS, to every farmer who writes for it, an interesting book and map of the Canadian North-west, descriptive of undulating prairie, wood ranges and spring creeks. Address J. ARMSTRONG, 1 Victoria St., Toronto.

FRUIT BASKETS!

Best Strawberry, Peach and Grape Baskets at bottom prices at the Grimsby Basket Factory. Address 221-d W. W. CROSS, Grimsby P. O., Ont.

HAVE YOU A FRIEND WHO WANTS TO GET INTO a good paying business, or would you prefer to go in and win yourself. Agents and farmers will find this an easy way to make money. Write for particulars, enclosing 3c. stamp; don't delay. Address, JAMES LAUT, 281 Yonge Street, Toronto, Ont.

THE GREAT Industrial Fair —AND— Semi-Centennial Exposition

Live Stock, Poultry, Dairy, Agricultural and Horticultural Products, Implements and Manufactures of all kinds.

TORONTO, SEPTEMBER 10th to 20th, 1884.

The Largest Prize List in the Dominion.

The programme of special features and novelties will be the best yet presented by the Association. Prize Lists and Entry Forms can be obtained from the Secretaries of all Agricultural Societies and Mechanical Institutes, or they will be sent anywhere on application by post-card to the Secretary at Toronto.

Cheap Rates and Excursions on all Railways.

The Best Time to Visit the City of Toronto.

J. J. WITHROW, President. H. J. HILL, Manager and Secretary. Toronto.

GARDNER'S \$2 BABY JUMPER.

CHAS. T. GARDNER, Napanee, Ont., Sole Proprietor and Manufacturer for the United States and Canada.



The jumper is designed for babies from the time they can sit alone until they are able to walk. It is made of the finest material and is very durable. It is also very light and easy to use. It is a great help to parents and a great pleasure to babies. It is a must for every baby's wardrobe.

any infringement will be prosecuted to the fullest extent of the law. All are hereby warned against purchasing a similar device without my name on it.

CHAS. T. GARDNER.

CANVASSERS—10.

Immediately. Salary and Commission from \$600 to \$1200. First-class men with good experience only need apply.

Address THE FARMER'S ADVOCATE, London, Ont., Canada.

Opera Chairs -AND- Railway Settees

H. R. Ives & Co., Queen St., Montreal
Manufacturers of

Opera Chairs, Railway Settees, Farm Gates, Stable Fittings, Park Settees, Wire Window and Door Guards, Cast Iron Window and Door Guards, Wrought Iron Window and Door Guards, Cemetery Railings, Roof Crossings, Balcony Railings, Vanes for Towers, Composite Wrought Iron Railings and Gates, Specialties. Light and Heavy Castings to Order.

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Office of the CANADA WIRE CO.,
215-y H. R. IVES, President.

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C. & C. MERRIAM & CO., Pub'rs, Springfield, Mass.

222

RED RIVER VALLEY LANDS A FARM

SPECIAL OFFER To Actual Settlers

open only between the 1st day of March and the 31st day of Dec., 1884.

The lands included in this offer are the most productive and, considering locality, the cheapest of any unoccupied lands in the United States now open for sale.

First applicants will have first chance.

Home seekers "catch on."

For Maps, Illustrated Papers

and other information regarding these lands,

Write to **J. B. POWER,**
Land and Immigration Commissioner,
St. Paul, Minneapolis & Manitoba R'y,
ST. PAUL, MINN.

THE LINE SELECTED BY THE U. S. GOV'T TO CARRY THE FAST MAIL



GOING WEST.
ONLY LINE RUNNING TWO THROUGH TRAINS DAILY FROM CHICAGO, PEORIA & ST. LOUIS,

Through the Heart of the Continent by way of Pacific Junction or Omaha to

DENVER,
or via Kansas City and Atchison to Denver, connecting in Union Depots at Kansas City, Atchison, Omaha and Denver with through trains for

SAN FRANCISCO,
and all points in the Far West. Shortest Line to

KANSAS CITY,
And all points in the South-West.

TOURISTS AND HEALTH-SEEKERS
Should not forget the fact that Round Trip tickets at reduced rates can be purchased via this Great Through Line, to all the Health and Pleasure Resorts of the West and South-West, including the Mountains of COLORADO, the Valley of the Yosemite, the

CITY OF MEXICO,
and all points in the Mexican Republic.

HOME-SEEKERS
Should also remember that this line leads direct to the heart of the Government and Railroad Lands in Nebraska, Kansas, Texas, Colorado and Washington Territory.

It is known as the great THROUGH CAR LINE of America, and is universally admitted to be the **Finest Equipped Railroad in the World for all classes of Travel.**

Through Tickets via this line for sale at all Railroad Coupon Ticket Offices in the United States and Canada.

T. J. POTTER,
Vice-Pres. and Gen. Manager.

PERCEVAL LOWELL,
Gen. Pass. Ag't Chicago.

JNO. Q. A. BEAN, Gen. Eastern Ag't,
417 Broadway, New York, and
306 Washington St., Boston.

222-y

OLDS' PATENT

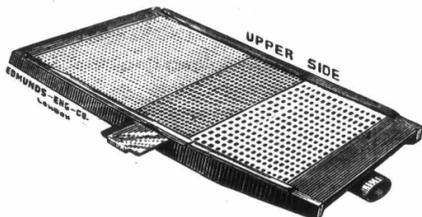
1, 2 and 3 HORSE-POWERS and SEPARATORS

The Leading Threshing Machine in the Dominion. Will do almost Double the Work of the Old Style Mills.

Send for Pamphlet to **B. W. OLDS & CO.,** 174 Mullins St., Point St. Charles, Montreal.
Or to **LARMOUTH & SONS,** General Agents, 33 College St., Montreal.
Or to **W. S. CASSON,** General Agents for Frost & Wood, Truro, Nova Scotia.

222-f

Campbell's Riddle for Extracting Cockle and Wild Peas from Wheat.



The accompanying cuts represent the top and bottom views of Campbell's Patented Riddle for extracting cockle and wild peas from grain.

You will notice that there are three different sizes of perforated zinc on the top over which the grain passes. The size of the holes where the grain runs over first, is $\frac{1}{2}$ of an inch, and the next size is some larger and by means of a Sheet Iron Slide, which you will draw a short distance out, you can either close the middle holes or leave them open, according to size of cockle or wild peas you wish to take out.

The holes in the piece furthest out are $\frac{1}{4}$ of an inch, and they let the clean grain through, down on the screen, just the same as an ordinary riddle.

You will see by looking at the bottom view, that there is a Sheet Iron Bottom that catches all the cockle and wild peas, and all small seeds and dirt, and it runs clear of the Mill by the spout that you see. This Riddle works grand, and farmers who desire to have clean grain to sell and clean seed to sow, will be well satisfied with it.

It will be in all of my Mills sent out after this date. The Mill is also fitted with Screens and Riddles for cleaning every kind of grain that grows.

The Mill has proved itself to be first-class in every respect, and farmers who favor me with an order will get a Mill that will give them every satisfaction, and it is second to none in the market.

Send for circular and prices to

MANSON CAMPBELL,

222

Box 106, CHATEAM.

Free Homesteads!!

In the Temperance Colony, N. W. T.

160 ACRES FREE TO ACTUAL SETTLERS.

SPECIAL ADVANTAGES:

- First Class Land. Healthy Climate. No Fevers. Plenty of Pure Water.
- Convenient to Coal Mines. Navigable River Passing Through it.
- Season Longer Than in Manitoba. Located in the Centre of Fertile Belt.
- Sober, Thrifty, Moral Neighbors. Supply Store in the Colony.

SASKATOON, the capital of the Colony, already shows prospects of being the most important city on the Saskatchewan River. Lots for sale cheap and on easy terms. Excursions from Ontario every week.

For particulars apply to Head Office, 114 King St. West, Toronto.

M. S. SMITH, President,

221-a

W. PEMBERTON PAGE, Manager.

1884

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United States

This Juniper is designed for babies from the time they can sit alone until they

are past the old

Send \$2 and a Juniper will be delivered to the nearest

express office. Charge free anywhere in Canada except Manitoba. Delivered

in Manitoba, \$3. A liberal reward will be given for information leading to the

conviction of any party in the U. S. or Canada infringing on my patent, and

fullest extent

at purchasing

RDNER.

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\$600 to \$1200.

need apply.

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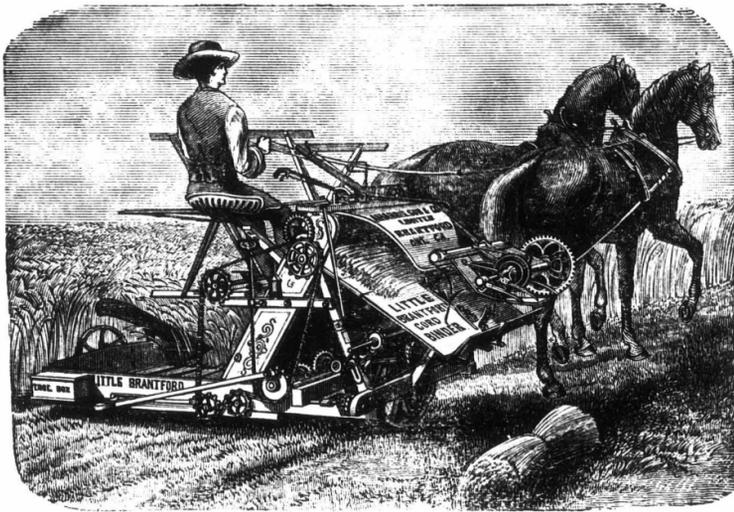
t., Canada

— THE —

"LITTLE BRANTFORD"

TWO-HORSE

CORD-BINDER.



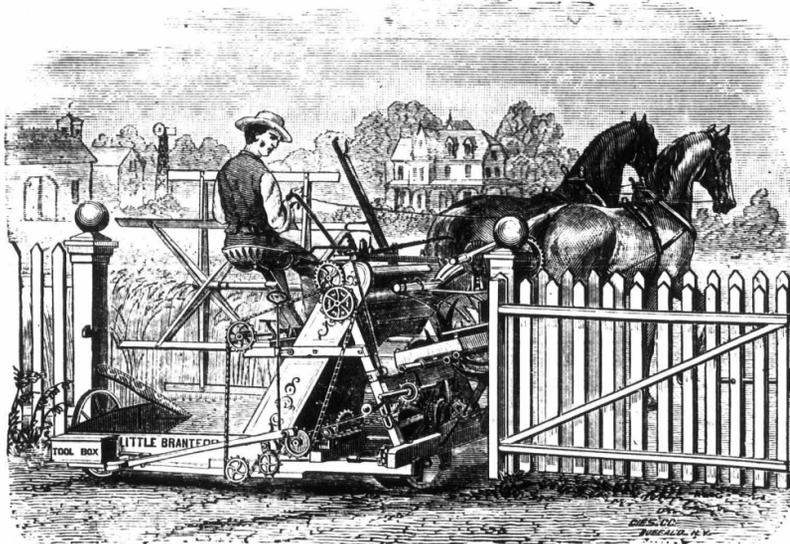
AT WORK.

FARMERS.

You need not purchase a Binder that will not go through your gates and barn-doors. The "Little Brantford" will do it, and save you time and money. Our five foot cut folds to ten feet six inches, and our six foot cut folds to eleven feet six inches.

POINTS OF SUPERIORITY.

A Double-angle Finger Bar, stiffer, stronger and better than any other; Iron-capped Rollers to prevent the straw from winding; Extra Heavy Canvas; A Steel Spring Seat; Improved Adjuster; Zinc Covered Decks, and the only Perfect Folding Binder in use.



PASSING THROUGH A GATE.

MANUFACTURED ONLY BY
A. HARRIS SON & CO., Limited, Brantford, Canada.

See our Agent or Write us Direct.

Notices.

Continued from page 179.

FAIRS—The Western Fair will be held in London, Ont., from 22nd to the 27th of September next, and the Provincial will be held at Ottawa between the same dates. The Industrial will be held in Toronto between the 10th and the 20th September.

Strawberries promise an abundant crop. Raspberries appear well set. Gooseberries, in some localities, are not well set. The prospect for an abundant apple crop is promising. There are complaints about the peaches, and a great deal of the wood on grape vines has been killed, particularly of the tender varieties. The black knot is extending its destruction to the plum and cherry trees faster than it should have been allowed to. If you have small fruits and intend to send them to market in a proper shape, address a post card to W. B. Chisholm, Oakville Basket Factory, Oakville, Ont., for a circular of their fruit packages and baskets. They make all kinds and of good quality.

SORGHUM.—We have received a work on the culture and manufacture of sorghum as a source of sugar, syrup and fodder, by Peter Collier, Ph. D., late chemist of the U. S. Department of Agriculture. It is published by Messrs. Robert Clarke & Co., Cincinnati. It contains 570 pages, and is the most exhaustive work extant on the subject.

A dictionary of practical apiculture for bee keepers, by John Phin, published by the Industrial Publication Co., New York.

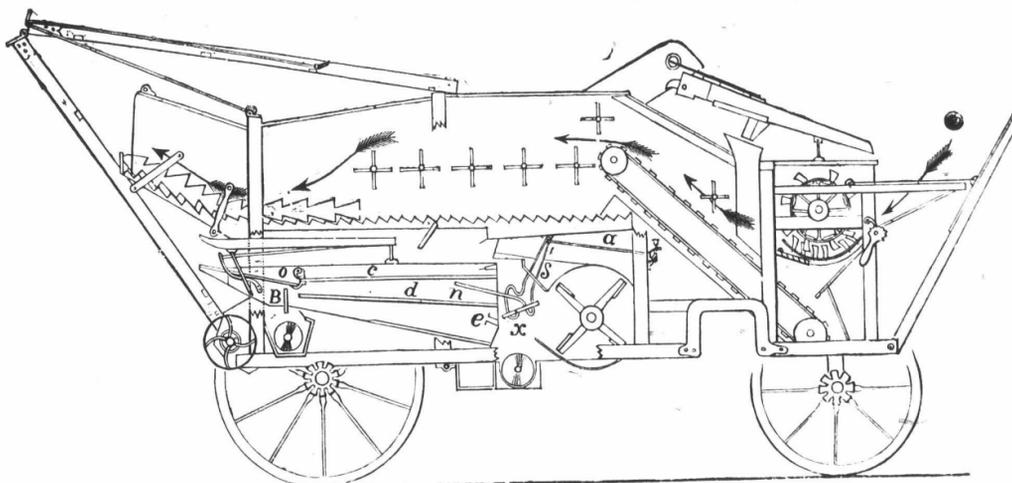
TO TOURISTS.—From the present date to the 1st October, round trip tourist tickets, good for 15 days going and good for returning until 31st Oct., can be purchased at low rates to Denver, Pueblo, Colorado Springs, and other points, via the Burlington Route, C. B. & Q. R. R. Apply to any railroad ticket agent for ticket rates and detail information, or to Perceval Lowell, General Passenger Agent, Chicago.

The Waterous Engine Co.

While visiting our many agricultural implement manufactories during the fall of last year and the beginning of the present year, we were told at one establishment, not 100 miles from the city of London, that they had at least one hundred hands too many, and that they could not find more than half employment for their hands. In contrast to this, one of the busiest shops, and one which kept their hands in full work, and were extending their operations, was the Waterous Engine Works at Brantford, Ont. This firm has gained such a good reputation in South America, Australia, Sweden and Germany for saw mills and mill gear, that they receive large orders from foreign countries. When in Brantford a few days ago, we saw a large portable threshing engine made for burning straw for fuel; this was to be shipped to Turkey. The Waterous Co. complain bitterly that they are unable to get any rebate for goods made in Canada and shipped out of the Dominion, and consider that Canada should have a representative in some of the foreign countries, and think that much good would accrue if the suggestion was acted upon.

(See Stock Notes, page 186.)

SECTIONAL VIEW OF
Miller's "New Model" Vibrating Thresher



Manufactured by the Joseph Hall Manufacturing Company, Oshawa, Ontario.

THE MOST PERFECT THRESHER, THE MOST PERFECT SEPARATOR, THE MOST PERFECT CLEANER EVER OFFERED TO THE PUBLIC. THE ONLY TRUE GRAIN SAVER

JOHN DRYDEN, M. P. P., on the "NEW MODEL." (From the "Ontario Reformer," December 21st, 1883.)

Our readers are, probably, all aware that John Dryden, M. P. P., President of the Canadian Shorthorn Breeders' Association, occupies one of the finest farms in the Dominion of Canada, and is one of the best farmers. He cultivates something over five hundred acres of land, and there is scarcely an acre but what is in a high state of cultivation, and the whole farm is free from all weeds or plants which are injurious to crops. Not only does he own one of the finest and best tilled farms in the country, but his stock throughout, whether horses, cattle, or sheep, are of the very best breeds, and all of them fine animals. In every department Mr. Dryden looks out for the best, whether it is in the line of stock, machinery or seed grains. He and his neighbor, Mr. Samuel Holman, purchased for their own use, this year, a New Model Vibrating Threshing machine of the Hall Company, and Mr. Dryden's opinion we give below. Every one who is acquainted with him knows that he would not put his name to any statement which is not correct in every particular; therefore his opinion of the New Model is of great value to those who desire to purchase a threshing machine:

Brooklin, Ontario County, Dec. 13, 1883.

The Joseph Hall Manufacturing Company, Oshawa,
 We are highly delighted with the New Model Vibrator purchased from you this season. It runs smooth and easy; threshes perfectly; separates thoroughly; and the fanning mill does its work so completely that it cannot be excelled. It is just the machine for the farmers to buy because it is easy to control. It is comparatively free from dust, there can be no waste of grain, and it is bound to do good work under every circumstance. We heartily congratulate you on the introduction of so complete a separator, a great boon both to threshers and farmers.
 Very truly yours,
 JOHN DRYDEN, M. P. P.
 SAMUEL HOLMAN.

New CHAMPION HORSE HOE

(PATENTED.)

It Hoes, Cultivates, Cuts from the Drills, Hills
 Up all Root Crops, Corn, Beans, Strawberries,
 Onions, &c., &c.

The Most Complete Implement for these Purposes Manufactured.

ONE-HORSE PLOWS, JOINTER PLOWS

Chilled or Steeled.

All FIRST PRIZE Im-
 plements.

Send for Catalogue, or
 ask your dealer to
 get one for you.

ADDRESS—

B. BELL & SON, ST. GEORGE, ONT., CANADA.

222-b



DERICK'S HAY PRESSES.

are sent anywhere on trial to operate against all other presses. the customer keeping the one that suits best.

Manufactory at 90 College Street, Montreal, P. Q.
Address for circular P. K. DERICK & CO., Albany, N.Y.

—FOR—

FRUIT PACKAGES

—AND—

BASKETS

of every Description and of the Best Quality, send to

The OAKVILLE BASKET FACTORY.

**Strawberry and Raspberry Baskets
Cherry, Peach, Plum and Grape
Baskets.**

**Clothes Baskets. Butcher's Baskets
1, 2 and 3 Bushel Baskets.**

Satchel and Market Baskets.

Gardeners' Plant Boxes.

Grocers' Butter Dishes.

&c., &c., &c.

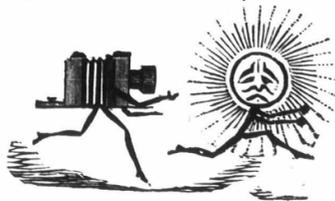
W. B. CHISHOLM, - OAKVILLE.

221-d

VALUABLE FARM FOR SALE.

Lot No. 5, in the Bayfield Con., Township of Goderich, 85 acres, 40 to 50 acres cleared and free from stumps, balance well timbered, has frontage on Bayfield river and on the Clinton Road, and adjoins the incorporated village of Bayfield. For terms, further particulars and conditions of sale, apply to

LEITH, KINGSTONE & ARMOUR,
Solicitors, 18 King Street West, Toronto. Or to
221-b **JOHN MORGAN,** Hotel-keeper, Bayfield.

**J. DIXON is Your Photographer.**

His work is equal to any in the City, and prices far below all others. Cabinets, \$2.50 per doz. Note the address,

J. DIXON,

221-f 201 and 203 Yonge St., TORONTO.



C. P. MILLS, St. Catharines, Ont., manufacturer of Iron and Wood Lift Force Pumps for Wells and Cisterns, Windmills, Rubber Bucket Chain Pumps, Tanks and Self-Sharpening Straw Cutters. Our **Iron Globe Top Stock Pumps** are specially adapted for farm yards and public places where a very strong and durable pump is needed, one that will not get out of order or be injured by cattle running against it. It will be noticed in the cut shown that iron braces cast to the pump column extend to the four corners of the base, to which it is bolted, thus withstanding any shock, no matter from which way coming. The pump is tight top, preventing anything from being thrown into it. The handles are wrought iron. This is the strongest pump ever constructed, as can be proved by hundreds of testimonials from parties who have had them in constant use for the past thirty years and over. Live agents wanted in unrepresented districts. Send depth of wells and prices will be quoted. 221-

Stock Notes.

There is a demand among ranchmen for Polled Aberdeen bulls from the first cross with our native cows, to breed off the horns of the Texan steers and to increase the value of the carcass.

Our Scottish correspondent writes us that the following purchases have been made by the Ontario Government for the Model Farm, at Guelph: From the herds of Her Majesty the Queen, two Herefords and two Devons, one of the former being the 2-year-old bull, "Conqueror," which cost 500 guineas. From the Felhampton Court herd, two Hereford cows; at Mary Park, a pair of Polled cows; and from the herd of Mr. Wilkin, of Waterside-of-Forbes, a 2-year-old Polled bull, "Strathglan," also 7 Guernsey and Jersey cattle, 6 heifers and 1 bull, as well as some Galloways and Ayrshires from the Duke of Buccleuch. They have also purchased two Shorthorn cows with calves at their feet, and are negotiating for others. Some sheep are also to be imported, £65 having been given for a Shropshire ram. Four collie dogs also form part of the purchases.

At the combination sale of Jersey fancy cattle in New York, May 7th, ninety animals were sold for \$70,000. The number of imported cattle sold was not large, those born on this continent exciting the keenest competition. The cattle from the farm of Valancey E. Fuller, of Hamilton, Ont., were especially favored and fetched very high prices. A beautiful silver grey cow, Honeymoon of St. Lambert; daughter of Stoke Pogis 3rd and Byron of St. Lambert, was bought by Mr. Pierce, of Boston, for \$4,100, and Cowslip of St. Lambert, from the same farm, was bought by the same party for \$3,000. The highest price realized was for Bomba's daughter, a 2-year-old heifer from A. B. Darling's herd, \$5,200. Mr. Fuller purchased Kadi, an 8-year-old cow, for \$2,100, and Albert's Queen heifer for \$850.

Messrs. Green Bros., of the Glen stock farm, Innerkip, Ont., inform us that their cattle and horses have arrived safely at Quebec, where the former remain to complete their term in quarantine. Their horses including the stud Regent (3281), a brown 3-year-old, sired by Smith's Black Prince, dam by Champion of England; also two mares, Lacey, a fine bay, and the Queen of Aylesbury, a bay filly. They are all of the noted Shire breed, and reached their farm safe and well. Six Shorthorns—a bull named Enterprise, bought of Mr. Duthie, sired by Cruickshank's bull, Ventriloquist; a cow and four heifers also from Duthie's herd, and a yearling bull from Mr. Marr's stock; he is half brother to Earl of Mar, imported by them last year, and who took the first prize at Guelph; this bull is by Athabasca. The cow, Vain Maid, is in calf to Rob Roy, for which Mr. Duthie paid a very high price last year. The other heifers have been served by Field Marshal. They have also imported a bull and five Hereford heifers—Polka, by Othello; the yearling bull Cronhill Sth, by Newry Monarch, purchased at Mr. Hill's of Felhampton Courts, sale; a heifer bred by Mr. Forester, of Shirlowe; the remainder from the herds of Mr. Henry Haywood, of Blakemere, and Mr. Councillor Griffiths, of Briery.

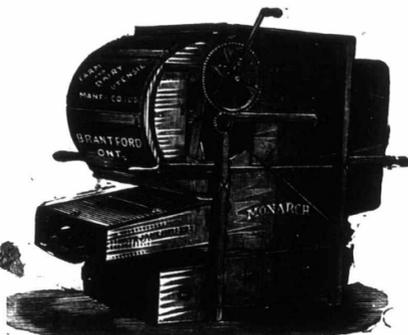
(Continued on Page 188.)

**The "MONARCH"
Fanning Mill.**

**In Capacity, Quality of Work,
Adjustability and Finish, un-
equalled by any.**

**In Range, Variety of Work,
Mechanical Principle and Con-
struction, superior to all others.
The only Mill that gives per-
fectly clean seed grain.
The only Grading Mill made.**

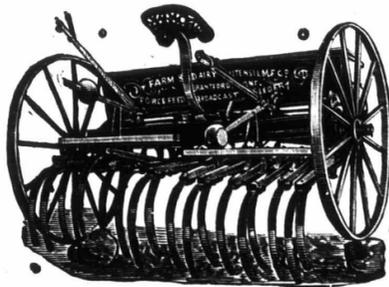
SEND FOR CIRCULARS TO
Farm & Dairy Utensil Mfg. Co., Limited
Brantford, Ont.



Manufacturers of

**Improved "Wide-Awake"
Separator, Weller's Inde-
pendent Spring Tooth
Sulky Harrow, with or
without Broad Cast, and
Grass Seeder; Bickford's
Non-Freezing, Force, Lift
Tank, and Suction Pumps,
Drive Pumps.**

214-y



951 FIRE-PROOF CHAMPION ENGINES

BUILT SINCE 1877.



THE FIRE-PROOF CHAMPION IN THE BARN YARD

AS A TRACTION ENGINE

The Champion is Unequaled.

D. T. BEDFORD writes from Raglan, 27th Dec., 1883:—"I have had time to test the traction engine you sent me. I have run it over some very bad hills, where it would give two horses all they wanted to take a portable engine. I started from the station, attaching a wagon with 2200 lbs. of coal and two barrels of water. I had no bother to draw it up any of the hills between Oshawa and Raglan. The steering rig is complete; can run over narrow and slippery roads, in fact for a bad place I would rather run by hand than with horses. I can stop and back up (if wanted) going down a steep hill; can run through a foot of snow, and have done it up steep hills. I have moved a mile with a boiler full of water and fire-box of wood and had plenty, and this was over bad roads. I can run my big Climax Separator from daylight till dark on ten barrels. The 16 h. p. is just the thing to thresh with. Everybody is pleased with it, and I am more than pleased."

WATEROUS ENGINE WORKS CO., BRANTFORD, CANADA.

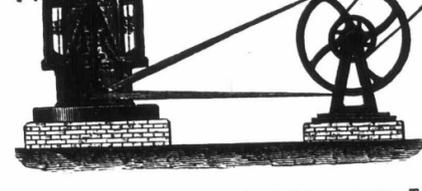
of water, and a great deal less wood than I ever could with the 12 h. p. sets stiller without a clamp than the 12 h. p. did with clamps, and it ran so easy you could hardly tell whether they were feeding or not. I might write two or three sheets of my exploits with the traction, but have not time. Everybody is pleased with it, and I am more than pleased."

See Our Straw Burner for 1884. It is a pronounced success.

Full supply of Engines, repairs and settlers' outfits kept by our branch Foundry and Machine Shop in Winnipeg.

WATEROUS ENGINE WORKS Co., BRANTFORD, CANADA

The IMPROVED DANISH MILK SEPARATOR of Burmeister & Wain



which was awarded two gold medals (one in class A, separators for two horses, and the other in class B, or separators for one horse) at the Alborg Centrifugal Milk Separator competition, and also a silver medal at the last St. John, N. B., exhibition. The large size, A machine, requires 14 horse-power to run it, and will skim 1,200 pounds of milk per hour. The B size requires 0.88 horse-power and will skim 700 pounds per hour. A summing up of the result of the Alborg and Vestering competition may be described as follows:—1st, With the same completeness of skimming and the same quantity of milk worked per hour, DeLaval's separator requires one-third more power. 2nd, With the same completeness of skimming and the same consumption of power, Burmeister & Wain's small (B) separator skims one-third more milk than DeLaval's. 3rd, With the same consumption of power, DeLaval's leaves 64 to 65 per cent. more fat in the skim milk. The same report shows that Burmeister & Wain's large size separator requires 1.50 horse-power. Table showing the relative maximum capacity of the Burmeister & Wain and the DeLaval milk separators, and the amount of motive power required to drive them.

J. N. FJORD'S TABLE.	Capacity.	Completeness of skimming.	Speed.	Motive power required.
	Pounds per hour	Fat left in the skim milk.	Revolutions per minute.	Horse-power.
Laval Separator	700 lbs.	0.29	7,000	1.20
Burmeister & Wain (small size)	700 lbs.	0.30	3,000	0.88
Burmeister & Wain (large size)	1,200 lbs.	0.25	2,000	1.50

221-c Particulars sent free by addressing U. C. PETERSEN & Co., P. O. Box 1378, Montreal.

Agents Wanted

FOR THE
Citizens Insurance Co., of Canada.

Head Office, 179 St. James Street, Montreal.
Established 1864—Capital and Assets, \$1,426,985.
Government Deposit, \$122,000 Cash.

As the Company transacts Fire, Life and Accident business, a profitable agency is thus offered to those soliciting insurance risks. Special terms to those who have valuable connection. Farm property insured as low as by Farm Mutuals. No notes. No assessments. Losses paid as soon as proved without discount. The Stock of this Company is held by many of the wealthiest citizens of Montreal.

GOOD BOOKS

FARM, GARDEN AND HOUSEHOLD

- The Farmer's Hand Book for 1885; paper, 25c., in cloth, 50c. 50
- Allen's (R. L. & L.F.) New American Farm Book..... 2 50
- American Dairying, by Prof. L. B. Arnold..... 1 50
- American Bird Fancier..... 50
- Allen's (L. F.) American Cattle..... 2 50
- Barn Plans and Outbuildings, 257 Illustrations and Designs..... 1 50
- Bees and Honey, or Management of an Apiary for Pleasure and Profit, by T. G. Newman; in cloth 75c., in paper covers..... 50
- Buist's Family Kitchen Gardener..... 1 00
- Butter and Butter Making. Hazard..... 25
- Book of Household Pets; paper..... 50
- Bommer's Method of Making Manures..... 25
- Brill's Farm Gardening and Seed Growing..... 1 00
- Clock's Diseases of Sheep..... 1 25
- Cook's Manual of the Apiary..... 1 25
- Dadd's Modern Horse Doctor, illustrated..... 1 50
- Dog, The—Idstone..... 1 25
- Dog Training—S. T. Hammond..... 1 00
- Elliott's Lawn and Shade Trees..... 1 00
- Feeding Animals, by E. W. Stewart..... 2 00
- Fuller's Forest Tree Culturist..... 1 50
- Flax Culture. (Seven Prize Essays by Practical Growers)..... 30
- Fuller's Grape Culturist..... 1 50
- Fuller's Small Fruit Culturist..... 1 50
- Fullton's Peach Culture..... 1 25
- Gardening for Young and Old; by Harris..... 30
- Gregory on Squashes (paper)..... 30
- " Cabbages..... 30
- " Carrots, Mangolds, etc..... 30
- " Onion Raising..... 25
- Guenon on Milch Cows..... 1 00
- Harlan's Farming with Green Manures (new)..... 1 00
- Harris on the Pig..... 1 50
- Henderson's Gardening for Pleasure..... 1 50
- Henderson's Gardening for Profit..... 1 50
- Henderson's Practical Floriculture..... 30
- Hop Culture, by nine experienced cultivators..... 1 50
- House Plans for Everybody. S. B. Reed..... 75
- Hunter and Trapper..... 75
- Husmann's American Grape Growing and Wine Making; illustrated..... 1 50
- Insects Injurious to Fruits, by W. Saunders, 440 illustrations..... 3 00
- Johnson's How Crops Grow..... 2 00
- Johnson's How Crops Feed..... 2 00
- Johnson's Winter Greenhouses at Home..... 2 00
- Keeping One Cow Profitably; illustrated with full page engravings of the most desirable Dairy Cows..... 1 00
- Law's Farmer's Veterinary Adviser: Canadian edition..... 2 00
- Our Farm of Four Acres: paper, 30c.; cloth 60c.; extra cloth..... 1 00
- Practical Farm Draining, &c (By J. J. W. Billingsley)..... 1 00
- Packard's Our Common Insects..... 1 50
- Quincy (Hon. Josiah) on Rolling Cattle..... 1 25
- Quinn's Pear Culture for Profit..... 1 00
- Randall's Sheep Husbandry..... 1 50
- Rarey's and Knowlson's Complete Horse Tamer..... 1 50
- Roe's Play and Profit in my Garden..... 1 50
- Stewart's Stable Book..... 75
- Stoddard's An Egg Farm: paper, 50c.; cloth..... 1 50
- Talks on Manures; Joseph Harris..... 1 50
- Tanner's First Principles of Agriculture; an Elementary Work treating of the soil, composition of Crops, &c..... 50
- Thomas' Farm Implements and Machinery..... 1 50
- Ten Acres Enough..... 1 00
- Thompson's Food of Animals..... 3 00
- Thomas' Fruit Culturist..... 1 50
- Warder's Hedges and Evergreens..... 3 00
- Waring's Farmer's Vacation..... 2 00
- Wheeler's Homes for the People..... 1 00
- Willard's Practical Butter Book..... 1 50
- Williams' Window Gardening..... 1 50
- Waring's Draining for Profit and Health..... 1 50
- Waring's Elements of Agriculture..... 1 00
- Wright's Practical Poultry Keeper..... 2 00

Any of the above useful books will be mailed post-paid, from the FARMER'S ADVOCATE Office, on receipt of price named, with 5c. for books under \$1, and with 10c. additional to cover postage, etc.

\$100 to \$5000

Paid on Marriage by Mutual Marriage Aid Association.

Has Paid in Benefits to its Members over \$100,000.

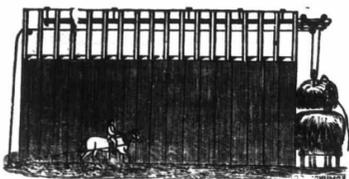


Business done in 1883 Exceeds over Two Million Dollars.

This is the only Company in Canada that gives an absolute guarantee as to the cost. Its advantages are low cost of carrying certificate, large membership, the oldest and strongest Company in existence and UNDOUBTED SECURITY. Write for information.

Agents Wanted. W. B. WEBBER, Secretary, Hamilton, Ont.

BUCHANAN'S



IMPROVED DOUBLE-ACTING

PITCHING MACHINE

For Unloading Hay and all Kinds of Loose Grain.

This Machine can be used in sheds, on stacks or in barns. It can be used to unload on either side of barn floor without being turned around on the track, thus saving the trouble and annoyance in climbing up to the top of the barn to make the change. This is a feature that no other Carrier possesses, and any person who has had the trouble of climbing to the top of the barn to make the change will appreciate this feature. Our Ball Pulley does away with the objection of bundles getting twisted and preventing the Carrier from starting when the load is drawn up, which trouble is sure to arise with all bale pulleys. I hold a patent for the Dominion on the Ball Pulley, and anyone infringing on the same will be prosecuted. Farmers are cautioned against buying any machines with a Ball Pulley attached, or they will be held liable for damages. **AGENTS WANTED.** Send for Circular. **M. T. BUCHANAN, Manufacturer,** 219-c **INGERSOLL.**

W. DOHERTY & CO.,
ORGAN
MANUFACTURERS.
Clinton, - - Ontario.

SWISS SOAP!

Guaranteed Best in the World!
Ask Your Grocer For It!
Manufactured only by the
HURON SOAP COMPANY, Goderich, Ont

FARM FOR SALE.

That fine farm of 200 acres, more or less, in the township of Delaware, known as Green Park, held by the undersigned in trust for the co-heirs of the late Rothwell Garnett, Esq., being lot No. 10 in the 1st concession. Enquire of **J. SHANLY, London** } Co-trustees
H. MOETIMER, Toronto }
Dated 31st March, 1884. 220-4f

THE CELEBRATED
WALKER BUTTER WORKERS

Suitable for use of farmers and country storekeepers. Three sizes. Write for particulars. Dairy salt in large and small sacks constantly on hand.
JAMES PARR & SON,
41 to 47 St. Lawrence Market,
Toronto.
221-c

STOCK NOTES.

(Continued from page 186.)

The first sale of Highland stock in the Northwest has been recorded at Riding Mountain. Chief Factor McDonald, of the Hudson's Bay Company, Qu'Appelle, is the first purchaser, at \$200, of a ten-months-old bull.

SUMMER FEED FOR SWINE.—One of the very best sorts of summer food to give healthy rapid growth to pigs, and put them into excellent condition, to be followed up for fattening as soon as corn begins to ripen, is peas and oats sown together. The Canadian field pea is the most suitable for this purpose, and a short-growing straw of oats with heavy head. These commence ripening at about the same time. One particular object in sowing oats with peas is, that the latter wind round the stalks of the former in growing, and this keeps the vines well up, and from falling and rotting on the ground. This crop is ready to turn the swine on, to get their full living off it, from the latter part of June into August, according to climate. Oats and peas are the best kind of food that the farmer can most easily grow to make fine bones and muscle for pigs, far superior to corn; the crop is also an excellent preparation to grow corn on the same ground next year, as the manure from the swine and the decay of the remnant of stalks and peas left, will enrich the soil sufficiently for this purpose, unless it should be extra thin and poor.—*Live Stock Journal.*

INCREASING LEAN MEAT IN PIGS.—We may well suppose that the habit of the pig in laying on an extensive quantity of fat has been caused by long and excessive feeding of fat-producing food, and it is not likely that any sudden transformation could be brought about; but it is well known that the pigs of different countries differ in respect to fat. We have only to contrast fattened pigs of this country to those in Canada. There pork is fattened partly upon barley, but largely upon peas, a highly nitrogenous food, yielding a large portion of muscle, and our pigs are fattened almost wholly upon corn, and excessively starchy and fattening food. The Canadian pork has a much larger proportion of lean meat and less lard. The difference is very marked, so much so that in a market supplied with both kinds purchasers easily select the one or the other as desired. Wild hogs do not have such excess of fat, and the Southern hog, which is grown much slower in the Southern and Western States, and fed upon much less corn, is comparatively lean.

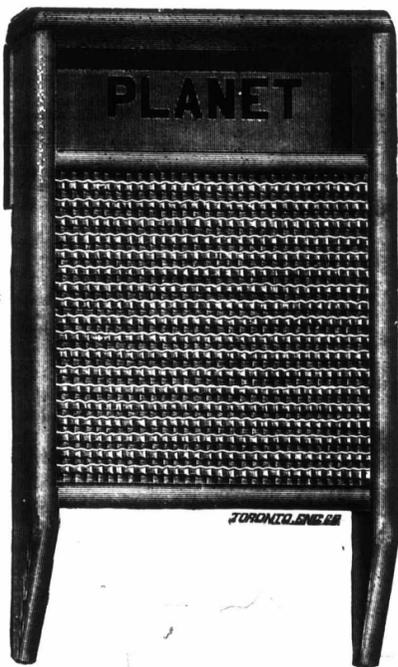
There can, therefore, be little doubt that the habit of depositing this excess of fat is caused by long continued feeding adopted to that end. The hog is naturally a grass and root-eating animal, and in its domestication is fed almost wholly, in this country, upon concentrated food. Hogs fed upon skimmed milk have less proportion of fat than those fed upon corn. If young pigs are kept upon food that will grow the muscles and bones and develop a rangy frame, they will possess so much when half grown, that a moderate length of time in fattening, even on corn, will not pile on an excessive amount of fat.—*National Live Stock Journal, Chicago.*

(Continued on page 190.)

WASHBOARDS

THE BEST IS THE CHEAPEST.

**P
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—THE—
PLANET

IS THE BEST.

ASK FOR IT AND TAKE NO OTHER!

SATISFACTION GUARANTEED!

Saves Time, Labor and Soap.

E. B. EDDY,
HULL, P. Q.

Manufacturer of
PAISLS, TUBS, WASHBOARDS and MATCHES

All goods manufactured by me bear my name, and are guaranteed to be the best in the market.
E. B. EDDY.

WHOLESALE AGENTS:

H. A. NELSON & SONS, TORONTO and MONTREAL,

221-y

BRICK & TILE MACHINE

We are now manufacturing a first-class
Angur Brick and Tile Machine
 which is capable of making from
10,000 to 15,000 Tile per Day.
 Machine warranted in every respect both in strength and
 quality. Send for particulars.
D. DARVILL & CO.,
 220 a London, Ont.

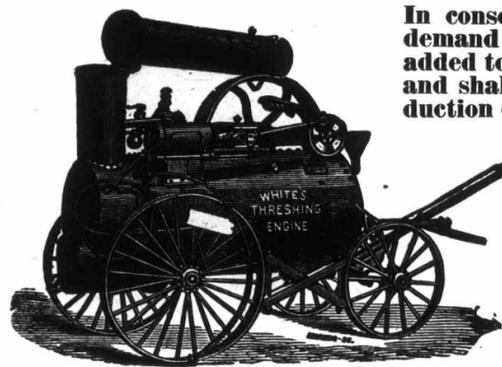
PARIS NURSERIES!

FRUIT & ORNAMENTAL TREES, SHRUBS & VINES
 at remarkably low prices.
NORWAY SPRUCE FROM \$8 TO \$25 PER 100.
AUSTRIAN PINE FROM \$10 TO \$25 PER 100
GEORGE ARNOLD, Paris, Ont.
 Successor to the late Charles Arnold. 221 y

CHEAP TELESCOPES

A portable 'Achromatic Telescope that will tell the time of the church clock in Toronto at three miles off, with extra astronomical eye piece and sun glass for astronomical use. It will show Jupiter's moons, spots on the sun, mountains in the moon, &c. Sent to any address on receipt of \$5.50.

CHAS. POTTER, Optician,
 31 King St. East, Toronto.
ESTABLISHED 30 YEARS.
 220 f



In consequence of the increased demand for my **ENGINES**, I have added to my shops and machinery, and shall largely increase the production of engines for 1884.

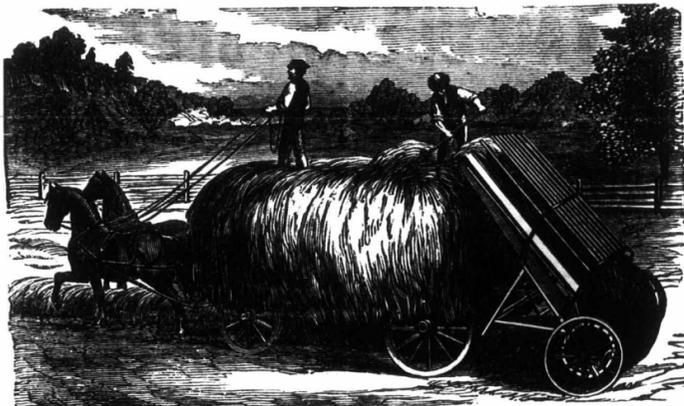
It is licensed by all Insurance Co.'s and has proved itself to be the most durable.
 The Engine for the Northwest is made to burn either coal, wood or straw.
Farmers, procure a Genuine White Threshing Engine at the Forest City Machine Works, London, Ont., Can.
GEORGE WHITE, Proprietor and Manager
 H. B. WHITE, Supt. of Machinist Dept.
 A. W. WHITE, Supt. of Erecting Dept.
 HUB. J. WHITE, Secretary-Treasurer.
 F. J. WHITE, Assistant-Secretary.

219-y

FAY Currant CRAPES ALL BEST, NEW AND OLD.
 HEAD-QUARTERS. SMALL FRUITS AND TREES. LOW TO DEALERS AND PLANTERS.
 Stock First-Class. Free Catalogues. **GEO. S. JOSSELYN, Fredonia, N. Y.**

FOUST'S PATENT HAY LOADER

Received the Highest and Only Award at the Centennial Exhibition.



Manufactured by **MATTHEW WILSON & Co., Hamilton.**

This machine has been in successful use in the East for several years, and has lately been introduced with great success in the West. Each succeeding year has added new evidence of the practicability of the Loader, and shows conclusively the necessity for pitching hay on the wagon in the field by Machinery.
 All other work in hay-making has been done by machinery for a long time, leaving the pitching on the wagon the only part accomplished in the same manner and with no greater speed than during the earlier period of hay-making. With the use of the Loader as much time is saved in pitching as is saved by the Mower, Horse-Rake, Horse-Fork, or Hay-Carrier, thereby making it safe for the farmer to cut at least double the amount of grass daily, knowing that he has the facilities for securing it.
 For descriptive catalogues, etc., send to

RUSSELL & DUNN, SOLE AGENTS FOR THE DOMINION,
 No. 9 Market Street, **HAMILTON, ONT.**

227 We are also General Agents for the Chatham Two-Horse Cord Binder. 220-c

TESTIMONIALS.

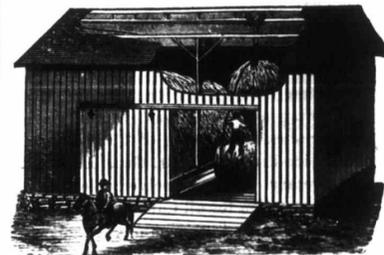
A few simple Testimonials that Speak for Themselves.

Ottawa, September 3rd, 1883.
 A. NORMAN, Esq.—Dear Sir,—I have experienced considerable benefit from your appliances. I feel stronger and better every day.
 Yours truly, **R. E. HALIBURTON.**

Peterborough, October 15, 1883.
 A. NORMAN, Esq.—Dear Sir,—Soon after I commenced to use your Electric Appliances, they opened my bowels, cured my cough and cold, relieved my head, and considerably relieved my catarrh in consequence. The discharges from my head and chest are now easy, and I feel altogether better. My digestion has improved, my stomach is less sour and windy, and I am less troubled with lascivious and vivid dreams. I had previously tried almost all the advertised patent medicines without deriving any good.
 Yours truly, **J. GREEN.**
 4 Queen Street East, Toronto.
A. NORMAN, Proprietor.

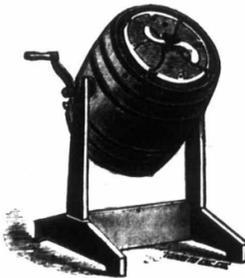
213-y

E. L. CHURCH'S Hay Elevator & Carrier.



THE VERY BEST IN THE MARKET.
 There are thousands of these Elevators and Forks now in use in Canada, everywhere giving the very best satisfaction. Sent on trial to responsible farmers.

The REVOLVING BARREL CHURN



This is the most popular Churn manufactured in the United States, and is fast growing in favor in Canada. Be sure and try one before purchasing elsewhere.

MANUFACTURED BY
WORTMAN & WARD
 LONDON, - ONTARIO.
 Cor. York and William Streets,
 219-c

STOCK NOTES.

(Continued from page 188.)

W. Gempler, Jerseyville, Ont., recently purchased from the C. W. F. S. Association, Bow Park, Brantford, Ont., the Shorthorn cow Adeliza 19th, which has a distinguished pedigree.

George Bunbury, Oakville, Ont., has recently arrived from England, and has commenced the breeding of Shorthorns and Suffolk pigs. He has several valuable prize animals, both cattle and pigs.

SALES OF HOLSTEINS.—Messrs. Cook & Son, Aultsville, Ont., have made the following sales during the past seven months: A. Gifford, Meaford, Ont., heifer and bull calf, \$675; Wm. Shunk, Sherwood, Ont., heifer and bull calf, \$600; H. M. Williams, Picton, Ont., cow and yearling bull, \$925; Samuel Curtis, Harwood, Ont., two heifers and one bull calf, \$900; Geo. Cleland, Listowel, Ont., bull calf, \$250; H. L. Ross, Georgetown, Ont., bull calf, \$175; H. Bollert, Cassel, Ont., three yearlings, bull and heifer calves, \$1,650; Fuller Stevens, Elgin, Ont., bull calf, \$200; F. H. McCrea, Brockville, Ont., yearling heifer, \$350; James Davidson, Spring Valley, Ont., bull and heifer calves, \$400; Benj. Fletcher, Oxford Mills, Ont., yearling bull, \$350; Jno. Raymond, Moulinette, Ont., bull calf, \$200; Jas. Bissell, Algonquin, Ont., yearling bull, \$350; Jas. Birmingham & Co., South Lake, Ont., yearling bull, \$335; J. E. Page, Amherst, N. S., cow and yearling bull, \$900; J. B. Arnold, Easton's Corners, Ont., yearling bull, \$350; in all 27 head, averaging \$318.88.

AYRSHIRE BREEDER'S ASSOCIATION.—At a meeting of Ayrshire breeders held in Montreal, the last week in April, they completed the organization of an association. Mr. W. Rodden, of Plantagenet, Ont., was elected President, and Mr. Jas. Drummond, of Petit Cote, Montreal, vice-President; Mr. Geo. Leclerc acted as Secretary. It was resolved to obtain an act of incorporation for all Canada. The first volume of pedigrees to the number of about four thousand, tracing to reliable importations, is to be copyrighted and at once published at a moderate charge. It is intended to make this volume the reliable Ayrshire herd record for Canada. Pedigrees that are not accompanied by reliable evidence of purity will not be accepted or published. The fee for membership is only five dollars. It was suggested that all the Ayrshire breeders of Canada should join the association, and unite in their efforts to maintain the character of Ayrshire cattle as the best breed of dairy animals for the farmers of Canada. Members will be allowed to enter their herds at reduced rates. Some interesting questions were discussed. Mr. Rodden, the President, read a paper on the breeding of dairy stock. The meeting was unanimous in desiring that live stock exhibitions should not exceed one week, which was considered long enough to be from home. In England and Scotland cattle are only required four days on exhibition grounds, and more varied and liberal prizes are awarded. The next meetings will be held at the Montreal and Ottawa exhibitions.

The cattle interest of the United States, according to the census of 1880, represents 993,841 oxen, 12,443,120 cows and 22,488,550 other cattle, a total of 35,925,511, worth \$1,500,000,000.

ONTARIO PUMP CO., Limited, TORONTO, ONT.,

MANUFACTURERS AND DEALERS IN

Wind Mills, I. X. L. Feed Mills, Hay Carriers, Horse Hay Forks, Tanks, Double and Single Acting Pumps, Wood or Iron. Also Steam Pumps and Water Supplies, Iron Pipe and Pipe Fitting, all kinds.

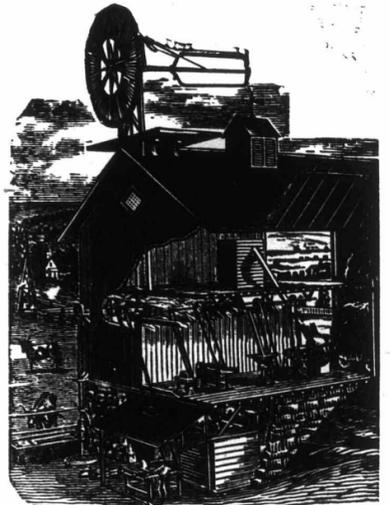
STATE WHAT YOU WANT AND SEND FOR
ILLUSTRATED CATALOGUES.



Halladay's Standard Wind Mills.
17 Sizes.



Pumps—Iron & Wood.
Force or lift. Deep well pumps a specialty.



Geared Wind Mills, for driving Machinery, Pumping Water, &c. From 1 to 40 horse power.
March 14, 1884.



I X L FEED MILLS.
The cheapest, most durable, and perfect iron feed mill ever invented.

ONTARIO PUMP CO.,

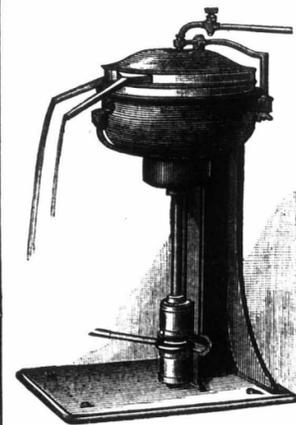
Gentlemen,—In regard to the 16-foot geared Wind Mill I bought of you, I can say it more than fills my expectations in every respect. In a fair to good wind I can saw wood at the rate of four cords of hard wood per hour, cut once in two. In a stiff wind I open the fans just half way and get all the power I require. In regard to your feed mill it is just grand. I have ground peas and oats at the rate of a bushel in three and a half minutes, and ground it as fine as one would wish for. I can grind fine cornmeal, also Graham flour. Have ground, since the 15th of February, 325 bushels of grain for customers, besides doing my own work with it. One man brought a grist of screenings, such as small wheat, mustard, and pussy grass seed, thinking that I could not grind it; but I ground it to powder, looking just like ground pepper. Your 13-foot geared mill, I think, is quite large enough for any farmer to do his own work.

Yours truly,
EDWIN KEELER,
Maitland P. O.

DeLAVAL CREAM SEPARATOR

The Greatest Dairy Invention of the Age!

Awarded Thirty-two Gold Medals!



By this system the cream can be separated from the milk immediately after it comes from the cow, consequently the use of cream and milk twenty-four to thirty-six hours earlier than by any other process.

No ice or expensive buildings necessary.

The construction is simple and the apparatus easily cleansed.

No heavy foundations required.

With less than one-horse power it will skim the cream from 750 to 800 pounds of milk per hour.

The DeLaval Cream Separator is now in use in the best dairies and creameries in Europe and the United States.

For further particulars please address

FRANK WILSON

P. O. Box 1824, MONTREAL, CANADA.

General Manager DeLaval Cream Separator Co.'y of Canada. 220-c

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In Western Ontario a number of choice Farms. Full description 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 E. BRYDGES,
Real Estate Agent.

Land office, 98 Dundas street west, London, opposite to the City Hotel, for list of farms for sale. 178-a

MONARCH HORSE HOE
AND CULTIVATOR COMBINED

For Hoeing & Hilling Potatoes, Corn, Onions, Beets, Cabbages, Turnips, &c.



SENT ON 30 Days' TEST TRIAL.
An immense saving of labor and money. We guarantee a boy can cultivate and hoe and hill potatoes, corn, etc., 15 times as easy and fast as one man can the old way. Illustrated Catalogue FREE. AGENTS WANTED. Mention this paper. Address Monarch Mfg. Co., 206 State St., Chicago, Ill. 221-c

THE RAILROAD COLORS

These Colors are very finely ground, and are all 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.

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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.

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President—WM. GLASS, Sheriff Co. Middlesex.
Vice-President—ADAM MURRAY, Co. Treasurer.
Subscribed Capital, - \$600,000
Paid Up do, - 575,000
Reserve Fund, - 61,000
Total Assets, - 1,339,000
The Company issues debentures for two or more years in sums of \$100 and upwards, bearing interest at highest current rates, payable half yearly by coupons.
Executors and Trustees are authorized by law to invest in debentures of this Company.
For information apply to **JOHN A. ROE, Manager.** 206-44

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TRANS-CONTINENTAL ROUTE TO
**MINNESOTA, DAKOTA, MONTANA
MANITOBA AND BRITISH
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PASSENGERS to the rich wheat-producing lands of the Northwest, and the Agricultural and Mining Districts of British Columbia, will find the cheapest and best route via the Grand Trunk Railway of Canada.
THIS IS THE LEGITIMATE ROUTE TO THE NORTH-WEST, affording a continuous trip and making direct connection with the Steamer lines from Sarnia and Collingwood, and by rail through to all points in the North-west, West, and South-west.

THE GRAND TRUNK RAILWAY, with its powerful and direct connections, and extensive and continuous through line, is THE FAVORITE ROUTE, and can be relied upon. The very best rates will be quoted for freight, passage, live stock, effects, and extra baggage, for emigrants; also for individual emigrants.

It has deservedly gained the reputation of being an exceptionally desirable route for bodies of emigrant settlers. Special attention has been paid to this business, both as regards cars, train service, accommodation en route, and instructions to employees to treat parties and holders of our tickets with courtesy and attention.
Apply for full information to Agents at the Offices of the Grand Trunk Railway.

JAS. STEPHENSON, General Pass. Agent. **JOSEPH HICKSON,** General Manager. 217-1

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The Great Canadian Route to and from the Ocean.

For Speed, Comfort and Safety is Unsurpassed.

Fullman Palace, Day and Sleeping Cars on all through Express Trains.

Good Dining Rooms at Convenient Distances.

NO CUSTOM HOUSE EXAMINATION.

Passengers from all points in Canada and the Western States to Great Britain and the Continent should take this route, as hundreds of miles of winter navigation are thereby avoided.

IMPORTERS and EXPORTERS

will find it advantageous to use this route, as it is the quickest in point of time, and the rates are as low as by any other.

Through freight is forwarded by FAST SPECIAL TRAINS, and experience has proved the Intercolonial route to be the quickest for European freight to and from all points in Canada and the Western States.

The Pullman cars which leave Montreal on Monday, Wednesday and Friday, run through to Halifax without change, and those which leave Montreal on Tuesday, Thursday and Saturday run through to St. John, N. B., without change.

Tickets may be obtained, and also information about the route, and about freight and passenger rates from R. B. MOODIE, Western Freight and Passenger Agent, 93 Rossin House Block, York St., Toronto, and E. DE LAHOOKE, Ticket Agent, No. 3 Masonic Temple, London.
D. POTTINGER, Chief Superintendent, Moncton, N. B. Railway Office, Moncton, N. B., 10th December, 1883. 221-44

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MANUFACTURER OF

DOUBLE MOULD FLOWS with POTATO DIGGER ATTACHMENT
Two-Row Turnip, Carrot and Mangold Drill, Horse Hoes, Iron Harrows, Wagons and Sleighs of different patterns on hand and made to order in their season.
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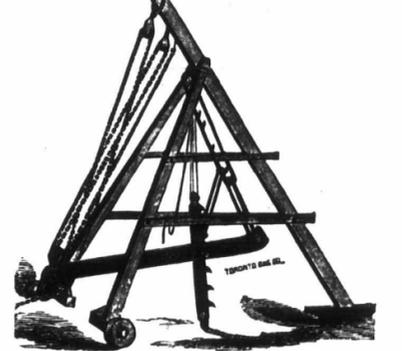


DITCHING MACHINE,
FOR UNDERDRAINING.
Will do more work than 30 men with spades. Guaranteed to give satisfaction. Send for Circular.
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THE CHEAPEST FORCE PUMP
IN THE WORLD!

Especially adapted for spraying fruit trees, watering gardens and lawns, and washing carriages. Will throw a steady stream 60 feet. Can be applied to any service that a cistern or force pump can be used for. Send for Catalogue and Price List. For sale in Canada by Waterloo Engine Co., Brantford, Ont.
FIELD FORCE PUMP CO.,
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The Whitfield Stump Extractor.
The superiority of this machine consists in the rapidity and ease with which it can take out the largest stumps; the ease with which it is operated by man or beast, and the great strength and durability of this machine. It leaves no holes to fill up, nor any stumps or snags in the ground. Send for circular of testimonials and particulars about it before purchasing an inferior machine.
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AMBER SUGAR CAN
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IT HAS STOOD THE TEST FOR 20 YEARS.

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The Canadian

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Containing 28 pages, is handsomely illustrated, and has met with such signal success and encouragement from the stockmen and farmers that its publishers were compelled to enlarge it twice during the present year.

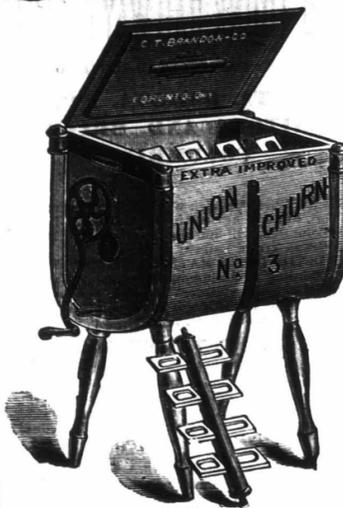
It claims to have no superior in any of its departments of **Stock Raising, the Farm, the Dairy, Poultry, the Apiary, Horticulture and the Home.**

Subscription price, \$1.00 per annum.

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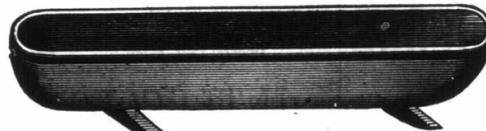
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IS THE FARMER'S FAVORITE.

Because it is the lightest running wagon made.
Because it is made in the most careful manner, from the best selected seasoned timber.
Because no inferior iron is used, and special attention is paid in ironing it off.
Because the wheels before the tire is put on are thoroughly saturated in boiling linseed oil, which is a sure preventive of loose tires.
Because the patent arms made from our own patterns are superior to those made by other makers.
Because all material used in painting it is of the finest quality, which gives it a superior finish.
Because every wagon is inspected in all its parts by one of the members of the company before being sent out.
Because it is just as represented every time.
Because "The Bain Wagon" is warranted to be well made and of good material, and any breakage occurring with fair usage within one year, by reason of defective material or workmanship, will be made good by any of their agents, upon the purchaser producing the broken or defective parts as evidence.

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BAIN WAGON COMPANY,

Woodstock, Ont.

N. B.—We make a specialty in spring wagons. Prices given on application. 214-f