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FARMING

September 27th, 1898.

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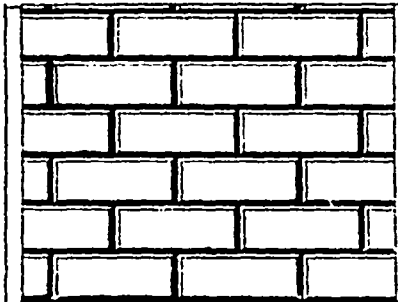
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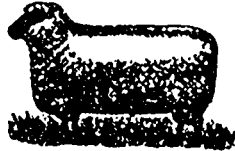


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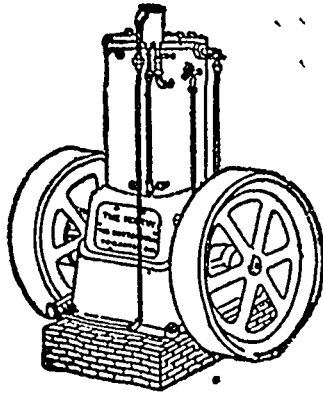


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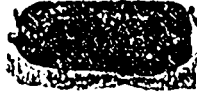
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For a boar or sow of any age, that is right in quality, right in breeding, right in price, and guaranteed to be all right. Address,
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A splendid opportunity to secure choice stock at moderate prices. One hundred young pigs to select from.

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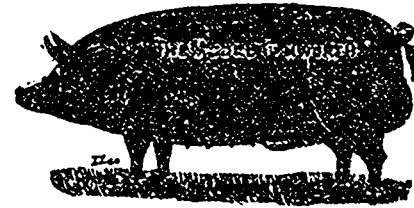
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FARMING

VOL. XVI.

SEPTEMBER 27th, 1898.

No. 4.

Cheese and Butter Makers Meet

The Board of Directors of the Cheese and Butter Makers' Association of Western Ontario met at London on September 17th. There were present: President T. B. Millar, G. E. Goodhand, John Brodie, E. Agur, James Morrison, T. D. Barry and W. W. Brown, secretary, Attercliffe Station. The meeting was called to ratify an agreement between the association and the cheese and butter-makers, the association having secured the requisite number of signatures the agreement now becomes binding. The object of entering into an agreement of this kind is to further the interests of dairying and to induce patrons to take better care of the milk supplied by them for cheese and butter making. A form of agreement for use between makers and factory men was also adopted.

Active preparations are being made for the annual convention of the association to be held at Listowel, Ont., on February 1st and 2nd next. Makers are urged to do all they can to make this meeting a grand success. Cheese and butter makers are also urged to become members of this association and be governed by its rules.



Canadian Horses in Great Britain.

In his report for 1897, Professor Robertson, Agricultural and Dairy Commissioner, says:

"I found that Canadian horses were used largely on omnibuses and for grocery and delivery wagons. The only complaint which I heard against some of them, was that when used steadily on the hard pavements of the cities, occasionally their feet became tender and lame during the first three months. If they passed that period safely, they were most satisfactory animals. I do not know whether the Canadian practice of paring the soles of the hoofs severely, leaving them comparatively thin, may not be a cause for the development of this weakness, when the horse is put constantly on hard pavement. No weakness or injury would be evident on the ordinary roads or streets of Canada.

"The horses which are wanted are sound animals, weighing from 1,100 to 1,250 pounds. They should be well broken to drive in single harness; and a smooth, rounded appearance is a much better quality than exceptional speed. In carriage horses, showy action is considered more valuable than great speed. There is a good demand in Great Britain for horses for cavalry remounts and also for artillery. I was not able to carry investigations into that subject far enough to offer any opinion on how that trade can be developed. But if stallions entirely suitable for the breeding of that class of horses could be obtained, it would seem to be a desirable policy to afford every encouragement to agricultural societies or other bodies, to use such stud horses in their locality, either by premiums, substantial prizes, or some other adequate means."

The information contained in this extract should prove of value to Canadian farmers. Our export horse trade is capable of much greater development than the past few years have shown. But to enlarge this trade our farmers must be in a position to supply the kind of horses the British dealer requires. Quality counts in the export horse trade as well as in any other line of export, and unless many of our farmers change their methods and breed only the right kind of animals they had better expend their energies in some other direction than that of raising horses for ex-

port. To go on in a haphazard fashion, without any system or definite object in breeding, other than to procure a horse, is to court failure both at home and abroad. To procure horses suitable for the British markets or any other market, some definite and fixed line of breeding must be followed and animals selected for the purpose of a kind that will produce the type required.

A very important point touched upon by Prof. Robertson is the proper training of a horse or the fitting him up for the market. How many farmers have real skill along this line? We question whether one quarter of the farmers who are to-day breeding and raising horses, with the hope of selling them at a good figure, know how to train a horse properly for the market. We do not make this statement in any disparaging sense, but merely to point out what we believe to be the real condition of affairs, and with which, we think, the majority of those who have had anything to do with the horse trade of this country will agree. A great many otherwise good horses are spoiled for carriage and driving purposes because of not being properly broken and trained when young. Many of the bad habits of horses, such as shyness, being easily frightened, etc., and which are sometimes looked upon as belonging to the animal's make-up, are due to nothing else than bad training. It therefore becomes a necessity, even if we are able to breed the right kind of horses for the British markets, that these horses should be properly broken and trained. But how is this to be done, if the person who raises the horses is not capable of doing it? The remedy would seem to be to have some middleman properly qualified to train the horses and fit them for the market. Especially is some better method than the one now practised needed in fitting up carriage horses and drivers. We do not think we are far astray when we state that the value of a good driver or carriage horse may be increased at least one quarter by being properly broken and trained. The purchaser who takes a fancy to an animal will give considerably more for that animal if he has been properly broken and trained than if he has been badly trained and has to be broken over again. All this is something that should be considered in endeavoring to develop our export trade in horses, and more particularly in those designed for carriage and driving purposes.

The suggestion in the above extract of encouraging agricultural societies or other bodies to use such stallions in their localities as would be suitable for the breeding of the class of horses required for the British cavalry and artillery is one that should be acted upon. Horses for cavalry and artillery purposes require to be of a certain standard, to produce which a special line of breeding is necessary. If we can produce the kind required there is no reason why a large trade in this line should not be worked up. It has been our contention for some time that some plan should be evolved whereby farmers might at comparatively little cost have the services of stallions of the right type. In some European countries, such as Italy, very rigorous measures have been adopted along this line. A law has been enacted whereby all stallions are subjected to a rigorous inspection, and not allowed to be used for breeding purposes except under a special license. Under these regulations a great improvement has been effected in the quality of Italian horses. This country may not be ready yet for such rigorous measures, but some modified form of licensing or controlling the stallions used for breeding purposes might have a beneficial effect. It has been suggested that a

system of licensing might be established whereby a certificate might be granted to stallions that would pass the inspection of properly qualified judges. This would not interfere with the interests of any breeder, but would enable the owner of a really good horse to have his qualities recognized by paying for a certificate to that effect. Such a scheme, if properly carried out, would enable the farmer to select the best animals without any difficulty. In the certificate might be included a description of the horse named therein, showing his breeding and previous record. This plan seems workable, and might be something for the Canadian Horse Breeders' Association to take up. In the meantime we would like to hear from horse-breeders and others in regard to the scheme.

A Growing Demand for Canadian Farm Products

Mr. R. H. Ashton, representing the firm of R. Kenneth & Co., London, England, is at present in Canada endeavoring to work up a trade in Canadian farm products. Last fall this firm began to handle Canadian products, and the results so far have been so satisfactory that they are desirous of working up an extensive trade on this side. They handle all goods on commission with the exception of apples, which they are prepared to buy outright at good prices.

Mr. Ashton, who returned to Toronto a few days ago from a trip through Western Ontario, where he was successful in securing considerable business for his firm, is very optimistic in regard to the outlook for Canadian products in Great Britain. His statement in regard to Canadian creamery butter is particularly encouraging. In many instances it sells for as high a price as the Danish article and is just as good in quality. If our creamerymen continue to make the same advancement they have during the past year or two, it will not be very long before Canadian butter will replace the Danish article to a very large extent. The large sales of oleomargarine in England is very injurious to the English butter trade, and, as it can be sold much cheaper than the latter, replaces the genuine article to a considerable extent.

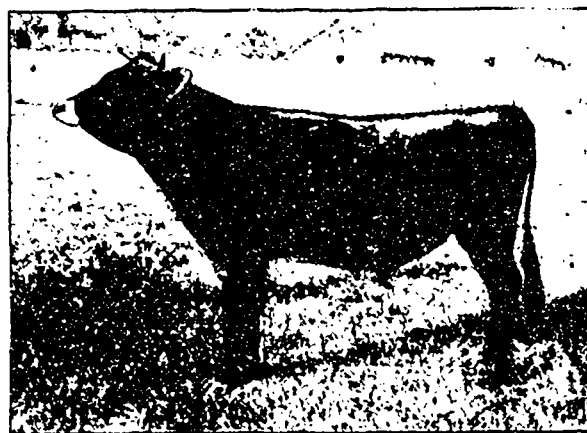
In regard to Canadian apples Mr. Ashton is of the opinion that the trade in these can be developed to an almost unlimited extent, provided that the best fruit is sent forward in the best condition. All apples designed for export should be carefully picked and packed. Bad or loose packing injures the fruit very much. When the apples are loosely packed they are easily bruised, causing them to decay very rapidly. Bad packing may lessen the value of the fruit in England by one quarter, and, in many cases, even to a greater extent. If fruit is injured when it arrives in England it has to be sold at once and sometimes has to be sold at a great loss to the shippers. Mr. Ashton is a thorough believer in the efficacy of spraying in improving the quality of the fruit. The very best results, however, cannot be obtained by spraying one orchard in a locality and not the rest. If an unsprayed orchard is near a sprayed one the latter, though showing many good effects from the spraying, will be affected by it and not show as good results as when both orchards have been sprayed.

The poultry trade is another branch that is receiving Mr. Ashton's attention. The bulk of the poultry imported by England comes from France and Ireland, but an extensive trade can be worked up in Canadian poultry also. This trade, however, like the apple trade, cannot be carried on in a careless way. A proper system of feeding and preparing the poultry for market must be followed. What is known as rough plucking is the best. Poultry should not require any food for forty eight hours previous to killing, and should be left undrawn, with all the feathers carefully removed, excepting those on the tail, neck and wing tips. Mr. Ashton objects very strongly to the use of Indian corn for fattening poultry. It causes the liver to decay and turn yellow, and makes the meat soft and yellowish, and not as good as when the grains are used. Buckwheat is one of

the very best foods for poultry. If fed with barley or oats the very best results can be obtained.

Turkeys for the British markets should weigh from 14 to 18 lbs. when dressed, geese, from 6 to 8 lbs., and chickens, from 6 to 8 lbs. per pair. Turkeys are usually sold by the pound, geese by the carcass, chickens by the pair, and game by the brace. All poultry should be plump and looking well. Geese for the British market should not be too fat or too large, but, in the case of turkeys and chickens, the larger the better. All poultry should be fattened as quickly as possible, and to accomplish this quickly, they should be kept in a dark place. Mr. Ashton quite approves of the plan to be tried at Quebec and Ontario points this winter by Prof. Robertson of having poultry finished for the market. A great deal can be accomplished in this way by educating our farmers how to fatten and prepare the poultry for market.

The Canadian egg trade is also capable of greater development. Eggs for the British markets should weigh about 15 lbs. per long hundred (120). Eggs are usually sold by the retailer at 50 many per shilling. The number that he will give for a shilling will depend upon the condi-



Imported Jersey Bull Brampton Monarch. Owned by B. H. Bull & Sons, Brampton, Ont. He won first in the yearling class and sweepstakes for the best Jersey bull of any age at the Industrial Fair, 1898.

tion of the market and the size and quality of the eggs. From September till March the retailer gives, on an average, about 16 packed or foreign eggs for a shilling. This is at the rate of 18 cents per dozen. Strictly English fresh eggs are usually worth during this time about two pence apiece, and sometimes as high as five for a shilling, or nearly five cents each. There is, therefore, a very wide difference between what Canadian packed eggs sell for and what is received by the retailer for strictly fresh English eggs. Mr. Ashton is strongly of the opinion that if the Canadian farmer will produce the right-sized eggs, and will gather them every day and have them shipped regularly once or twice a week to a place where they can be properly looked after and made ready for shipment, this margin can be greatly reduced and the price of Canadian eggs almost doubled. What the British dealer wants when selling our goods is to be able to guarantee that the quality is good. If this is assured, and a good reputation established, there need be no fear of finding a good market in Great Britain for Canadian farm products.

Pig Breeding in the South of Ireland.

The following extract from an English journal, *The Farm, Field and Fireside*, of August 26th last, will be of interest to those who are catering to the export bacon trade. Whether the same plan as given below could be carried out in Canada is hard to say. There is no doubt, however, that if the pork packers of this country arranged to supply our farmers with the use of boars of the bacon type free of cost they would be quite willing to accept such a favor. It would perhaps be a greater task than that which the Bacon Curers' Association of Ireland have under-

taken. But it might be worth trying in some districts where the farmers have not evinced any strong desire to comply with the requirements of the export bacon trade. It would require considerable expenditure on the part of the packers to cover the ground thoroughly, and we are somewhat of the opinion that they could expend the money to better advantage in other ways. One way to educate the farmer is to touch his pocket, and if our packers would pay enough more for first class bacon hogs than for thick fat ones to make it worth while for him to grow and raise the bacon hog he would soon put himself in a position to do so. At the present there is not enough margin between the two. If the price of bacon hogs was one dollar per cwt. more than for thick fat ones instead of from twenty-five to forty cents as it is at the present time, we venture the assertion that our farmers would soon find a way of providing themselves with the right type of hog for bacon-producing purposes.

"The Bacon Curers' Association of Ireland, which comprises the leading firms in the trade at Cork, Limerick, and Waterford, are now distributing all over Munster well bred Yorkshire boars that are calculated to greatly improve the breed of pigs raised by farmers in the southern province. These boars have been obtained at considerable expense from the best herds in England for the purpose of infusing, in due time, new blood into Irish-bred swine, so that the progeny will be most likely to suit the requirements of the bacon trade as far as the raw material is concerned. In connection with the maintenance and proper development of the Irish bacon industry a much better class of animal than those usually raised throughout Munster is urgently needed, hence the object in view in importing the best bred boars that could be obtained from England and their distribution amongst the farmers of the south.

A number of inspectors have been appointed by the Bacon Curers' Association whose business it is to travel through the province of Munster, placing the boars at centres where most required, and at the same time to diffuse the most reliable information to farmers and others interested in the matter as to the best method of raising pigs suitable for the Irish bacon trade in future.

The boars have been located with farmers whose holdings are centrally and conveniently situated, to facilitate and encourage the farmers of each district to avail themselves of the opportunities offered them in this way of improving the class of pigs bred in the southern counties.

As a rule, the farmers are only too glad to avail themselves of the boon which the thoughtfulness of the Bacon Curers' Association has provided for them in this respect. These boars are distributed practically free in each district for breeding purposes, but the animals are held by way of loan from the Association, who still retain the boars as the property of the bacon curers concerned in the scheme."

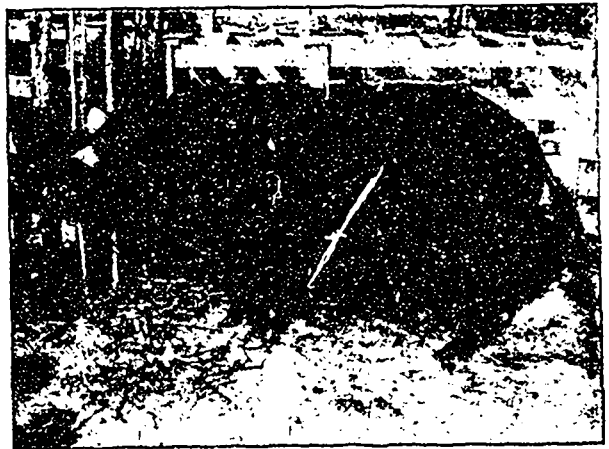
Creamery Versus Dairy Butter in Manitoba.

A rather novel state of affairs exists in connection with the development of the creamery butter trade in Manitoba. As is well known, this industry has made rapid progress during recent years under the guidance of Provincial Dairy Commissioner Macdonald. But it would appear that the development of the creamery butter trade is receiving a setback from a source little expected, and those who are responsible for it have done so without any thought whatever of hampering the creamery business in any way. In many of the small towns of Manitoba there is a strong rivalry between local merchants to secure the farmers' trade. One of the means adopted to secure this trade is to pay the farmer a good price for his butter. One merchant will announce a special price for dairy butter; then his competitor will go him one better, and so on, till the farmer receives a great deal more than the article is worth. To such an extent is this practice carried on in some of the Manitoba towns that the creameries in the localities are losing nearly all their patronage, as the farmer thinks he can

make more by making his own butter and disposing of it on the local market.

On the surface this rivalry between the local merchants of Manitoba would appear to be a great "boon" to the farmers of that province. But when we look into the question a little more deeply it does not take on such a golden halo. In the first place it is not at all likely that these rival merchants pay the farmer cash for his butter. If he gets a higher price from the local merchant than from the creamery the farmer will have to take trade in exchange. And what does this mean? It means that it is not such a great snap for the farmer after all. The merchant, if he has to give more for the butter than it is worth, is very likely to make it up by charging the farmer a good price for the merchandise he gets in exchange for it. Then there is the extra work which the farmer or rather the farmer's wife has in making the butter. But we suppose it is the same with the Manitoba farmer as with the farmer in the older provinces. Any labor performed at home or by the women folk is looked upon as valueless. Does the pinched face, the haggard look and the faltering step of many a farmer's wife indicate that the share of the farm work she performs costs nothing? We think it does; much more than can be measured in dollars and cents.

But all this may be somewhat aside from the question. Manitoba is endeavoring to establish a reputation for the quality of her dairy products, and everyone who has had any experience with the export butter trade knows that that trade cannot be developed and made a success by every farmer making his own butter. The dairymen of Ontario and the older provinces have had a sad experience in this line. Once upon a time, in the last quarter of a century, Canada sent to England more butter than she has even this season; but because that butter was made in private dairies, and had as many different colors and flavors as it had makers, the trade was lost, and a new beginning had to be made. Thanks to the co-operative creamery, our export butter trade is again assuming large proportions, and in a very few years will be one of our most important industries. If the Manitoba dairyman wishes to have a share in that trade he must adopt the co-operative creamery method of manufacturing the butter. From what we know of that country we would say that it is admirably adapted for the production of a very fine quality of creamery butter, and it will be a great misfortune, from which the farmer will suf-



Tamworth Boar, winner of 2nd prize for boar over 2 years old, at the Industrial Fair, 1898. The property of John Bell, Amber, Ont.

fer most, if some little side issue like the above should creep in and prevent progress.

Hog Feeding and Poultry Fattening Stations

The Dominion Department of Agriculture, under the direction of Prof. Robertson, is arranging for conducting a series of experiments in Western Ontario on the feeding of hogs, to try and discover the cause of what is called soft

hogs and soft bacon. Several different lots of swine will be fattened on Indian corn and with other foods in connection with some of the cheese factories. When these different lots of swine are fattened they will be sent to one of the well-known packing houses to be killed and cured, and the bacon and hams will be forwarded to Great Britain in the usual way, so that the department may be able to get a report back from the merchants and ultimate consumers that will be of value to the Canadian producer in helping him to make the quality of bacon that will best suit the British tastes. Similar experiments will be carried on at the Central Experimental Farm and the department expects as a result of these and the larger experiments carried on in the country to get valuable information that will be available next spring.

In addition, the Department will open a number of poultry fattening stations, which will be limited, at present, to Ontario and Quebec, but as yet the exact locations have not been decided upon. While in Great Britain, Prof. Robertson found that a large part of three counties, during recent years, had become really a poultry-farm. The difference between the poultry business as carried on there and in Canada is that, while Canadian chickens have been killed in a lean condition, those across the water are not killed till they are fat and plump. The financial side of the scheme is presented by Prof. Robertson something like this: A housekeeper buys a pair of chickens for forty cents of which there would not probably be more than two pounds of edible portion. If these chickens were fattened for a month and made to gain two and one-half pounds each, the housekeeper would get, instead of two pounds of edible meat in a pair of chickens, at least six pounds. If these fattened chickens were paid for at the same rate per pound of edible meat as the others, that would make their cost \$1.20. This would be cheaper eating, and the quality of the meat would be much better than if lean chickens were bought at forty cents a pair. The object of these stations, then, is to show how farmers may increase the value of their poultry by having their chickens properly fattened before being killed.

There can be little doubt but that these experimental series will bring good results to the farmer. Our pork-packers have been complaining for some time of the soft quality of the bacon made from hogs bought in certain sections of the Province, and if it can be shown by a totally independent authority that this soft and oily fat bacon is due to the feeding of Indian corn, it will have more weight with the farmer. We believe that in one or two sections in the West large quantities of beans are fed to hogs, and we would suggest that an experiment in feeding this food to bacon hogs be tried, as it is claimed in some circles that it may be the cause of some of the soft bacon produced. Poultry-fattening stations are a new venture, but the reasons given for them are so strong as to amply justify their establishment. If they enable the farmer, by proper fattening, to make his poultry more valuable, we cannot have too many of them in this country.



The Binder Twine Outlook.

Present prospects indicate that the manufacturers of binder twine in this country will have no such snap next year as they had this. From all accounts, and if no unforeseen contingency, such as a Spanish American war, arises, Canadian farmers will be able to get their crops tied up a great deal cheaper in 1899 than in 1898. The price of binder twine and hemp is declining every day. The former has dropped from 15c. and 18c. per pound to 8c. per pound, with the possibility of even much lower figures by two or three cents. In six weeks hemp has fallen from 11c. and 12c. to 6¾c. and 7c. per lb. These figures indicate the tendency of the market and what both the farmers and the manufacturers have reason to expect in next season's trade. The outlook at present is very much more in favor of the farmer than the manufacturer; but the former need not care so long as he can be assured of cheap twine.

As far as we can learn, the real situation at present may be summed up in this way: The whole estimated consumption of binder twine in Canada is but a shade over 8,000 tons. It is also estimated that from 2,000 to 3,000 tons of binder twine is being carried over from this season to 1899, and which is held principally by the smaller dealers all over Canada. The American factories produce every year more than is consumed in the United States, and as there is no duty on binder twine, this over-production can be shipped into Canada without any extra charge. It is estimated that the American factories, under ordinary conditions, can place five per cent. of their total production (about 4,000 tons) on the Canadian market without their own trade suffering in the least, as their harvesting season is over ten days or two weeks earlier than ours. This will leave only a couple of thousand tons to be supplied by our own factories for next season's trade, and puts the farmer in a position of comparative security regarding an abundant supply of cheap twine for 1899.



Pasteurizing Milk and Cream

The following taken from some notes supplied us by the Wisconsin Dairy School will be of interest to those engaged in handling and caring for milk and cream.

"Our four years' experience in pasteurizing milk and cream for retail shows that it is *absolutely useless* to attempt to pasteurize milk that contains 0.2 per cent. or more of acid or to use such milk for making pasteurized cream.

"Milk that tests over 0.2 per cent. acid contains a great number of spores, and these are not destroyed by the



Two Shropshire Rams owned by John Campbell, Woodville, Ont. The one to the right is the celebrated sheep The Comet, which has never been beaten in this country and won 2nd as a yearling in England before being imported. The other is a shearing ram of Mr. Campbell's own breeding. Both won first place in their classes at the Industrial Fair, 1898

pasteurizing temperature, hence they develop and spoil the milk or cream even though it has been pasteurized. If the milk is selected and only that which tests less than 0.2 per cent. acid is used, the pasteurized product can easily be kept in a perfectly sweet condition for at least one week. This statement implies of course the proper attention to details in the pasteurizing process and keeping the products cool (50° F.) until they are consumed."

This involves a somewhat new problem in the pasteurizing of milk and cream. It may explain to some extent why it is that pasteurized skim-milk in some cases will sour so quickly. If the milk has not been properly cared for before being sent to the creamery and is partially soured according to the above, the pasteurizing will not preserve it so that it can be kept for any length of time. It therefore becomes incumbent upon those who supply milk to the creameries to do all in their power to preserve it in a pure condition if they wish to have skim-milk returned that will keep.

This also explains why it is that the heating of the whey at the cheese factories has not given the results claimed for it. The bulk of the whey when it reaches the whey tanks at our factories is pretty well on in the souring stage. If it is not sour when run into the tank, the condition of the tank is usually such that it very soon sours and the pasteurizing has very little effect upon it. The only way

to overcome the difficulty is to heat the whey much hotter than is required for pasteurizing, and thus kill the spores which cause the souring.

Judging in the Swine Department

In the report of the swine at the Industrial Fair last week it will be noticed that in some of the bacon and fat hog classes the same set of judges made the awards. In conversation with several exhibitors of what are looked upon as the bacon breeds, they were strong in their objections to this plan. They claim that a judge or judges should be selected who are thoroughly familiar with the bacon type of hog, and should judge the breeds in that class and no other. Their reason for this contention seems to be that no matter how capable a man may be for judging both classes, if he judge the fat hogs first, this type will be so fixed upon his mind that it will affect his judgment in the bacon classes and *vice versa*.

However true the reason given above may be, there seems to be good ground for the contention that some distinction should be made when selecting judges for the bacon and heavy fat types of hogs. The success of an exhibition in so far as the exhibitors are concerned depends largely upon the amount of faith they have in the ability of the judges to make the awards justly. If a person is allowed to judge in too many classes or types the opinion not infrequently prevails that "he is jack-of-all-trades and master of none." It therefore seems reasonable that, if, as is being demonstrated every day, there is a special type of bacon hog, persons should be selected to judge the breeds of this type and no other.

It might be well also if some special prizes were given for the best bacon hogs of any breed. This would prove instructive to visitors and would furnish an opportunity to exhibitors of all breeds to compete. As it is now there is no class in which the breeds can compete with each other, and the breeder of the so-called fat type of swine has no chance of showing how his hogs will measure up with the recognized bacon types. It seems to us that just here is a splendid opportunity for the pork packers to do something for the bacon hog, which they consider so essential to the success of the export bacon trade. If they were to unite and give a few special prizes at the leading fairs for the best bacon hogs, in which all breeds were allowed to compete, it would do much towards establishing beyond doubt just what the bacon type should be. They could select their own judges and make the awards without the least partiality to any particular breed. Perhaps this gentle hint will be the means of bringing about something of this kind before another Industrial Fair takes place.

Profitable Sheep Farming

In a recent issue of *The Kansas Farmer* Mr. J. C. Morton, of that State, gives the following detailed account of the net revenue from fifty-one ewes on his farm for the present year :

"This year I sent seven four-year-olds, sixteen three-year-olds, three two-year-olds, one yearling, thirty-four lambs and one yearling ram to market, sixty-two in all, and there was room in the car for forty more easily. The sixty-two weighed when shipped 6,100 pounds, and I paid 17 cents per hundredweight on 11,000 pounds, or \$18.70, with 25 cents deducted for bedding the car. At Kansas City the sheep were sold in three lots—the lambs, ram and the older sheep. The shrink was six and one-half pounds each. A heavy rain on the fleeces caused the market to fall one-fourth cent, so I did not get 6 cts. for the lambs, as I had hoped. Here is my bill: twenty-seven sheep, 3,200 pounds, at \$4 per cwt., \$128; thirty-four lambs, 2,380 pounds, at \$5.75 per cwt., \$136 85; one ram, 130 pounds, at \$4.25 per cwt., \$5.52; freight, \$18.45; yardage, \$3 10; revenue stamps, 3 cents; commission, \$6; total, \$27.58.

Net amount, \$242.79. Add to this \$30, that I got for two rams, and \$63.55 for the clip, and it makes \$336.34 net cash income from fifty-one ewes, one of which died, and I have left a superior flock in all respects, or about \$6.70 income from each ewe in the flock. This is almost \$1 a day for every day in the year, and will help to point out to others whether sheep will pay or not."

Though this record was made in the Western States under conditions somewhat dissimilar from ours it shows what can be done by putting skill and business sense into sheep farming. The writer does not say what it costs to keep his sheep or to produce the stock sold, but we presume if everything were taken into account—the value of sheep in maintaining the fertility of the land; their good offices as scavengers and destroyers of weeds and the small amount of care they require—a good showing would have been made. The American sheep grower has, no doubt, a better market than the Canadian sheep breeder has for his product, but, even so, there is room for profitable sheep farming to be carried on under our own conditions. Even if each ewe kept gave a couple of dollars less income than in Kansas there is good profit in the business if properly managed. All that is required is to secure a good kind of sheep to begin with, and then surround them with conditions under which they may thrive.

We have always advocated very strongly the keeping of more sheep on Canadian farms, and we are pleased to know that there is evidence of an advancement along this line. Sheep breeders report brisk sales and an excellent demand for sheep among Canadian farmers. As an encouragement to others we would like to hear from some of our sheep farmers just how profitable sheep-raising in this country is. A statement like the above from some of our Canadian sheep growers would be very valuable indeed, and we trust that those interested will send us something for publication before long. There is no doubt that double the number of sheep that is now kept on the average Canadian farm could be kept without lessening one whit the returns from the other branches of farming.

The Poultryman's Way

By W. R. Graham, Belleville, Ont.

From the time a chick is hatched until it dies there must be a constant fight against vermin. Lice are a terrible scourge when they once get numerous.

A few weeks ago a poultryman called and asked me if I would go over and see what was the matter with his chickens. He said that they were not growing at all, and were dying by the score. Upon investigation I learned that in addition to the incubator he had set a few hens in his brooder house, and that the chicks from both the hens and incubators were placed in the same brooders, the hen-hatched ones were badly infected with lice and soon shared them with those from the incubator, the result being that the whole brood was affected. There were chicks hatched during the early part of April that would not weigh half a pound. Such a sight I never beheld. There were about five or six hundred in the flock.

How to get the blood suckers killed was the question. On investigation a few mites were to be found and all round were to be seen large body lice. A good dressing of coal oil over the roosting place soon got rid of the mites, but the body lice could only be combated by catching each chick and greasing the heads and necks with warm lard, to which had been added a few drops of carbolic acid. Several other remedies were tried, but the lard was the most successful. Two applications practically freed the little chaps and since then they have grown nicely.

If your hens are not doing well, turn back a few feathers on the neck near the head, look closely, and if you find lice use the lard freely. It can easily be applied from an ordinary machine oil can. We make a practice of greasing every hen during this month, as "prevention is better than cure."

Canadian Lambs at Buffalo

The Quality Deteriorating—A Pointer for Our Breeders and Feeders

The following extract from *The Buffalo Mercantile Review*, sent us by one of our subscribers, deserves special attention by Canadian sheep breeders:

"There was a time, not so very long ago, when it was a matter of general comment that Canadian lambs were superior in quality, finish, and freer from bucks than our native stock, but that day has gone by, and now a full load or deck of all ewe or wether Canadian lambs is a rare thing. Many of our Canadian breeders, like too many of our western feeders, have evidently lost their pride in bringing the best to the market."

Buffalo has been looked upon as one of the very best markets for Canadian lambs, but if the above is correct it is not likely to continue so for very long. If the buyers there begin to feel that the quality of Canadian lambs is deteriorating it will not be very long before our stock will bring a very secondary price. We suppose there is a certain percentage of bucks to be sold in any case, but would it not be better to sell them separately rather than with the ewe and wether lambs? They only injure the quality of the latter, and prevent the highest price from being obtained, and, besides, serve to give Canadian lambs a bad reputation. The last sentence in this extract contains a truth which every sheep breeder and farmer should take home. If the best is not sent to the market the highest price cannot be obtained. Our breeders, or whoever are responsible for the condition of things referred to, should act at once and endeavor to get the quality of Canadian lambs sent to Buffalo back to the old standard.

Feeding Pigs

Extract From Report of Commissioner of Agriculture

It is impossible to raise swine successfully in large numbers without giving them skim-milk or butter-milk, or a good run of clover pasture when the young pigs are growing. During the winter time a quantity of clover hay, cut, steamed and soaked for three hours, is an admirable addition to the feed of growing swine. Where pigs are put in pens and fed on grain only from the time they are weaned, a large proportion of them will become sick and go off their feet before they are fully fattened.

Hogs should never be given more feed at one time than they will eat clean, and still have an appetite for more. Overfeeding keeps the hogs from being active in taking exercise; and that causes them to grow too fat and soft. It is a good plan to feed as much as they will consume and digest to advantage. That will keep them hungry for every meal. Experienced feeders claim that regularity in the time of feeding will cause more rapid gain in weight than when there is irregularity even to the extent of one hour in the meal time.

The feed of swine should be reasonably clean. It should certainly never be in a putrid condition.

Agricultural News and Comments

A new industry has been started in Winnipeg which opens up a new trade in the west. It is a gigantic abattoir and cold storage establishment for the making of dressed meats. The building is said to be much more pretentious than the one Armour started with in Chicago. The main cooling room has a capacity of 1800 carcasses and 19,000 square feet of space has been secured for cattle, sheep, and pig pens.

In 1885 Manitoba and the Territories were importing cattle from the east; in 1889 the tables had turned and they were exporting 8,000 or about one-twelfth the entire number exported from Montreal; in 1891 they exported 12,000 head; in 1893 Manitoba alone exported 18,000 head or one sixth of the entire export from Montreal, and

in 1895 the firm of Gordorn, Ironsides and Fares, the builders of the abattoir, alone exported 32,000 head or more than one-third of the entire export from Montreal for that year. The cattle trade in the west is therefore expanding at a very rapid rate and that section of the Dominion may yet become an important factor in the world's meat supply trade.

The Dominion Department of Agriculture under the direction of Professor Robertson is establishing poultry fattening stations at Quebec, Ottawa, and Winnipeg. These stations are for the purpose of illustrating the proper method of fattening poultry for the export trade. While in England Professor Robertson found that such stations were money-making institutions. Fowls ordinarily weighing from three to three and one-half pounds can, by proper feeding and attention, in about three or four weeks be made to weigh seven pounds.

The Minister of Agriculture for Victoria, Australia, is very desirous that that colony should make an effective display of food products at "Greater Britain" Exhibition to be held in London next year. He points out that Great Britain imports annually over £100,000,000 worth of food, and that almost every description of this food could be supplied by Australia. Last year the exports of food products from Victoria amounted to only £780,000 in value, and consisted chiefly of butter, rabbits, meat, fruit, and wine.

Germ Life in the Cow Stable

By M. N. Ross, B.S.A.

The science of bacteriology is forcing more attention to be paid to the details in the production and manufacture of our chief food substances than has hitherto been thought necessary. As a result many kinds of food can now be obtained in a purer and better condition than was possible under the old methods, and at the same time the cost of their production has been much lessened owing to the prevention of waste and decay, and, what is still more important, a great deal of sickness and disease is prevented.

It has long been known that milk obtained from cattle kept in filthy and ill-ventilated stables becomes impregnated with the odor of the stable and turns sour or rotten sooner than milk produced in clean stables. But it is only comparatively recently that the exact cause of these changes in the milk has been ascertained, and owing to this knowledge it is now possible to take steps which will enable the milk to be secured and kept wholesome by the employment of the most economical and effective methods.

Science shows that all the changes and most of the taints in milk are caused by living organisms; it shows that these organisms require food in order to multiply; that there are certain temperatures at which they grow most rapidly; others at which their growth will be checked, and others at which they will be killed entirely. It shows also that as long as these organisms are growing they are either acting upon the substance in which they live in order to render it more suitable for their own nourishment, or that they are giving off excretory products which may act upon the food substance so as to change its composition, and which may also act as poison to any person eating the food, some germs found in milk have no appreciable effect on it.

In order to guard against the losses caused by tainted or sour milk the farmer has to employ no expensive or tedious methods. He must first ascertain how the organisms gain access to the milk, what the conditions are which are most favorable for their growth, and then how they may most economically be got rid of or controlled. The sources of contamination are many, but those which are most completely under the control of the farmer are the cow's hide, the fodder, the bedding, and the manure.

By far the largest number of germs which are found in the milk come from the cow's coat and udder while being milked, and it will depend entirely upon the manner in

which the cow is kept, what number, and to a great extent what kind, of germs will be found upon her, every hair and particle of manure which falls from the cow is covered with bacteria, and it is only by allowing the milk to stand for several hours and then examining the sediment that any idea of the enormous quantity of dirt there is, even in strained milk. As soon as the germs fall into the milk they commence to grow and reproduce; the warm temperature of the new milk being favorable for their most rapid development. A great deal may be done to remove this source of contamination by keeping the cow well groomed, and by damping her flanks and udder with a wet cloth immediately before milking. This is done because it is impossible for germs to leave a moist surface, and thus they will remain on the cow instead of falling into the milk.

The fodder. If it is dry fodder, such as hay or straw, it should, if possible, always be cut and then dampened before being brought into the stable; this will prevent the formation of dust and the consequent dissemination of bacteria. All decaying foods, such as spoiled silage, musty hay, old brewers' grains, or rotten roots, should strictly be guarded against. It is now known that their decay and odor is due to the action on them of bacteria, usually putrefactive, or moulds, and if any of these are brought into the stable, and the germs fall into the milk, they will, in many cases, reproduce in it the same bad smell that they caused in the rotting food.

The manure is probably the source of the most injurious germs. Any particles which are splashed upon the walls or passage and allowed to dry there will be distributed through the air as fine dust whenever disturbed. Cow manure contains large numbers of germs, one of the commonest being the bacillus *coli communis*. This germ is nearly allied to that which produces typhoid fever, and it, together with others frequently found in milk, and which have originated in the manure, are the direct cause of most of the cases of diarrhoea met with amongst babies and children, and which often ends in death. A great part of the disagreeable odor of cow manure is owing to the presence in it of bacteria, and that in many cases the similar disgusting taint met with in milk is due to the presence in it of these bacteria is certain, because milk which has not stood in the stable for a longer period than the time it took to milk will often develop a strong cow taste after several hours. In those cases in which the taint is absorbed from the bad air it will tend to grow less instead of greater the longer the milk is kept.

Flies are a great factor in the distribution of germs. They assemble upon and crawl over any filth and putrefying matter, which is always full of germs; these will cling to the legs and bodies of the flies and will be carried by them wherever they go; often on to the hands of the milker, the teats of the cow, and even directly into the milk pail. In many cases they cause blood-poisoning and gangrene when carried by the flies on to open wounds and scratches. For these reasons flies should carefully be excluded from the stable in summer.

There is scarcely anything consumed which is half as dirty as the milk which comes from the average cow stable. As a rule, the stable is filthy, the cows are filthy, and the men who do the milking are filthy. Wherever there is dirt there will be germs, and the germs in dirt are there for the purpose of decaying it, and so getting rid of it. Each kind of germ has its own special function and mode of growth as has each plant, and so these putrefactive germs found in organic dirt will continue to perform their putrefactive work as soon as they come in contact with milk.

One may argue that because the air is so full of germs that it is useless to attempt to do anything against them. It is impossible to keep the milk in the air germ-free, but the kind of germs can, to a great extent, be controlled. It must be clearly understood that the germs which originate in decaying organic matter, such as manure, are those which cause the worst results when taken into the system and which give the worst taints to the milk. Wherever there is dirt there will be germs, and the increasing spread of this knowledge led to the recent demand in Toronto for

official inspection of cow stables which supply milk to that city similar to that which is now enforced in many European cities to the gain of both the producers and the consumers.

In order to obtain and preserve milk as free from germs as possible (it is impossible to press them all out) attention must be paid to every detail in the cow stable. Of course it is taken for granted that the pails and cans are kept scrupulously clean. All feeding, bedding, sweeping and grooming should be done so as to allow as long an interval between it and milking time as possible, in order that the germs may have time to settle. It will greatly assist in keeping the air of the stable pure if, after all sweeping is done, the floor is given a coating of lime wash once a day, or even twice a week, if oftener is not convenient, and occasionally the walls and mangers. This, if done with a broad brush, will take little longer than ordinary sweeping, and, if the lime is fairly fresh, will kill most of the germs with which it comes in contact, and in any case will hold them to the floor, where they will soon die. The appearance of the stable will be much improved, which is often an important consideration in stables supplying milk close to town.

The milker's hands and arms should always be washed before milking, and, if many cows are to be milked, they should be washed several times, as each time he carries around the milking stool, or touches a cow to make her stand cover, he runs the risk of covering his hands with germs. On no account should he be allowed to moisten his hands or the teats with milk.

The receiving cans for the milk should not be kept in the stable while being filled, but in a milk room kept expressly for that purpose, or even outside if there is no such room; the milk should always be strained into them, and they should always be kept covered.

As soon as all the milking is finished, the milk must be treated so as to afford the least possible chance for the growth of the germs. In a few cases it is possible to pasteurize and separate the milk immediately. This is, of course, the most satisfactory method for the creamery business, but, in ordinary cases, the best thing that can be done is to cool the milk down to as low a temperature as possible, and as quickly as possible. The latter point is important, because as long as the milk is warm the germs will continue to grow rapidly; the low temperature will not kill them, but it will prevent their multiplying and so affecting the milk.

CORRESPONDENCE

Profitable Farming

Another Query for Mr. Macpherson to Answer.

To the Editor of FARMING:

In your issue of August 30th there appears a long letter on "Profitable Farming," by Mr. D. M. Macpherson, of Lancaster, which is written as a reply to Mr. Hobson's letter of 16th August on the same subject.

I read Mr. Macpherson's letter with much interest until I came to the latter part of it, where he goes into a "demonstrated practical example," and compares the profits derived from one acre of clover matured and cut for hay and one acre pastured and converted into pork.

He shows, in the former case, that a farmer gets nothing for the use of his land, and in the latter he can realize a net cash profit of \$200, besides a fertility profit of \$100.

Will Mr. Macpherson be kind enough to inform me, through your columns, what he paid for his fifty young hogs of 40 lbs. each? He says nothing about this in his estimate. This spring I sold forty young pigs, weighing from 25 to 30 lbs. each, at \$4 a head, so that Mr. Macpherson's would surely be worth \$5 apiece. Take fifty at this figure and where is Mr. Macpherson's net cash profit. Perhaps he gets the 40-lb. hogs for the lifting in his part of the country. Awaiting his reply, I am, etc.,

Enderby, B.C. Sept. 8th., 1898. GEORGE HEGGIE,
Manager for Sir Arthur C. Stepney.

OTTAWA EXHIBITION.

The Central Canada Exhibition held at Ottawa, Sept. 16th to 24th, was the last of the trio of leading fairs in Ontario. This is the eleventh year under the present management and the Directors and Manager, F. Mac Mahon, deserve great credit for their excellent show. During the past year they have added to the grounds about fifteen acres partly by purchase and partly by filling in marsh and waste land on the banks of the Rideau. The city own the grounds and the buildings and lease them to the Fair Association, who keep them as a public park, laid out in walks, &c., and when needed for games and attractions lease them to suitable applicants. They keep caretakers and others to look after the buildings and manage them much more economically than could any sub-committee of the city aldermen. They have this year made a great many improvements. A grant of \$70,000 has been largely expended in adding buildings suitable for the fair. A large main building, arched roof and iron-clad sides, 134 ft. wide and 310 ft. long, has been built, and, while not yet quite finished, was filled by exhibitors with a lot of show goods.

This new building was crowded to the doors with many and rare exhibits. A large addition has been made to Machinery hall, and the poultry buildings have had a wing added 36 x 50. The buildings for cattle and stock are of the most modern construction, and the cattle men especially have the best attention paid to their comfort. The buildings are the most suitable of any in Canada. In the pens for sheep and swine there is still room for improvement. This will come in time, as have the many improvements already made. Much of the credit for the work done is due to Wm. Hutchison, M.P., President, who has ably managed the fair for several years. The horse stables were filled, and the surplus had to be stalled with the cattle, who were thereby crowded somewhat. Additional pig pens and sheep stalls had also to be built, as the entries exceeded the accommodation. Entries off-lying after the regular time of closing had to be refused for want of space, and but for this more horses would have been on the grounds. There have been made large additions to the grand stand, and it is said that never before in the history of the fair has there been so many on the grounds as those who turned out for the Wednesday of this fair, and in the evening hundreds had to be turned away after the grand stand was packed to the doors. The year 1898 has been the most successful fair yet held in Ottawa.

HORSES.

The leading section is the thoroughbred class were not well filled, but there was a good turn out of aged stallions. First place was given to the golden chestnut stallion, Sleight of Hand. He is a seven-year-old, a beautiful

color with white face. He had a fine following of foals, all alike, making a beautiful family group. Sleight of Hand is owned by the Ottawa Saddle Improvement Company, W. C. Edwards, M.P., and others—as is also the older well-known horse, June Day. The same firm won both special prizes offered for stallion and his get, and for best thoroughbred stallion, any age—two gold medals.

Carriage Horses were headed by the big bay—a good type—owned by J. J. Anderson, Dominionville. This horse has been a great prize winner. He is well built, very stylish and carries both the blood of the racer and of the standard bred. Second prize went to A. A. Blyth, of Ottawa. In three-year-olds, John J. Wilson, of Fuzroy, got first and Thos. Butler second. J. I. Anderson won the diploma and the gold medal for his aged stallion. In carriage pairs, Crowe & Murray, of Toronto, had a splendid team and won first prize with Robert Beith, Bowmanville, second. For single driving carriage horse the places were reversed, R. Beith winning first and the medal for best horse in the class. There was a fine show of high steppers and the prizes were very evenly divided between the same two exhibitors. They both turned out very good tandem teams.

In the younger carriage classes, and in those for mares and foals, W. C. Edwards, M.P., made a splendid exhibit, and won several prizes, including first and second for mares, and the same for foals; also second and third for two-year-olds, and second for yearlings. First for two-year olds went to John Kennedy, Billings' Budge, and first for yearlings to Baptiste Aubin, Ironsides.

Standard Bred were a small class, but had some splendid animals. First prize and gold medal went to Graham Bros., Clarendon, for their well-known pacer, a great goer. Second prize went to A. J. Mackie, Pembroke, and third to Jim Morgan, Ottawa. In two-year-olds A. Pettypiece, Ottawa, had the only entry. H. S. Conn, Ottawa, showed a very good two-year-old filly.

Roadsters were an excellent show. The Ottawa valley has long been famed for good road horses. Graham Bros. were again the winners while Alex. Clark, British Corner won second. F. Burnet, Moose Creek, had the best three year-old stallion. Geo. Robb, of Gaucneau Point, had the winner in three-year old fillies, and C. Marrow, Ottawa, had the best two year old—a fine moving animal. In this class there was a large turnout of mares, but, much to the disgust of the owners, the judges refused to issue a ticket, and reported that they were not up to the necessary standard. For foals, Reid & Co., Hintonberg, had the winner, a nice, clean legged, promising youngster. For pair of roadsters, H. H. Johnson, Castleford, had the winners, and they were also awarded the gold medal for best pair, style, speed and value all considered.

Hackneys.—The Royal Standard, owned by Graham Bros., Clarendon, has an unbeaten record and can not be excelled by any horse in Canada for his splendid action, and he is, besides, a beautifully made horse. He was winner last fall in Chicago over all the light type horses in the great horse show there. He is an Irish-bred horse with action regular as clock work and with a very taking way about him, very popular always with the grand stand. In three-year-olds Robert Beith, M.P., had the winner, a fine, thick horse and with good knee action. The Ottawa Co. had the two-year old winner, bred by R. Beith. Robert Beith had all the best prizes in the female classes, and his exhibit was much admired by the visitors to the fair. They were brought out in fine style and made a most popular display.

Saddlers and Hunters.—The exhibit was not as large as was seen at Toronto, but the animals out were first-class. Geo. Pepper, Toronto, had a long list of winners, the best seen this year in the prize ring. He won both in light and heavy hunters, as well as for the best saddle horse. In the half-bred classes the same exhibitor had several good ones, while W. C. Edwards won second for two-

year old filly, and first for yearling. Thos. Fairburn, Ottawa, had a clean-legged two-year old good enough for first place. The gold medal in this class went to Geo. Pepper for best heavy weight hunter. In the pony class, both for pairs and spans, the Anglo-Saxon Tea Co., of Ottawa, were first with a pair of stout bays, while a pair of duns won second place. The class of ponies was not large but had several good animals. For best mare J. A. McGillivray, of the Foresters' Temple, Toronto, had the prize winner. A very fine specimen of the pony class.

HEAVY HORSES.

The first class to come under this head was the General Purpose class. In Toronto this class is represented by animals often half-bred and nearly always carrying a good deal of warm blood. Here the winners had generally a dash of heavy draught, and sometimes were half-bred Clydes not large enough for the heavier classes. For aged stallion R. W. Wilson, Mamotick, had the winner, with Geo. Clark, Ottawa, a good second. The former, a black Percheron registered, and the latter with more of a heavy type—a good bay. The third prize went to J. J. Anderson, for a French-Canadian bay horse, a good goer, a trifle down in the back, but a good type of his class. He was bred away down in Rimouski. For three-year-old fillies James McGee, North Gower, had a good pair of chestnuts with white manes and tails. They won first and second in their class, and the same owner had the winning team when he put them together and showed for sweepstakes. A good bay mare, owned by L. Kelly, Gati-neau Point, won for best mare. A. Sharpley, Templeton, had the winning foal, with M. Sharpley, second, and J. Hardy, Bowesville, third. There were no shires shown. In the class for Heavy Draught, Canadian-bred, there were a lot of entries and a good show. The local men came out in force, and while they did not always win they made a good show. Andrew Spratt, Johnson's Corner, had a big-boned good horse, which got first place. M. P. Muldoon being second, and Jos. McSorley, Meville, third. There were no three-year-olds, but Graham Bros. had a splendid two year-old, which was well worthy of the place he got. James Callander, North Gower, had the winning yearling, with Adam Scharf, Billing's Bridge, second. A. N. Scharf had first for best mare, a good big animal, with good legs, but a trifle plain. Second went to T. A. Armstrong, Kimbun. Graham Bros had the winning yearling filly. E. W. Clark, Ottawa, had a fine team, well made and good movers. They had also the best foal, a very good one, of good size, with grand legs and feet.

(To be continued next week.)

INTERNATIONAL FAIR, ST. JOHN.

(Reported by J. A. M.)

The St. John International, which has become an established institution, has this year, eclipsed all former attempts at getting up a clean, educating, interesting and amusing exhibition. Each of the three Maritime Provinces contributed its quota of live stock and soil products to make this Fair the great success it undoubtedly was. On Monday, the 19th, 7,000 persons attended the Fair, and on Tuesday the number was well up to 10,000. The total number of people who entered the grounds numbered 50,000. The Fair was a great success. The management was splendid, and the visitors were well pleased. The exhibit of live stock from the Dominion made a splendid showing.

CATTLE.

Shorthorn.—The leading exhibitors were F. G. Bowyer, Georgetown, P.E.I.; E. & O. Chase, Cornwallis, N.S.; G. E. Facett, Sackville, N.S.; C. A. Archibald, Bellevue, N.S.; W. M. Young, Chipman Corners, N.S.

Hereford.—Frank E. Dickie, Carnard, N.S.; W. B. Black, Amherst, N.S.; H. D. Smith, Compton, Que.

Devons—C. A. Archibald, Truro, N.S.
Galloways.—Hon. D. Ferguson, 13 head.
Jerseys.—R. H. Pope, Cookshire, Que.;
 Charles L. Lecheur, Murray Harbor, P.E.I.;
 J. H. Reid, Fredericton; G. B. Elderkin &
 Sons, Amherst, N.S.; James Gilchrist, Cen-
 tral Norton, N.B.

Guernseys.—E. B. Brown, Charlottetown,
 P.E.I., 21 entered; D. M. Millan, Charlotte
 town, P.E.I.

Ayrshires.—C. A. Archibald, Truro, N.S.;
 J. A. Ferguson, Charlottetown, P.E.I.; Geo.
 P. Searle, Charlottetown, P.E.I.; M. H.
 Parlee, Sussex, N.B.; Fred. S. Black, Am-
 herst, N.S.; D. W. McKenzie, Nerepis Sta-
 tion, N.B.; Guy Carr, Compton, Que.

Holsteins.—J. R. Page & Sons, Amherst,
 N.S.; Geo. Fisher, Chatham, N.B.; D. W.
 McKenzie, Nerepis Station, N.B.

Quebec Jerseys.—Guy Carr, Compton, Que.;
 E. Baker, Amherst, N.S.

Both the beef and dairy cattle were judged
 by Robert Reesor, of Ontario. The beef
 herds composed 55 Shorthorns, 26 Herefords,
 4 Devons, 12 Polled Angus, 12 Polled Nor-
 folk, and 13 Galloway. The principal win-
 ners were Shorthorns. Shorthorns—F. G.
 Bowyer, Georgetown, P.E.I., 1st on three-
 year-old bull; 1st on bull calf; 1st on bull, any
 age; 1st on Silver Chief; 2nd on cow, four
 years; 2nd on cow, three years; 1st on cow,
 two years; 1st on heifer, one year. E. & O.
 Chase, Cornwallis, N.S., 2nd on bull; 1st on
 bull calf; 2nd on heifer. C. A. Archibald,
 Truro, N.S., 1st on bull, two years; 1st on
 bull calf; second on cow, four years; 1st on
 heifer calf. Herefords—Frank E. Dicker,
 Canard, N.S., and W. W. Black, Amherst,
 N.S., took all of the prizes with the exception
 of H. D. Smith, Compton, Que., who was a
 strong exhibitor of this noble beef herd.

Devons—C. A. Archibald, Truro, N.S., took
 all the prizes. Polled-Angus—R. H. Pope,
 Cookshire, Que., took away all the prizes
 with one or two exceptions. Polled-Norfolks
 —G. A. Perley, Maugerville, N.B., was the
 principal exhibitor and winner. Galloways
 —Hon. D. Ferguson, Marshfield, P.E.I.,
 took all the prizes. In the dairy herds there
 were 88 Ayrshires, 72 Jerseys, 31 Quebec
 Jerseys, 25 Guernseys, and 27 Holsteins. In
 the dairy breeds the prizes fell thus: By
 Provinces—New Brunswick, 1st, fifteen; 2nd,
 seventeen; 3rd, twenty. Nova Scotia, 1st,
 seventeen; 2nd, twelve; 3rd, eleven. Prince
 Edward Island, 1st, eleven; 2nd, one; 3rd,
 three. Quebec, 1st, seventeen; 2nd, ten;
 3rd, two. The grade exhibits were beef
 grades, fifteen; dairy grades, twenty-seven;
 fat cattle, nineteen; and the prizes distributed
 thus: New Brunswick, 1st, five; 2nd, two;
 3rd, four. Nova Scotia, 1st, nine; 2nd,
 eleven; 3rd, five. Prince Edward Island,
 1st, one; 2nd, two; 3rd, three. The Guern-
 sey herd of Mr. E. K. Brown, of East View
 Farm, P.E.I., numbering twenty-one, was a
 grand exhibit. Mr. Robert Reesor, of Onta-
 rio, judged the dairy cattle as well as the
 beef cattle, a great mistake in the opinion of
 the writer to have a beef man judge dairy
 cattle. It is needless to say that Mr. Reesor
 did not give satisfaction with the owners of
 dairy cattle, a type he did not have in mind.

SHEEP.

The display of sheep was so large that the
 accommodations of previous years was not
 equal to the requirements of the occasion, and
 the sheds for one hundred additional animals
 had to be hastily provided for. Prince Ed-
 ward Island showed up particularly strong.
 J. C. Snell judged the sheep. Donald Jones,
 Tobique, N.B., 1st on aged ram, ram lamb,
 and 2nd on shear lamb in Cotswold. In Lei-
 cesters, Albert Bowshall had pretty much his
 own way, taking 1st on shear ram, 2nd on
 aged ram, 1st on ram lamb, 1st on ewes (2
 years), 3rd on shear ewes, and 1st and 3rd on
 pen of two lambs. Lincolns—Fred G. Bow-
 yer, Georgetown, P.E.I., had the majority
 of prizes; 1st in rams (aged), 2nd and 3rd in
 shearling; 1st in two shear ewes and 1st in
 pen of two ewe lambs. Shropshires were a
 fair exhibit. Albert Bowshall, Pownall, P.E.
 I., and Hon. D. Ferguson, of Marshfield,
 P.E.I., had the prizes divided between them.

Oxford Downs—F. G. Bowyer, Georgetown,
 P.E.I., 1st in ram, two shear; 1st in shear-
 ling ram; 2nd and 3rd in two shear ewes, and
 1st in shearing ewes. J. G. Page & Sons,
 Amherst, was a good all round second.

SWINE.

The increased attention that has been given
 to swine raising in the three Maritime Pro-
 vinces was prominently shown by the large ex-
 hibit of swine. The exhibit was highly credit-
 able. The principal kinds most strongly
 represented were Tamworths and Duroc Jer-
 seys. Some of the Tamworths were not very
 characteristic of the breed. The aged first
 prize boar exhibited by Mr. Dickson, of St.
 John, was not a good specimen of the breed,
 having a very prominent drop back of shoul-
 der. In fact, about half the number of the
 Tamworths exhibited were not very credit-
 able specimens. The same may be said of
 the Duroc Jerseys, of which there was a large
 exhibit. The aged boar shown by J. G.
 Baker was very fine, as was also the aged
 sow, but some of the younger specimens were
 not creditable. J. E. Page & Sons, E. Wet-
 more, W. W. Black, Amherst, were the prin-
 cipal winners in the Tamworth class; while
 E. Baker, Amherst, and J. E. Baker, Barrons-
 field, were the principal winners in the Duroc
 Jerseys. There was much disappointment
 manifested by visitors that Hermanville Farm
 did not show their Tamworths and Duroc
 Jerseys as was expected. In Yorkshires, J. A.
 Calbeck, Prince Edward Island, was a strong
 exhibitor, having twenty-one animals on ex-
 hibition, among which were some fine spec-
 imens of the breed. Mr. Calbeck took five
 firsts. M. H. Parlee, of Sussex, had a fine
 exhibit, and was Mr. Calbeck's principal com-
 petitor. Chester Whites were not very strongly
 shown. M. F. Berryman, W. M. Shincott,
 J. G. Page, were the principal exhibitors and
 prize-winners. Berkshires—J. R. Semple,
 Brule, N.S., and M. H. Parlee, Sussex, were
 the only exhibitors and divided the prize
 money.

POULTRY.

Dr. G. M. Twitchell, of Maine, judged the
 poultry with eminent satisfaction. He thus
 expressed himself: "In the erection of the
 exhibition for poultry you have provided quar-
 ters not excelled on any grounds on the
 American continent. Under the efficient
 superintendence of Mr. Jack, the noted
 poultryman of St. John, the birds were well
 cared for." Mr. Twitchell further said, "In
 nearly every class I found birds of sufficient
 merit to win in a sharp contest at any of the
 great winter shows." Plymouth Rocks were
 out in great force, closely followed by S.C.
 White Leghorns; and Minorcas, too, made a
 creditable showing. There is no doubt but
 that the show of poultry exceeded anything of
 the kind ever attempted in the Dominion of
 Canada.

CHEESE AND BUTTER.

Thirty-five factories were represented with
 a grand showing of cheese. In factory cheese
 Prince Edward Island captured the 1st and
 2nd prizes, the 3rd going to Woodstock, N.B.
 The 1st secured 97 points, the second 90½,
 and the 3rd 86. In creamery butter Nova
 Scotia and New Brunswick had all the prizes,
 the 1st going to Annapolis county, N.S., the
 2nd to Bucouche, N.B., and the 3rd to Lun-
 enburg, N.S., and the fourth to Oak Bay,
 N.S. Coleman's butter salt prize of \$25 went
 to E. Elderkin, Amherst, and the Windsor
 salt prize to J. Burgess, Pownall, P.E.I., with
 a special prize to Alberton, P.E.I., Dairying
 Association.

HORSES.

The exhibit numbered seventy-five animals,
 divided as follows: Thoroughbreds, four;
 standard breeds, ten; carriage horses, four-
 teen; roadsters, seven; saddle horses, four;
 agricultural horses, eighteen; heavy draughts,
 seven; Clydesdales, three; English Shire,
 one; Percherons, three; pony, one. The
 Suffolk and Hackney classes did not fill,
 and the judge decided that the Percherons
 were not worthy of a prize. The awards, taken by
 provinces, fell as follows: First prizes—New

Brunswick, 23; Prince Edward Island, 5;
 Nova Scotia, 2. Second prizes—New Brun-
 swick, 12; Prince Edward Island, 3; Quebec,
 1. Third prizes—New Brunswick, 6; Prince
 Edward Island, Nova Scotia and Quebec, one
 each.

The horticultural display was very fine.
 Mr. Knowlton, of Maine, one of the foremost
 practical authorities of New England on this
 subject, at the conclusion of his labors ex-
 pressed himself thus: "The fruit exhibit is of
 excellent quality. It was difficult to judge
 these exhibits, and the improvement in the
 fruit exhibit of St. John is prominently marked.
 I was hardly prepared, this year, to see such
 a great exhibit of fruit."

The machinery was an interesting sight
 with all the machines in motion. Frost &
 Wool and Massey-Harris Co. made a fine
 showing.

THE WESTERN FAIR.

(Continued from last issue.)

PIGS.

(This more detailed report was received too late for
 last issue.)

Tamworths were a fine show. John C.
 Nichol, Hübrey, Westminster Township, was
 the chief winner, getting five firsts; his aged
 boar also winning the diploma. A. Elliott &
 Son, Galt, had first for one over six months
 and under one year, a grand specimen of the
 bacon breed. Norman C. Blain, St. George,
 had also some good boars, and got first for
 sow under one year. Berkshires were upheld
 by George Green, Fairview. He had the
 winners in most of the classes. T. A. Cox,
 Brantford, won on boar pig under six months.
 Jas. McEwen, Kirtch, had a second for a fine
 sow, and Wm. McAllister, Varna, had a good
 exhibit, but was only able to capture three
 thirds. Jas. Quirie, of Delaware, some time
 of Shorthorn fame, had a third prize for young
 sow. In Yorkshires it was J. E. Brethour,
 Burford, first and second, and the others dis-
 tanced W. J. Davis, Woodstock, and John
 Hord & Son, Parkhill, winning between them
 three thirds. In Poland Chinas, W. H.
 Jones, Mount Elgin, made a good exhibit,
 with Henry Park, Norwich, first in aged
 boars, and second or third in several other
 classes. Chesters were upheld by W. E.
 Butler & Son, Dereham Centre, and W. E.
 Wright, Glanworth, the former leading and
 the latter winning with young boar pig. The
 only other winner was John Ackland, Dela-
 ware, who got a third place for young sow.
 Suffolks were shown only by John Hord &
 Son, Parkhill, while Victorias were out in
 numbers though without a special class.
 They were owned by Charles Fahner, Cred-
 iton. Duroc Jerseys had a good exhibit from
 Tape Bros., Ridgetown, with a few things
 from W. W. Fisher, of Benmiller, who got a
 first, second, and third for boars, second for
 aged, and first and third for those under six
 months.

POULTRY.

The poultry exhibit at the Western Fair
 still maintains its reputation for high quality,
 although not up to former years in numbers.
 Many of the old fowls were in heavy moult;
 but among the young stock were to be seen
 many almost matured specimens, an evidence
 of early hatching and good feeding.

Light Brahms were a small class and very
 poor, while the darks were a large class, with
 hot competition. The Cochin classes, as
 usual, made a grand showing, as also the
 Langshans. Dorkings were a strong exhibit
 in the silvers; the colored and whites were
 also good. A large exhibit of Indian game
 showed the growing popularity of this valu-
 able table breed.

The Utility breeds, Barred and White
 Rocks and White Wyandottes, were a grand
 display. We fear, however, that in the case
 of the former breed too much attention is be-
 ing paid to "barring to the skin." What
 does the number of bars on a feather matter
 to the ordinary farmer? Its a round, plump
 body and a well-filled egg basket that he
 wants. The winners in this class were long-

shanked, slack-breasted birds. Specimens in the White Rocks and Wyandottes showed ideal table-birds, and they were a grand lot to look at. The Buff Rock row was full, and showed the merited popularity of this beautiful variety. Golden, Silver, and Black Wyandottes, made the usual good showing, with Silvers in the lead.

The Mediterranean classes were a fine exhibit, especially in the Leghorns; the popular browns, both single and rose combs, still in the lead, with buffs following close after, whites falling off, and blacks gaining. There was a noticeable falling off in black Minorcas, while the whites were a larger class. Black Spanish were of the usual good quality, but limited in number. The French breeds were well represented, especially in Houdans, some grand birds being shown.

Ducks and geese were a fine exhibit, Pekin ducklings being especially good. The Bronze turkeys were magnificent specimens all through. We think if these classes were placed where they could be better seen their merits would be better appreciated by the observing public.

THE DAIRY DEPARTMENT.

The exhibits of cheese and butter were a decided disappointment to every one in point of number. There were only about forty-five entries of cheese in all sections, and in the butter department the number was even smaller. But there was certainly no falling off in the quality of either the butter or the cheese shown. On the contrary, the whole exhibit was creditable to those who furnished it. Both cheese and butter were so uniformly good in quality as to make the work of the judges sufficiently difficult.

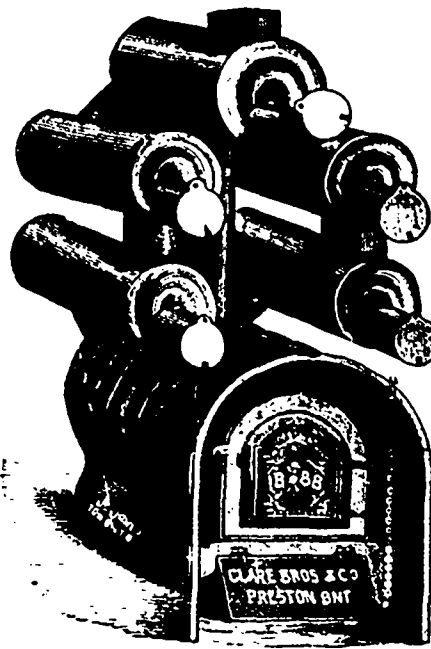
Cheese.—The first prize in Section 1 (colored) was awarded to W. B. Thomson, of Nile, who also secured the 2nd prize in Section 2 (white). In Section 2 (white) J. J. Fisher, of Wiltscroft, took first. In Section 3 (colored) J. J. Fisher was also 1st. In Section 4 Mr. M. Morrison, of Harriston, won 1st prize and the gold medal. Other prize-winners were S. R. Payne, Warsaw; P. N. Schaus, Paisley; Miss Mary Morrison, Newry; Miss Sarah Baskell, Fanshew; and S. A. Smith, Dorchester Station.

Butter.—Mrs. W. C. Shearer was awarded a prize in every section in which she exhibited, and deserves the highest praise for the exceptional excellence of the products of her dairy. A. Elliott & Son, of Galt, were also exhibitors of as fine a sample as could be seen anywhere, and the whole exhibit, though small, was exceedingly good. The following were the prize-winners: Section 1, Jno. D. Malcolm, Sheffield; 2, Chesley Creamery Co., Chesley; 3, Isaac Wenger, Ayrton; 4, S. A. Smith, Dorchester Station. Section 2, 1, A. Elliott & Son, Galt; 2, Geo. Balkwell, Lafontaine; 3, Isaac Wenger, Ayrton; 4, Geo. Ballantyne, Beaverton. Section 3, 1, Carl Hohn, Moltke; Mrs. G. Hunt, Dorchester; 3, J. D. Malcolm, Sheffield. Section 4, 1 and medal, Mrs. W. C. Shearer, Bright; 2, J. D. Malcolm, Sheffield; 3, C. E. Rogers, Dorchester. Section 5, Mrs. W. C. Shearer, 2, Mrs. E. Lawrence, London West; 3, C. E. Rogers. Section 6, 1, Jno. Ballantyne, Beaverton; 2, Mrs. G. Hunt, Dorchester.

Among the most interesting exhibits shown were those of Messrs. Richardson & Webster, of St. Marys, and John S. Pearce & Co., of London. The former had on exhibit the celebrated American Cream Separators, manufactured by them, and the latter a number of Canadian Cream Separators, made by Robertson, Taylor & Co., of Galt, and also one of the famous gasoline engines made by the Northey Manufacturing Co., of Toronto. This engine probably attracted more attention than any other article in the building. Messrs. Wallace & Fraser, the Canadian agents for Allerts' Thomas-Phosphate Powder, had an exhibit of their celebrated fertilizer, which was the centre of an interested group of farmers during the whole progress of the fair.

AGRICULTURAL HALL.

The exhibits of agricultural products were far better than the average. All the varieties



The Hilborn Wood-Burning Furnace.
Our Catalogue explains.

of grains, roots and vegetables grown were to be found in the greatest profusion and in remarkably good quality. The large pumpkin was there, larger and better than ever. The vegetables were particularly good, and there were some new varieties shown. Taken as a whole, it was perhaps the best display of Canadian farm products to be seen anywhere. In carrots, turnips, and all field and garden roots it was so much superior to the Toronto exhibition as to be very noticeable. The samples of grain were also very much better than we have seen at any other fair this year.

The wheat was exceptionally good, and the barley was pronounced by brewers to be the best they had ever seen. The peas were well-formed and large, and the oats, buckwheat, corn and other grains above the average.

Messrs. Gould, Shapley & Muir, of Brantford, had an exceedingly interesting exhibit of bee supplies of every kind, and Messrs. John S. Pearce & Co. had an interesting collection of roots and vegetables grown in their trial grounds in London. A pumpkin weighing 550 pounds, grown by Mr. Abel Steel, was also shown with this exhibit, and attracted universal attention. The Indians had a portion of the dairy hall allotted to them for their exhibit of agricultural products.

Stock Notes.

Mr. E. A. GARRETT, of Stratfordville, Ont., has a very desirable farm for sale, and is advertising it in this issue. Any one wanting a good farm should write him for particulars.

Mr. S. ROGERS, Cooksville, Ont., offers for sale in this issue a splendid lot of improved Yorkshire. Mr. Rogers' stock is of the Brethous and Featherstone strain, and parties desirous of securing animals of this breed will find it impossible to do better than communicate with him.

JERSEY HONORS.—The two year-old bull exhibited by Mr. James Hamner at the Toronto Fair, that took second and first last year and was only beaten, as we say in our issue of the 13th, by Massey's "Lord Dentonia," imported; also the two-year-old heifer that took first and was claimed justly earned the first ticket, were both bought as calves from Mr. Joseph Stratford, Brantford. This record was also established at last Winnipeg Show when three honors were taken on young Jerseys by Mr. James Bray from Mr. Stratford's stock, one of them being the \$50 gold prize.

The secretary of the American Leicester Breeders' Association, Mr. A. J. Temple, Cameron, Illinois, writes as follows: "We are now at work compiling and tabulating the material for Volume 2 of the American Leicester Record. This volume will contain the pedigrees of nearly two thousand sheep, with several half-tone cuts of sheep from some of the best flocks in this country and Canada; also about four hundred transfers of registered sheep, index of animals recorded in this volume, together with index and names of owners and their address, all arranged alphabetically. In

WE MAKE A Specialty of Heating

And have placed many thousands of our "Hilborn" Wood Furnaces in country homes. Farmers use only rough and unsaleable wood, and in this way soon save cost of a furnace, to say nothing of the comfort.

We can also give you furnaces suitable for coal or coal and wood, or if you want to heat with hot water we refer you to the

PRESTON HOT WATER BOILER AND STEEL RADIATOR

We guarantee every furnace to work satisfactorily. Would you like to see a list of the homes that we are heating?

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Branch at WINNIPEG, MAN.

Incubator for Sale

\$20 buys a 275 Egg Challenge Incubator. Almost new, guaranteed.

Also a 2-horse Pitts power, nearly new and complete, for \$20.

Apply at once to Robert Wilks,
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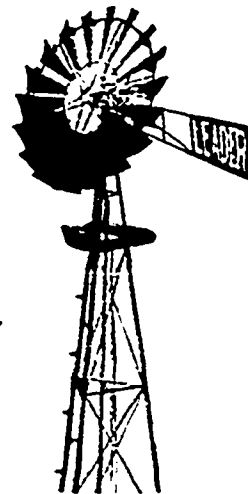
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Large class rooms and modern equipments of a first-class school.

The curriculum taught is that which has been adopted by all the first-class business colleges of Canada, with a high standard of pass and uniform examination papers.

Fall and winter term now on. Book-keeping, arithmetic, commercial law, shorthand, typewriting, etc.
MRS. M. L. RATTRAY, Principal.

The Leader



We will guarantee this mill to be more durable and run with less wind than any manufactured. It runs on two bearings which gives it a great advantage over other makes. Its lifting is directly over the pump, by an eccentric and friction, thus doing away with the pulley shaft, making it a great deal more powerful. Those who have used "The Leader" bear us out in this particular, and what is better than reliable local testimony?

Exeter, April 6th, 1898.

The Leader Windmill, Ridgeway, Ont.
The Steel Windmill purchased from you last fall has given good satisfaction. It does its work easy and well as any mill could do. Yours,
COATES BROS.

"The Leader" has won for itself a famous reputation, and is now being placed in Goderich, Huron Co., Calgary, N.W.T., and throughout the entire Dominion, which speaks for its reputation.

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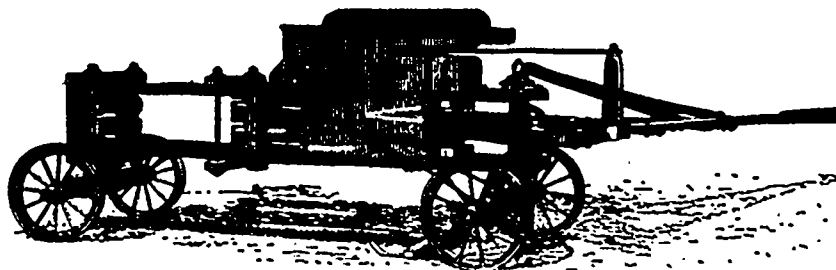
RIDGETOWN - ONTARIO

addition to this will be papers written by some of the practical sheep raisers of the country. The books will be held open for entries in this volume until October 10th, but would urge upon you the necessity for getting applications in at the earliest possible time in order that we may have time sufficient in which to get the matter in proper shape for the printer. All necessary blanks and information will be cheerfully furnished upon application."

BUTTER TEST FOR GUERNSEY CATTLE.—The American Guernsey Cattle Club offer the following premiums for the cows or herds of Guernseys making the three best records for butter-fat for one year, under the conditions hereinafter named: For individual cows, \$50, \$30, \$20. For herds of five cows each, \$100, \$60, \$40. Conditions of Test.—1. All animals competing must be registered in the Herd Register of the American Guernsey Cattle Club. 2. The following entry fees shall be paid to the treasurer of the Club on receipt of notification from him that the animals named will be accepted for competition, but no animal or animals shall be enrolled unless said fee is paid before the opening of the test. For each cow, \$5. For each herd entered, \$15. 3. Each contestant shall be allowed to name seven animals for the herd prize, the results to be determined from the records of the five best animals. 4. Each year's test shall commence November 1st; the first test commencing Nov. 1st, 1898. All animals competing shall be named at least 30 days prior to the opening of each test. The results of each test shall be reported to the annual meeting of the Club, when the prizes will be awarded. 5. At the end of each month every contestant shall report to the office of the Club upon blanks furnished them for such purpose by said office: (a) A complete record of the weights of each milking; (b) An approximate statement of the amount and kind of food given the animals, and as to the manner of stabling and care of same, including the dates of service or when in heat and not served. 6. About the middle of each month samples shall be taken of the night's and following morning's milk and sent to the Agricultural Experiment Station of the State in which the animal is located, or to such place as may be directed or approved by the Executive Committee, these samples to be properly labeled with the date and amount of each milking. The result of such tests to be reported by the tester to the office of the Club. 7. At such times as the Executive Committee supervising said test or tests shall see fit, but at least twice during the year, they shall send anyone whom they may deputize to visit the herds from which animals are entered, to weigh and test the milk from cows competing. 8. The result of each year's tests shall be computed in the following manner: The weights of milk produced each month shall be multiplied by the per cent. of butter-fat as shown by the official test for that month, and the sum of the results thus obtained shall be the year's record. Mr. Wm. H. Caldwell, Peterboro, N.H., is secretary of the Club.

Dederick's Patent Steel Case Hay Presses

This is the only Reversible Lever Horse Hay Press that dared appear when called out for competitive test at the Chicago Columbian World's Fair.

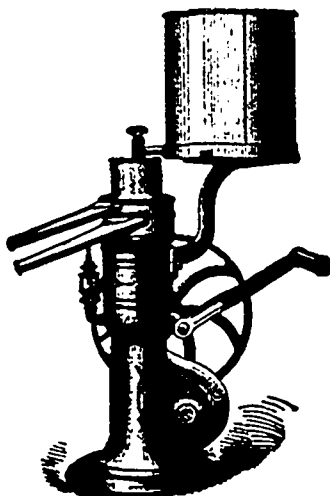


Made of Steel. Improved for this Season. Patent Retainers. Patent Folder Roller. Patent Tension Blocks. Patent Side Clamps.

These improvements make the Press lighter, stronger, easier on the horses, and more powerful. This is the leading Hay Press in Canada and the United States. Also PATENT ADJUSTABLE AND DIMENSIONS HALE TIE. MANUFACTURED BY

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National Cream Separators



No. 1—330 lbs. \$75
No. 2—600 " \$125 HAND or POWER

Perfect Skimmers

Easy to Run and Clean.

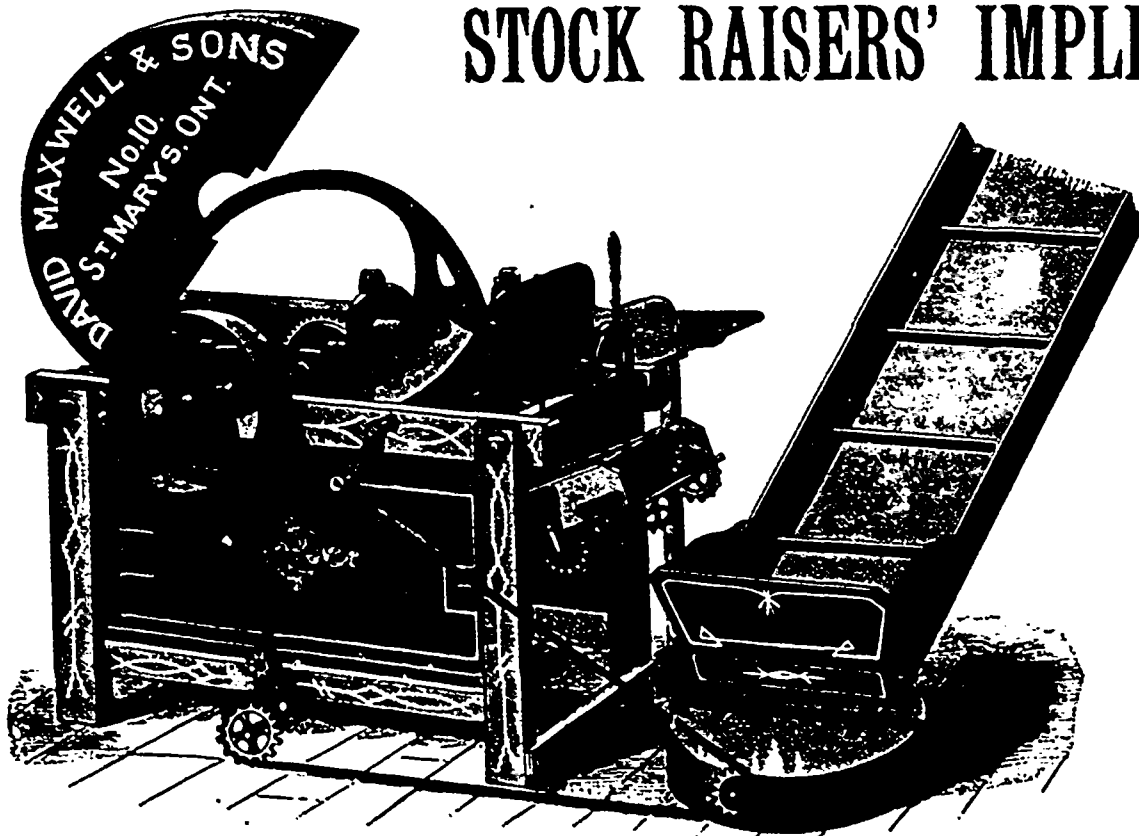
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DAVID MAXWELL & SONS

St. Marys, Ontario, Canada

Twenty Funny Stories of MARK TWAIN

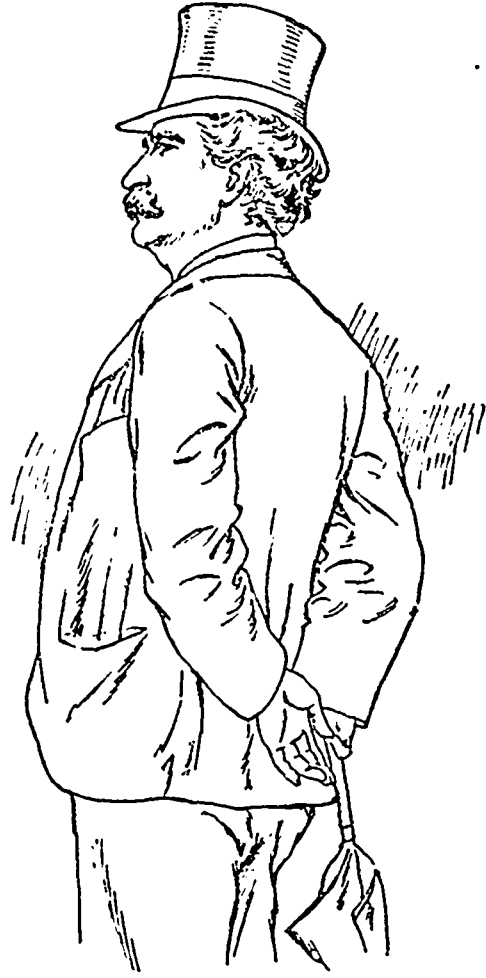
They relate to Mark Twain's eccentricities, and his aptness in making the most ordinary episodes appear ludicrous. The stories are brimful of fun.

When I Stood Face to Face With Death

General A. W. Greely, the great Arctic explorer, tells here, for the first time in print, the graphic story of his fearful exile of 278 days at the North Pole, when his comrades daily dropped dead at his side, and when all waited day by day for death to come.

Miss Wilkins in Her New England Home

An entire photographic page will show the author of "Jerome" and "Pembroke" as she is at home: her friends as they grouped around her; going out to walk with her dog; with her favorite cat; and in an evening gown ready for a reception.



THE SATURDAY EVENING POST

Was established in 1728 by Benjamin Franklin. It is handsomely illustrated and gives weekly the best serials, short stories and sketches the world can produce. The regular subscription price is \$2.50 per year. Both our publications, balance of the year as an introduction, for only Twenty-five Cents.

John Wanamaker's Sunday-School

The Most Interesting Sunday-School in America

How it has grown to be a factor in a city's life, together with the wonderful man who has devoted his energies to its development. Illustrated.

These are Some of the Special Features in the October Number of

THE LADIES' HOME JOURNAL

We will mail *The Ladies' Home Journal* from now until January 1, 1899, and *The Saturday Evening Post*, every week from now until the end of the year, on receipt of only Twenty-five Cents.

THE CURTIS PUBLISHING COMPANY, PHILADELPHIA

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44-46 Richmond St. West, Toronto.

The Ontario Agricultural Gazette

The Official Bulletin of the Dominion Cattle, Sheep, and Swine Breeders' Associations, and of the Farmers' Institute System of the Province of Ontario.

THE DOMINION CATTLE, SHEEP, AND SWINE BREEDERS' ASSOCIATIONS.

Annual Membership Fees:—Cattle Breeders' \$1; Sheep Breeders', \$1; Swine Breeders', \$2.

BENEFITS OF MEMBERSHIP.

Each member receives a free copy of each publication issued by the Association to which he belongs, during the year in which he is a member. In the case of the Swine Breeders' Association this includes a copy of the Swine Record.

A member of the Swine Breeders' Association is allowed to register pigs at 50c. per head; non-members are charged \$1.00 per head.

A member of the Sheep Breeders' Association is allowed to register sheep at 50c. per head, while non-members are charged \$1.00.

The name and address of each member, and the stock he has for sale, are published once a month. Over 20,000 copies of this directory are mailed monthly. Copies are sent to each Agricultural College and each Experiment Station in Canada and the United States, also to prominent breeders and probable buyers resident in Canada, the United States and elsewhere.

A member of an Association will only be allowed to advertise stock corresponding to the Association to which he belongs; that is, to advertise cattle he must be a member of the Dominion Cattle Breeders' Association, to advertise sheep he must be a member of the Dominion Sheep Breeders' Association, and to advertise swine he must be a member of the Dominion Swine Breeders' Association.

The list of cattle, sheep, and swine for sale will be published in the third issue of each month. Members having stock for sale, in order that they may be included in the Gazette, are required to notify the undersigned by letter on or before the 9th of each month, of the number, breed, age, and sex of the animals. Should a member fail to do this his name will not appear in that issue. The data will be published in the most condensed form.

F. W. HODSON, Secretary.
Parliament Buildings Toronto, Ont.

TO STOCKMEN.

A car of pure-bred live stock for Manitoba and the West will leave Ontario the last week in September. Persons having stock they wish delivered to western customers are respectfully requested to communicate at their earliest convenience with F. W. Hodson, Parliament Buildings, Toronto, Ont.

AN ABRIDGED REPORT OF ENGLISH AND EUROPEAN EXPERIMENTS WHICH ARE OF VALUE TO CANADIAN FARMERS.

SOIL INOCULATION FOR LEGUMINOUS PLANTS.

The power of the leguminous plants such as clover, peas, vetches, etc., to draw on the vast stores of oxygen in the air by means of the bacteria which live in the tubercles on their roots is well known to all intelligent agriculturists. In soils abundantly supplied with nitrogen there is little need for the bacteria to be present and the tubercles which they produce are not likely to occur on the roots in such soils. In soils poor in nitrogen, however, the bacteria, if present, in sufficient quantity, attach themselves to the roots in large numbers and stimulate the plant on which they grow to produce the tubercles and provide the necessary nutritive substance for the growth of the bacteria, while in return, the plant receives the nitrogen which the bacteria alone can take from the air and render available for use by the plant. In this way, even in soils poor in nitrogen, a sufficient amount of this element is obtained to build up the nitrogenous substances in which leguminous plants are so rich.

It was often noted, however, that when a leguminous plant was grown for the first time on a soil, it frequently produced no tubercles and failed to thrive, even though some other leguminous plant had been successfully grown on the same soil the previous year. This led to the conclusion that each leguminous plant has its own kind of bacteria and is not likely to thrive unless these peculiar bacteria are present in the soil, a conclusion confirmed by investigations in Europe and on this continent.

The next step was to find means of inoculating the soil with the desired bacteria. The first method adopted was to spread over the field soil taken from a field where the desired crop had been successfully grown. This method, however, was cumbersome and not always reliable.

Two German investigators, Nobbe and Hiltner, tried the preparation of pure cultures of the specific organism which acted favorably in the case of each leguminous crop and raised these successfully for soil inoculation. These cultures are sold on a commercial scale in Germany under the name of Nitragin, there being cultures for peas, beans, vetches, lupines, clovers, serradella, flat peas and melilotus.

Two methods of using the nitragin are followed: (1) Inoculation of the seed direct by bringing it, by means of water, into contact with the nitragin, and (2) inoculation with the nitragin of some of the soil of the field on which the crop is to be grown, and then spreading this soil over the field and working it in to a depth of about three inches. The cost of inoculation is estimated at about \$1.25 per acre. At the Alabama Station, however, the cost was \$2.20 per acre. This subject is still in the experimental stage.

FEEDING MOLASSES PREPARATIONS TO DAIRY COWS.

An experiment of considerable length was carried on in 1895 in Germany, to study the effect on milk secretion of molasses-peat feed (80 per cent. molasses and 20 per cent. peat), liquid molasses, molasses and palm-nut meal, molasses pulp (a dried mixture of potato pulp residue and molasses), and molasses chips (a dried mixture of molasses and sugar beet diffusions residue), in comparison with barley meal. A constant ration of hay, straw, and beets was fed. The experiment started with eight cows, of which two had to be dropped out on account of digestive disturbances, and covered seven periods, usually of twenty days' duration, only the last five days of each period being considered in making the averages.

The results were unmistakably in favor of the barley-meal for milk production both at the beginning and close of the test. The different preparations of molasses were, as a rule, readily eaten, except the molasses pulp, which the cows did not seem to relish and of which they would eat only about half as much as of the other preparations. The molasses did not agree well with some of the cows. Only of the liquid molasses was the whole quantity given eaten. The molasses fed, however, seemed to favor an increase in the percentage of fat and total solids in the milk. The butter made during the feeding of molasses was in every way equal to that made when barley meal was fed, and no difference was observed in the churning or taste of the butter or milk.

A further comparison of molasses with cane sugar showed a considerable superiority in favor of the former both for milk and fat production.

In connection with these tests, the suitability of molasses as a food for cows in calf was also tried. Two cows in the last months of gestation were fed 8 kg. of molasses daily, per 1,000 kg. live weight, and after calving the feeding was continued. There was, apparently, no injurious effect from its use either in the condition of the cow or the development of the calf.

FEEDING FAT INTO MILK.

The Milch Zeitung (Germany) gives an account of an experiment in which palm cake and rich cocoanut were fed, the object being to increase the per cent. of fat in the milk. Where a very rich cocoanut cake was fed there was an increase in the yield of fat, but

it was accompanied by a decrease in the yield of milk which more than counterbalanced the increase in the yield of fat. The conclusion arrived at was that there was no advantage from feeding the richer ration.

The *Milch Zeitung* also gives an account of an interesting experiment along the same line at the Agricultural Academy at Poppilsdorf. To a basal ration of hay, straw, malt sprouts, beets and grain, first linseed oil, then flax seed, was added to try to increase the per cent. of butter fat. The linseed oil caused a falling off in the appetites of all cows, and they refused to eat the basal ration clean up. While on the linseed oil, the cows shrank in milk yield. The milk yield increased when the flax seed was fed. The results were considered entirely negative. The oil did not cause any noticeable increase in the fat content and it acted unfavorably upon the digestion, milk yield, and general condition of the cows.

Perhaps the best authorities upon this question of the effect of food upon the quality of milk are the Danes, whose feeding experiments have led them to adopt the following conclusion: In the comparative feeding experiments with milch cows now continued during nine consecutive years, in which about 2,500 cows, divided into 218 lots on twelve estates in different parts of our country have been included, it has constantly been found that the changes made in the system of feeding the different lots have been practically without effect upon the chemical composition of the milk. In these experiments, barley and oats have been fed against roots, oil cakes, wheat bran, wheat and molasses feed; mixed grain and oil cakes have been fed against roots, and grain and roots have been fed in addition to the regular rations given.

HOW LONG DO NITROGENOUS SALTS INFLUENCE THE YIELD OF WHEAT AND BARLEY?

Investigations at the Woburn Experimental Farm, England, into the important question as to how long the application of nitrogenous salts, like sulphate of Ammonia and nitrate of soda will continue to act beneficially upon the crops of wheat and barley show conclusively that as regards wheat, top dressings of nitrogenous salts cannot be considered as lasting beyond the year of their actual application. With barley there was a small amount of salts left available for the next year's crop.

The investigations have been carried on since 1882, two plots, which had previously been receiving, respectively, double dressings of ammonia salts, and nitrate of soda together with mineral manures, were subdivided, the top dressings being continued on half of each plot, but omitted on the other halves. Every alternate year since the plots which had no top dressings the previous year were top-dressed and those top-dressed the previous year were left without top dressing. The general results from 1882-96 were as follows.

	Ammonia salts bushels wheat	nit. of soda bushels wheat
When salts are applied every other year	37.2	34.0
When salts are omitted every other year	23.1	16.4

In the case of the barley the produce did not fall off nearly so much as the wheat when the top-dressings were omitted.

Some general conclusions reached from the experiments carried on at this Farm are as follows:

It is useless to apply mineral manures alone for either wheat or barley. Nitrogenous salts have a great influence on both the wheat and the barley crop, especially barley, but it is not good to use them alone, for the crops are not healthy, and the result of the continuous application of the salts is to deprive the soil of its mineral ingredients, more particularly the lime. This exhaustion is experienced sooner with barley than with wheat, and sooner with ammonia salts than with nitrate of soda.

The proper manuring for wheat and barley is the application of mineral manures along with moderate amounts of nitrogenous manures. As a rule, 2 cwt. of sulphate of ammonia or $2\frac{1}{4}$ cwt. of nitrate of soda per acre is quite sufficient to use in conjunction with mineral manures. More than this is wasteful and harms the crop.

In a dry season nitrate of soda is best, and in a wet season sulphate of ammonia, the former leaching through the soil faster in wet weather. It produces the more straw, however.

WANTED

A middle-aged man of experience in stock raising and general farming, to take charge of and manage a farm. Must be a careful, steady and reliable man, of strictly temperate habits, one who can handle men and keep accounts. To such, steady employment and a fair salary will be given, with free house and garden. Apply to

Box 51, MARKDALE P.O., Ont.
Stating references or testimonials.

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Sussex, N.B.

ALL PEDIGREE STOCK-BREEDERS

Should keep in touch with Herd, Flock and Stud movements by reading the

FARMER AND STOCK-BREEDER

The best, most complete and attractive Agricultural and Live Stock newspaper. Enlarged to 36 pages weekly; frequent special issues 40 to 48 pages. Illustrations are a specialty, each number containing many of the leading prize-winners, etc. Brilliant and practical articles on the Farm, Dairy, Horses, Cattle, Sheep, Pigs, Poultry, Veterinary, etc.

Unequaled as a medium for advertisements intended to reach the best class of breeders and farmers throughout Europe.

Subscription, postpaid for one year, \$2.00

Intending purchasers of British Purebred Stock should send us particulars of their requirements, large shipments and extensive connections having given our staff of expert buyers the experience which is indispensable in live stock transactions.

Enquiries welcomed. Address—

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FARM FOR SALE

BEING parts of Lots 125 and 126 South Talbot Road, Township of Hayham, County of Elgin. 185 acres—about 115 cleared and in a good state of cultivation. Good orchard and small fruits. Frame barn, 10 x 100. Good stabling and accommodation for cattle and horses, sheep and swine. A 150 ton silo. Vegetable and milk cellars. Outbuildings and fences in first-class condition. Good water, and all conditions requisite for success in farming or cattle raising. Price moderate and terms to suit.

E. A. GARNHAM,
STRAFFORDVILLE, ONT.

YORKSHIRES

FOR SALE.—Thirty head of choice young pigs, all improved Yorkshires. Also a few sows six months old.

These are a choice lot.

L. ROGERS,
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TWENTIETH ANNUAL SALE OF PURE-BRED STOCK

including Poultry, the property of the Ontario Government, will be held at the Ontario Agricultural College, Guelph, on **Wednesday, 19th October, 1898**, commencing at one o'clock, sharp.

For further information, apply to Wm. RENNIE, Farm Superintendent.

JAMES MILLS, Presiden

Owing to sale of farm I am instructed to advertise . .

UNRESERVED AUCTION SALE

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Pure-bred Shorthorns, Registered Shropshire Sheep, Brood Mares, Young Horses and Farm Implements

the property of T. C. Patteson, P.M., Toronto, at the farm, opposite Eastwood Post Office, 4 miles east of Woodstock, at one o'clock.

TUESDAY, OCTOBER 11th, 1898

TERMS: Six months' credit on approved notes.

P. IRVING, Auctioneer, Woodstock.

Dr. Leavitt's DEHORNING CLIPPERS

Are the BEST in use.

More of them in use than all other kinds combined.

For list, giving full particulars, address the owner of the Canadian Patent.

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577 Craig Street MONTREAL, P.Q.



FARMING

AN ILLUSTRATED WEEKLY JOURNAL DEVOTED TO
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The date opposite the name on the Address Label indicates the time at which a subscription is paid, and the changing of the date is sufficient acknowledgment of the payment of a subscription. When this charge is not made promptly notify us. In ordering change of address, be sure to give the old address as well as the new.

FARMING will be sent to all subscribers until a notice by post card or letter to discontinue is received and all arrears are paid up. Returning a paper is not a notice to discontinue. All arrears must be paid up before a name can be taken from our list. All remittances should be made by P.O. money order, express money order, or registered letter. Sending money in an unregistered letter is unsafe, and will be at the sender's risk.

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MARKET REVIEW AND FORECAST.

Office of FARMING,

44 and 46 Richmond street W., Toronto.

Sept. 26th, 1898.

The expectations in trade circles of a big fall's business are now being realized. Business in the Dominion is active, and prospects continue favorable, though prices in some lines are low. The same degree of activity prevails in the United States. When farmers begin to market their grain a little more liberally things will take a still more livelier turn.

Wheat.

The world's wheat supply in sight is gradually assuming larger proportions, having increased to 27,228,000 bushels for the week ending September 17th, as against 23,920,000 bushels for the week previous and 40,900,000 bushels on the corresponding week last year. It is now a settled fact that the world's crop is largely in excess of the consumptive requirements for the balance of the present cereal year, but the heavy demands of the immediate future in order to bring up the depleted reserves to their normal status will likely prevent the steep decline in prices which many have been expecting. A comparatively steady market is accordingly looked for for some time to come. Late advices from Europe increase the crop estimates with the exception of Russia, where, owing to the failure of the crop in the Volga district, 80,000,000 bushels of wheat from other parts of Russia will be required to meet the wants of the people in that section.

The situation at Chicago indicates merely a supply and demand market, and prices are considered low for this condition of things. Stocks are light, and though buyers are looking for increased receipts they no more than meet the demand. The London market has ruled firm, and the prices of spot stuff have moved up 3d. per quarter with a good demand at the advance. A scarcity of Canadian hard spring and winter wheat is reported. Dealers are looking for a lowering in futures owing to the large supplies to come forward. A parcel of No. 1 hard Manitoba was sold last week at 38s. 6d. landed terms, while a lot to arrive in nine days only brought 36s. ex-ships. Wheat deliveries on this side continue small. The Montreal market is about steady but no business is being done there on spot, and, therefore, prices are nominal. The Toronto market is firmer owing to advances in outside places, and

holders are asking 65c. to 67c. for red and white west. Manitoba is steady at 80c. for No. 1 hard Toronto and west.

Oats and Barley.

A much better feeling prevails on the London oat market and a higher and firmer market is the result. Sale of No. 2 white Canadian have been made at an advance of 3d. per quarter with a good demand at the rise. The Montreal market is steady with an upward tendency with prices ranging from 28½c. to 29c. afloat. The Toronto market is steady at 23c. to 24c. for white, north and west. Buyers at some local points in Western Ontario are reported to be taking all the oats they can get at 23c. to 24c. f.o.b.

The Montreal barley market is steady at 48c. to 52c. for milling grades and 38c. to 40c. for feeding. The Toronto market is also steady at 40c. for No. 1 east and 38 west.

Peas and Corn.

The London market for peas is steady, at a decline of 9d. to 1s. These lower figures have increased the demand, which may restore prices again. The Montreal market is firm at 61½c. to 61¾c. afloat. The Toronto market is steady at 50c. to 51c. north and west.

The Montreal corn market is quiet, but some business has been done at 35c. to 35½c. for No. 2 Chicago mixed. American at Toronto is quoted at 38c. to 39c.

Rye and Buckwheat.

There is a fair demand for rye at Montreal, but supplies are not plentiful. The market is steady at 4½c. to 50c. afloat. The market here is steady at 41c. north and west. Prices for buckwheat are nominal.

Bran and Shorts.

The Montreal market is steady for Ontario winter wheat bran, with sales reported at \$11.50 to \$12. Manitoba bran is quoted at \$10.50 to \$11, and shorts at \$14.50 to \$15. The market here is steady at \$11 to \$13 for shorts and \$8 to \$9 for bran west.

Eggs and Poultry.

Owing to liberal supplies recently, the London and Liverpool markets are easier, and Canadian offerings have not been able to realize former prices by 3d. to 6d. per 120. The Glasgow market is over-supplied, and prices have dropped 3d. per 120. The Montreal market is firmer, and, owing to a good enquiry, stocks have been well kept down. Strictly new-laid have sold in quantities at 16c. to 16½c., and in single cases at 17c. Straight candled stock sell at 14c. to 15c. Receipts here are a little more liberal, and the market is lower at 14c. to 14½c. for fresh gathered.

The offerings of poultry are fair, and the market is steady at 40c. to 50c. for dressed chickens and 35c. to 45c. for live, 50c. to 60c. for ducks, 6c. to 7c. per lb. for geese, and 10½c. to 11c. for turkeys.

Potatoes.

It is now pretty clear that there will be a big crop of potatoes in the United States and Canada, especially in Quebec. Dealers everywhere seem to anticipate low prices, though reports from some sections of Ontario indicate rather below the average. It is not so in the Montreal section, where potatoes in bulk lots have dropped from 65c. to 70c. per bag a few months ago to 50c. They bring from 55c. to 60c. in a retail way. The Toronto market is quiet at 70c. for cars on track and 80c. to 85c. out of stores.

Hay and Straw.

The London hay market is reported firmer with sales of new Canadian clover mixed at 60s. to 61s. ex-ship. There has been a good demand for new Canadian hay at Liverpool, which has sold at 50s. to 52s. 6d. for clover mixed. Receipts at Montreal have increased largely during the week. The quality is, however, good and sales of new clover have

been made at \$4.50. The average run of No. 2 brings from \$5 to \$5.50, and No. 1 \$6. The Toronto market for baled hay is dull at \$7 to \$7.50 for cars on track. Straw is quoted at \$4 on track.

Fruit.

There have been large shipments of apples during the past week. The Liverpool market is lower at 6s. to 16s. per barrel. The Montreal market is firm and active. Receipts have not been excessive and are nearly all of the better fall varieties which bring higher prices with sales at \$1.75 to \$2.20 per barrel. It is reported that the Western States are taking a large quantity of fall fruit at a cost of \$1.25 to \$1.50 per barrel on board cars. Apples on the local market here are quoted at \$1.25 to \$2 per barrel.

Cheese.

The cheese market, as we predicted some weeks ago, has taken a sudden turn upward, prices having advanced fully 1c. per pound at some local markets. At Brockville on Thursday cheese were sold at 9¼c. to 9¾c. The prices at the local market during the week ranged from 8¾c. to 9¼c., with a decidedly upward tendency at the end of the week. It is believed in some quarters that this advance is due to speculation, but we hardly think so, as a much better feeling prevails in Great Britain. Besides, 9c. and 9¼c. is not a high price for fine Septembers, and, after the low prices of the summer, are no more than good fall cheese is worth. The Liverpool public cable is up from 38s. to 40s., and other advices are 42s. to 44s. Liverpool, and 44s. to 45s. London for finest Western Septembers. The shipments from Montreal up to September 17th were 1,110,427 boxes, as compared with 1,351,981 boxes for the corresponding period last year, a decrease of 241,554 boxes. The total decrease in shipments from Montreal and New York is 473,717 boxes. The situation is then favorable for this advance to be maintained. Many factories have changed from cheese to butter, and the make of fall cheese will be very much less than last year.

Butter.

The export butter market also shows an advance in prices. Export orders have been received at higher prices caused by the severe drouth in England and the smaller imports into that country from Ireland and the continent. The price of butter at London has gone up 4s. and the market is steady at the rise. The total decrease in shipments from Montreal and New York up to September is 155,948 boxes as compared with the same period last year. Stocks are reported to be large in Montreal and many fear that the advance is not permanent. At Montreal the market is firm for choice September goods in boxes at 19½c. to 20c. and 19c. to 19½c. in tubs. Good to fine in boxes brings 18½c. to 19c. and in tubs 18c. to 18½c. Western dairy brings from 14c. to 15c. as to quality in round lots. The Toronto market is reported steady at 20c. to 21c. for prints and 17½ to 18½c. for packed. The best dairy butter brings from 13c. to 15c. and 11c. to 12c. for medium.

Wool.

London wool sales, which opened last week, show an advance of 5 per cent., while competition is very keen. The Montreal market is quiet. There has been a slight decline here during the week. Some lots were bought at 1 cent per pound lower than many holders were disposed to take a few weeks ago. The prospects for any improvement in the market are not very bright at present.

Cattle.

The cattle market is a little easier. Receipts have been very liberal during the week, and it has been difficult to dispose of all offered. The same report comes from some of the western markets, though prime fat steers appear to hold their own. There have been large supplies of Canadian cattle at Buffalo during the week.

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for wire worm, joint worm, army worm and all insects that destroy crops. Salt is the best insecticide. It is also a fertilizer.

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Export Cattle.—These have been in fair demand, with the quality good. Prices range from \$4 to \$4.40 per cwt., with 10c. for selections.

Butcher Cattle.—The market for these has been fairly steady during the week, with the quality slightly improved on Friday's market. Choice butchers' cattle bring from \$4 to \$4.10 per cwt. Butchers' common cattle are steady at \$3.50 to \$3.75 per cwt.

Bulls.—These are quiet, with the supply greater than the demand. Heavy bulls bring \$3 to \$4 per cwt., and light bulls \$2.50 to \$2.75. Feeding bulls bring from \$3 to \$3.25 per cwt.

Feeders and Stockers.—Are a little easier, and bring from \$3.25 to \$3.50 per cwt. Feeders are a little slow at \$3 to \$3.50 per cwt.

Cattle.—There has been a good demand for these during the week, good veals selling readily at 4c. per lb. or \$3 to \$7 each. There has been a fair supply and good demand at Buffalo, at prices ranging from \$7.50 to \$8.25 as to quality.

Milk Cows and Springers.—There has been a fairly good supply of these of late, which sell readily at \$25 to \$45 each.

Sheep and Lambs

The offerings of Canadian sheep and lambs at Buffalo have been very liberal during the week. Lambs bring from \$4.50 to \$5.50 as to quality, and sheep from \$4 to \$4.75. The large supplies here on Friday's market caused it to be a little weaker. Sheep for export bring from \$3.30 to \$3.60 per cwt., spring lambs from \$3.75 to \$4 per cwt., and backs \$2.75 per cwt.

Hogs.

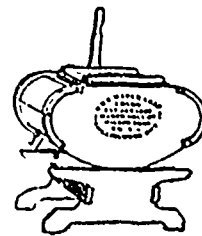
The run of hogs during the week has been very heavy, and the indications seem to point to lower prices. Choice bacon hogs sold on Friday's market at \$4.63 per cwt., light bacon hogs at \$4.25, and thick fat hogs at \$4.38 per cwt. Sows are easier at \$3 to \$3.25 per cwt.

Publishers' Desk.

Ontario Veterinary College.—The annual announcement of the Ontario Veterinary College, Toronto, for the session of 1908-9 has been issued. This well-known institution of veterinary science will open on Wednesday, Oct. 12th next. The course of instruction is thorough and practical. Its graduates are scattered over nearly every part of North America, a fact which testifies to the popularity and efficiency of this school of learning.

CORRECTION.

In the report of the dairy exhibit at the Industrial, published in our issue of Sept. 13th, the 6th prize in section 5 (creamery rolls or prints) is set down to J. Stonehouse, St. Mary's. We have been asked to state that Mr. Stonehouse does not reside at St. Mary's, and that the exhibit was in no way connected with the St. Mary's Creamery Co., as some of our subscribers seem to infer.



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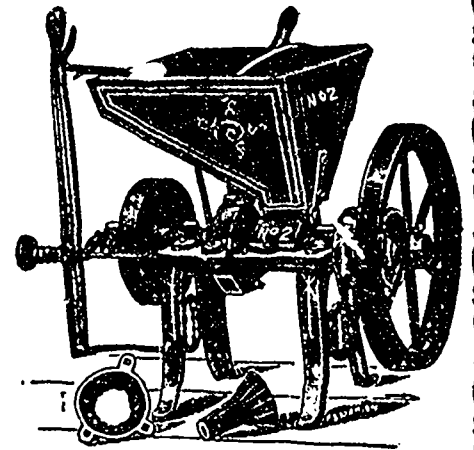
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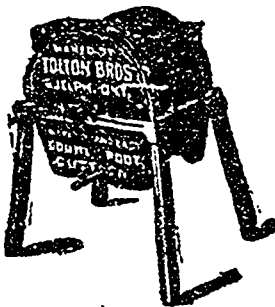
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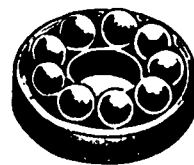
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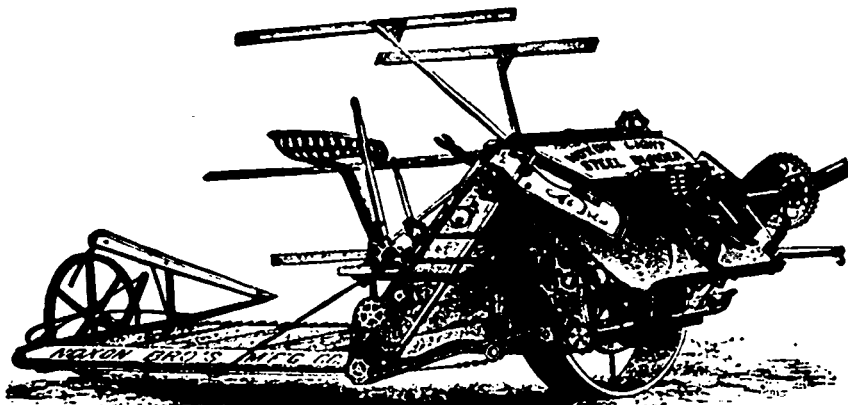
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