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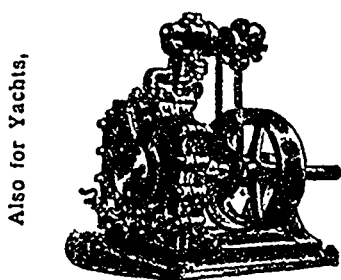
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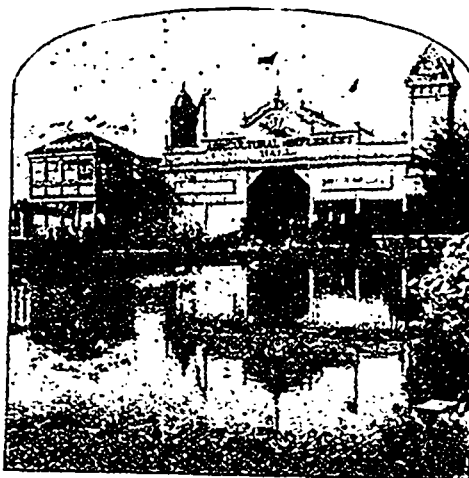
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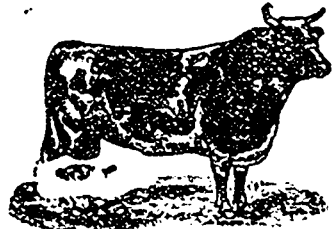
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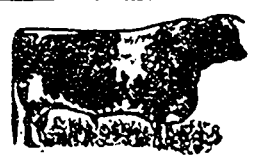
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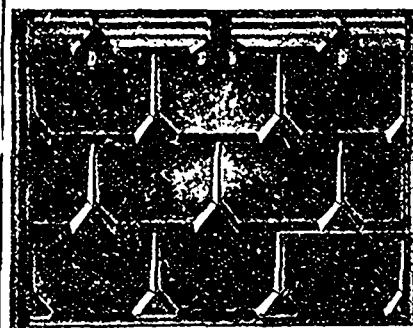
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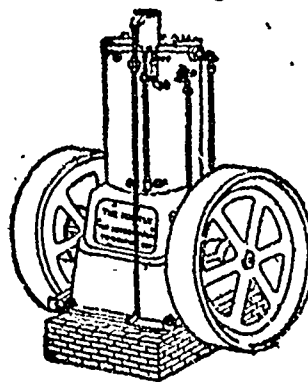
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VOL. XV.

JULY 12th, 1898.

No. 45.

FARMING

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TOPICS FOR THE WEEK.

It is Worth the Money.

A successful farmer, writing to *The American Agriculturist*, says there are two kinds of farmers. One is progressive. He takes his weekly farm paper and reads it. Consequently he knows the condition of the markets, and if there is a wheat or corn famine in any part of the world he is also aware of it, and governs his sales and purchases accordingly. He minds his own business because he is too busily engaged in that occupation to attend to other people's affairs. He gets rich. The other type is the slow-going ne'er-do-well. He cannot afford to subscribe for a weekly agricultural paper, or any other paper, for that matter. He knows enough to sign his name to a mortgage to buy machinery or build a new house. But he cannot tell how he is going to pay it off. He plods along in his own peculiar way, year in and year out, using his brawn and not his brain, and ultimately develops into a mere working machine. Reader, to which of these types do you belong? We do not want any answer, but would like everyone to decide the matter to his own satisfaction. If you think you ought to subscribe for a weekly farm journal which will keep you in touch with the methods and practices of the successful and progressive farmers of the day, send in your subscription for FARMING. It is the only Canadian agricultural paper which fills the conditions mentioned by the writer in *The American Agriculturist*. No farmer is too poor to subscribe for it, because the subscription price is so low that it is brought within the reach of all, and because, if he hopes to succeed in his business, he must have the information which FARMING alone will supply. There is no farmer who can afford to do without it. Mr. John A. Richardson, the well-known breeder of Holstein cattle, of South March, Ont., says: "I am well pleased with FARMING, and think it is worth the money if ever a paper was, and I wish it every success." If you are not a subscriber become one, and you also will find it will pay you amply for the small outlay involved. Read the letter of Mr. C. C. Macdonald, the Superintendent of Dairying for the Province of Manitoba, which appears in this issue. The thoughts which he unfolds are well worthy the consideration of every Canadian farmer.

Agricultural News and Comments.

Water is the most abundant substance found in living crops. On account of the loss through evaporation from the leaves of growing plants and the necessity of replacing this loss, thirty or forty times more water is needed during the growing

period of a crop than is contained in the crop when harvested. Plants require a large amount of water for their life and growth, and it is necessary that the supply be abundant at all times. If the evaporation from the plant greatly exceeds the amount taken in through the roots, the leaves wilt and the plant suffers.

At the Royal Agricultural Society's show, held at Manchester, Eng., last year, the total cost was £25,479 8s. 9d., and receipts from all sources were £29,533 8s. 10d., leaving a balance in favor of the society of £4,047 0s. 1d. These figures are somewhat larger than the usual run. The expenses of the Leicester meeting in 1896 were £18,140, and the receipts £21,741, the balance being £3,600. The largest item in the cost is that of the erection of the show-yard; the amount paid last year was £16,874 3s. 5d.

The British consumer is being warned against Normandy butter. An examination and chemical analysis of some hundreds of samples of this butter has revealed the fact that in something like seventy out of every hundred samples adulteration had been resorted to. In a few cases as high as forty per cent. of margarine was found, but generally, adulteration consisted in "working up" inferior butters from Belgium, Italy, and Australia with the genuine product.

Pigs require shade in hot weather as well as any other animal. In fact no animal suffers more from excessive heat than the pig. Every pig pasture should have some shade provided for the hot weather. Coupled with this the pig should have plenty of drink when the weather is warm, and especially is this the case with a suckling sow.

A quart of average milk weighs two and one-fifth pounds, and has a specific gravity of 1.032. In making this quart of milk the cow takes out of the food she has eaten 1.18 ounces of fat; 1.18 ounces of casein or cheese matter, 1.76 ounces of milk sugar, and .35 ounces of ash, and mixes them with 30.62 ounces of water. This ash represents all there would be left if the water were all evaporated and the solids were all burned.

An interesting beef dressing contest took place at London, England, recently for a prize of £200 a side. The competitors were Tetzil of New York, and Harper of London. The animals were killed previous to commencing the competition, the judges' decision having to be given as to who killed their beasts in the quickest and most workmanlike manner. The award was given to the American, whose time for two beasts was 18 minutes, 32 seconds; Harper's time being 20 minutes, 22 seconds. The carcasses were afterwards sold by auction and brought from 4s. 2d. to 4s. 8d. per 8 pounds.

Isinglass and gelatine are said to be good egg preservatives. They should be made into liquids and the eggs dipped into them. After dipping, the eggs should be dried on a screen with the small end of the egg down. This solution, when properly applied, will make an air-tight coating around the egg that will enable it to be kept for a considerable length of time. The gelatine can be kept for general use by adding two per cent. of salicylic acid.

A splendid drink for warm weather can be made from bran water and a little lime juice or lemon. Take about one pint of bran and let it soak in a

gallon of water for five or six hours. Then add a small quantity of the lime juice or the lemon. This will give the liquid a pleasant flavor, and make it more palatable. Bran contains a large amount of phosphate, and, soaked in water, a large portion of it is freed, and, in combination with the lime juice, makes a valuable drink.

Gravel is very plentiful in many parts of Canada, and, when it can be obtained of a good quality within reasonable hauling distance, makes a cheap but good road surface. It should be clean, containing little sand and clay, since it is the stone, not the earthy materials, which are needed on the road. Nor should large stones and boulders be mixed with it, as they will work up and roll loosely under the feet of the horses and the wheels of the vehicles.

Is the Present Method of Getting the Threshing Done the Best?

One of the important tasks of the farmer after the harvest is off is the threshing. In fact, a great deal of the fall wheat threshing, especially in Ontario, is now done before all the harvest is off. Where neighbors help each other with the threshing, as is the case in this province, the farmer often loses a lot of valuable time in assisting his neighbors to thresh, which should be given to getting his own grain in the barn. In this way, though this neighborly method of getting the threshing done has many things in its favor, we question whether it is the most economical plan for the farmer to adopt. The farmer certainly has to give a lot of time to it at a season of the year when important work on his own farm needs attention.

In addition to the fall wheat threshing, a great deal of which is done before the harvest is over in some localities, the bulk of the threshing comes on in September and early in October, and at a time when the farmer should be busy looking after the roots or filling the silo, if he has one. Or if it comes later, it conflicts with the fall plowing, a very important part of the farm work. If the threshing were done now, as it was some years ago, in the late fall or early winter, the time necessary to do the work would not be so much missed. But farmers do not care to wait that long in these go-ahead times, and are inclined to get their threshing done as early as possible. Consequently the threshing problem is a very important one for the farmer.

Of course the whole question hinges on whether the present method of doing the threshing in Ontario pays or not. A farmer on a hundred-acre farm will have, on an average, one and one-half days' threshing. To keep the thresher running properly it will require say twelve men, besides those looking after the machine itself, or say ten men outside of the farmer's own help. This would mean fifteen days' work that the farmer will have to give to helping his neighbors thresh. If this time could be given in the late fall or early winter it would not be much missed, but when it has to be given, as is the case in many sections, at a time when every day's work on the farm counts, the threshing costs the farmer pretty dear. We have placed the figures at the lowest point, so as to show the question fairly. On many grain farms of 100 acres it will require two days to get the threshing done, and in many instances more than twelve men would be needed for the work.

There are three or four ways in which this threshing difficulty might be remedied if the

farmer is not willing to put it off till the bulk of the fall work is done. One of these is to adopt the plan in vogue in Manitoba, and have the proprietor of the threshing machine bring enough men with him to do all the work connected with it. The great drawback to this would be to provide accommodation for so many men over night. The Manitoba plan might, however, be adopted: that of having the owner of the machine carry a sleeping tent with him for his men. Another plan, and one which, in some ways, perhaps, is more feasible, is for the farmer to hire all the help for his own threshing instead of getting assistance from his neighbors. This plan, provided the men could be hired when wanted, has many advantages over the present method. It would enable the farmer to get all his threshing done in a short time, and whenever he wished, and it would not be necessary to lose a lot of valuable time helping his neighbors. By hiring the men not so many would be needed, as the farmer could compel each one to do a day's work. The only difficulty with carrying out this plan is to hire the help when needed. Unless a farmer lived near a village where help could be had readily this plan could not be carried out successfully.

There is a third plan, and one which we think will commend itself to every intelligent farmer. This is for every farmer to do his own threshing with very little if any help from outside the farm. This can be done by the use of a small tread-power threshing machine. These are usually made for the use of a two or three-horse tread-power, and will do excellent work. They are largely used in the Province of Quebec, where the steam thresher is a rarity. For a farmer's personal use, with ordinary care, the machine will last a lifetime. The most popular machine is the regular two-horse tread-power machine. It can be placed on the barn floor in rough or wet weather, and with closed doors the work can be done inside. A machine of this size would require four men to run it, and it would thresh from forty to sixty bushels of oats per hour and other grains in proportion. Recently a farmer near Edmonton, N.W.T., threshed 1,100 bushel of oats in one day with a three-horse tread power machine, and another farmer in the same district threshed as high as 450 bushels of wheat in one day.

From the foregoing it will be seen that this small tread-power machine is capable of doing a large amount of work if properly handled. On the average hundred-acre farm one of these machines should do the threshing in four or five days at the most, and this time could be divided up to suit the farmer's convenience. The threshing could be done on wet days when no outside work could be carried on, and in this way valuable time would not be wasted. Though the small tread-power machine is not used much in Ontario we are inclined to think that it is the coming machine for the average farmer. Other motive power, such as a small gasoline engine, could be used instead of the tread-power. It will enable the farmer to do his own threshing as he does his own harvesting, and at the same time save valuable time and money, which the present system necessarily involves.

Beware of Preservatives.

The use of preservatives in milk or milk products is beginning to receive the attention of the authorities in some of the states of the Union. Recently Dairy Commissioner Mitchell, of Wisconsin, issued a circular to dairymen warning them against the use of preservatives in milk. The following quotation from his circular will be read with profit by dairymen here:

"It is now beyond question that thorough cleanliness, pasteurization and purification by centrifugal separator treatment with subsequent cooling milk may be shipped to market in the warmest weather. These cleanly and sanitary methods have come into disuse largely because chemical antiseptics have been advertised and lauded by unscrupulous nostrum vendors as being entirely harmless, and making all care and cleanliness unnecessary. The use of preservatives has gained ground among milk shippers until the public is becoming thoroughly alarmed, and steps must be taken to prevent it.

"During the last year a new and most powerful chemical disinfectant has been foisted upon the market as being harmless, and with the additional advantage claimed that it could not be detected by chemical means. This substance is formaldehyde. The substance is caustic, and, if allowed to remain upon the skin, will cause intense burning and itching, and the superficial layers will die and peel off after a fever. Doctors have been obliged to abandon its use as an antiseptic in a very dilute form for preserving ear washes and similar solutions, as continued contact in dilutions as high as 1 to 10,000 causes the skin to die and peel off. This substance, so much more active than borax and boracic acid, has been advertised over this state, and, when the warm weather sets in, dairymen may be tempted to try it, if they are not informed of its true name and character."

A couple of months ago there was some agitation in Canada in regard to the use of preservatives in butter. This was caused by a report from Great Britain that merchants who sold butter containing preservatives of any kind would be heavily fined. Buttermakers here were urged not to use preservatives of any kind excepting salt in manufacturing butter for the British markets. We believe that our dairymen gave heed to the warning given at that time, and that no injurious preservatives, such as borax or boracic acid, are now used or have been used by our buttermakers for some time back. As we previously stated, there is no need whatever for the use of preservatives in making butter for the British markets. If the milk from which the butter is made is looked after properly, and thorough cleanliness observed, and also the best methods adopted in manufacturing, the butter can be sent to the British markets in good condition, providing the cold storage facilities by rail and boat are taken advantage of.

The warning of the Wisconsin dairy commissioner is for milk-suppliers only. But it makes little difference. The use of an injurious preservative in any kind of a food product is dangerous. The commissioner seems to admit that some of the Wisconsin dairymen, at least, are like dairymen everywhere, in that they are inclined to do as little work as possible. This inclination to get rid of doing things is a characteristic of mankind that seems to be taken advantage of by vendors of milk preservatives, butter-in-a-minute churns, and such like. They know that if they can reach some lazy dairyman with a plan that will enable him to get along without observing cleanliness in milking and care in looking after the milk, and also that will enable him to get butter in a minute instead of in half an hour, he is apt to bite, no matter what injurious effect such a scheme will have upon the milk or its product. It is, consequently, necessary to keep on warning the people against such practices.

With regard to the use of preservatives, we do not think there are many in this country who use them knowing their injurious effects. Nor do we believe they are used to any extent by those making butter for the British markets. We have known, however, patrons of cheese factories who would preserve a can of milk over night by the use of saltpetre or some such substance. There is no need whatever for anything of this kind if the milk has been properly looked after from the beginning and special attention given to aerating and cooling it properly. When this, together with thorough cleanliness, is observed in every case, there is no need, under ordinary conditions, for a preservative of any kind, either to keep the milk or to preserve the butter made from it, till it reaches the consumer.

The Binder Twine Supply.

Our prediction of a couple of weeks ago that the price of binder twine was likely to go up before harvest was over has already come to pass. Farmers, who have not their supply on hand, will have to pay several cents per pound more than they would have had to pay a few weeks ago. There is now considerable excitement in the binder twine trade circles. Dealers without large stocks are endeavoring to get hold of supplies, while the fortunate few who have large stocks on hand are in no way inclined to sell.

There are fears, now that an exceptionally big harvest is assured, that there will likely be a shortage of twine before the grain is all harvested.

Probably this may result. But we are inclined to think that farmers, realizing the situation, have purchased their supplies earlier than usual and, consequently, have the bulk of the quantity needed for this season already purchased. There will be a tendency on the part of the farmer to make the supply on hand go as far as possible if a scarcity is likely to result, and in this way the famine in binder twine that is being predicted in certain quarters will not reach us this year. There is more than one way of conserving the supply. In addition to making larger sheaves when cutting, a great deal of the spring grain, such as oats, need not necessarily be tied, but can be taken in loose, and a saving in twine made in this way. Then, if a farmer is pushed, he can go back to the old fashioned method of binding the grain by hand, and it would be no great hardship if this had to be done for a small portion of the later harvest. There is not much doubt about there being a sufficient supply for the wheat harvest, and when this is gathered there need not be any great difficulty about the rest of the crop.

However, according to the present condition of the market, those who did not purchase their twine a month or three weeks ago have evidently missed it, and will have to pay a half if not three fourths more for their twine supply. A couple of months ago twine could have been bought by the farmer for less than eight cents per pound and now twelve or fifteen cents will have to be paid. The price on this side is about two cents lower than in the United States.

Not only is this season's supply being figured upon, but many are predicting a scarcity for two or three years to come. There is no manilla to be had, and, if the Spanish-American war continues for a while longer, it may be sometime before the Philippine Islands will be able to furnish any. In the meantime other raw materials, such as sisal, will have to be used, and, as we pointed out a few weeks ago, the supply of sisal is not likely to be overly large for a year or two. It would therefore seem by summing up the whole situation that for two or three years at least binder twine will cost the farmer more than he has had to pay during the past year or two.

Sanitation in Cheese Factories.

At this season of the year when the weather becomes excessively hot and the air dry it requires a little more attention on the part of cheese factory managers to keep the sanitary arrangements around the factory buildings in perfect order. Even when this is done the location of a cheese factory or a creamery may be detected quite a piece away by the sense of smell. The whey drippings or a leakage in the drains will soon cause a cesspool sufficiently odoriferous to produce an attack of sea sickness. If, where the sanitary conditions are given considerable attention, these disagreeable odors are lurking around, what must be the nature of the odors where the sanitary conditions are almost altogether neglected. No odors ever come forth from such places; they are nothing but abominable stenches loaded down with a living freight of disease-producing and obnoxious germ life. No cheese-maker should allow such a condition of things to exist. If he cannot remedy the difficulty himself let him visit the directors immediately and, if they won't make an effort to do so, call in the local health officer.

It is often a surprise to us that cheesemakers as a class are blessed with such good health. It is difficult to understand how makers working day in and day out in some of the dirty, filthy, unsanitary factories we have seen can keep foul disease away. Perhaps "familiarity breeds contempt," and the disease-producing germ prefers to practise his art on some new and unfamiliar ground. But not only is the health of the men working in an unsanitary factory involved, but the health of the people living in the locality of the factory, and herein is another matter of surprise that those, living adjacent to a cheese factory or creamery where wholly unsanitary conditions pre-

vail, will submit to having such germ-breeding grounds at their very doors.

In addition to all this, there is the effect that such conditions will have upon the cheese or butter while being manufactured or after it is manufactured. Many factorymen wonder why their cheese or butter is not as fine-flavored as that made in a neighboring factory, the quality of the milk being practically the same at both places. Often such lack of the really fine flavor which a prime quality of cheese or butter should have is traceable directly to the unsanitary conditions in and about the factory.

The question, then, is an important one, and concerns everyone interested in the cheese trade, from the patron to the consumer. There is no reason why any factory in these days should be in an unsanitary condition, and it is the duty of everyone concerned to do his utmost to have a change brought about. We do not for a moment contend that all our factories need attention in this regard; far from it. But there are always some delinquents to be found in every locality, and for these stringent methods are needed. A maker who keeps himself and his factory dirty cannot expect good milk from his patrons.

A Decline in Wages and the Cost of Living.

According to the Massachusetts labor bureau the average of wages has slightly but steadily declined since 1872. The average wages of boot and shoe makers declined from \$12.71 to \$11.90. Other trades, such as machinists, have suffered more; wages declining from \$13.84 in 1872, and from \$16.48 in 1841 to \$10.80 in 1897. The wages of farm laborers per month with board declined from an average of \$23.09 in 1872 to \$18.50 in 1897.

The decline in wages, however, is equalized by a corresponding decrease in the price of staple goods. Sugar, flour, butter, cloth, boots and shoes are all much cheaper. One dollar in 1872 would buy 3.63 yards of cotton flannel; it will now buy 10 yards. In 1872 one dollar would buy 18.18 lbs. of flour; in 1881, 19.76 lbs. and in 1897, 30.30 lbs. of the same quality. In the case of tea, one dollar in 1872 would buy 1.45 lbs.; in 1881, 1.72 lbs. and in 1897, 2.16 lbs. Of granulated sugar one dollar in 1872 would buy 8.33 lbs.; in 1881, 9.09 lbs. and in 1897, 17.86 lbs. In 1872 one dollar would purchase 5.26 lbs. of roast beef; in 1881, 5.88 lbs. and in 1897, 6.85 lbs. Of butter one dollar would buy 2.55 lbs. in 1872; 2.88 lbs. in 1881 and 4.13 lbs. in 1897. Of milk it would buy 12.56 quarts in 1872; 16.66 quarts in 1881 and 17.86 quarts in 1897.

These are the average prices for the New England States, and, though in many cases higher than in Canada, illustrate very well the cost of living today as compared with twenty-five years ago. Though the decline in wages for the mechanic has been met by a corresponding decline in the cost of staple articles, the decline in the cost of farm labor has been more than met as far as the farmer is concerned by the decline in the price of farm products. The decline in the prices obtainable for the products of the farm has been greater than that of farm labor, and consequently the farmer is not in as good position as he was in 1872, though the cost of production is somewhat reduced.

The Inter-Provincial Fruit Trade.

During an interview at Winnipeg recently Prof. Robertson made the following reply to the question: "How is it all Ontario fruit arrives here in bad condition?"

"If you had a good service of refrigerator cars there is no reason why you should not have the best fruit of Ontario laid down here in better condition than you get it from California. The difficulty in the past has been that the fruit was put on the cars warm, and, instead of being cooled in the cars, it only melted the ice. Fruit growers are recognizing this, and several of the large fruit growers in the Niagara and Essex peninsula are erecting cold storage rooms to chill the fruit before putting it on the cars."

The question and its answer bear directly upon a matter of vital importance to the fruit growers of Ontario, as well as the consumers of Manitoba. Is it not a fact that in the Niagara and Essex and other sections of the province there is fruit galore, while our great western country, where no fruit can be grown, is deprived of this luxury owing to poor transportation facilities and excessive freight rates? We are bending our energies to develop the export trade in fruits with Great Britain, a very necessary line of policy indeed, but why should not a special effort be made to supply our own people living in the outlying sections of the Dominion with the fruit that can be grown in Ontario and other eastern provinces so easily?

There is no reason whatsoever why Manitoba and the West should have to purchase any fruit outside of Canada that can be grown here. Ontario is nearer Winnipeg than California is and, if our fruit growers had the proper refrigerator and cold storage facilities and reasonable freight rates, the Manitobans could be supplied with as good fruit and as cheaply from this section of country as from the Pacific slope. The great drawback to inter-provincial trade in this country, especially in commodities such as fruit, is the long distances and excessive freight rates. With these successfully overcome trade between the outlying sections of the Dominion would develop rapidly and be of mutual advantage to the producer and the consumer. Take for instance the strawberry trade this season. The supply was excessively large yet we venture to say that, even in some outlying sections of Ontario, strawberries were too high a price to admit of their purchase largely by the poorer classes, all because the freight rates between local points in this country are excessive. At a point a few hundred miles from the fruit regions the freight is often higher than the actual cost of the fruit itself.

The Agricultural Department at Washington to be Utilized for Post-Graduate Work in Agriculture.

Before long the various divisions of the Department of Agriculture at Washington will be utilized for supplying the graduates of the various agricultural colleges in the States with an opportunity for doing extensive post-graduate work in agriculture. The plan is a suggestion of Secretary Wilson's, and is certainly a very commendable one. There are in the department sixteen scientific divisions, the finest apparatus money can buy, the best illustrating material obtainable, and the finest library, where everything in the line of progressive agriculture is secured as soon as published.

It would not be necessary for Congress to appropriate a single dollar in the way of appliances, grounds, etc., for this post-graduate work. The facilities for giving practical instruction are all in use in connection with the department. Graduates of the colleges going to Washington would be assigned to congenial work, and instructions given to the heads of divisions to oversee, direct and encourage their studies. It is not determined yet whether special degrees will be granted for this work or not.

There cannot be any doubt that such a scheme would be of immense advantage in welding together the scientific instruction given in the United States by bringing the Department of Agriculture into useful relations with the agricultural colleges to a greater extent, and by making an additional bond of sympathy between the Federal Government and the states of the union.

Intensive Farming.

This subject has been given considerable attention in *FARMING* during the last month or two. In last week's issue Mr. D. M. MacPherson takes up the question in reply to an article previously written by Mr. T. C. Wallace. In this issue Mr. Wallace again discusses the subject and takes issue with Mr. MacPherson on some vital points. The whole question is a very important one and

we trust that the various phases of the subject brought out by these two writers have been and will be of practical value to every farmer. The vital question in all lines of farming to day is that of profit. What the farmer desires to know is the line of farming that will return him the most profit and at the same time maintain the fertility of the land.

One of the important points upon which Mr. MacPherson and Mr. Wallace differ is as to whether it is better for the farmer to buy his feeding stock or cows when grown or to raise them on his own farm. There is considerable room for argument on both sides of this question and we would like very much to hear from other feeders and breeders on this point. While it may be of advantage to many farmers to buy their feeding stock and milch cows when grown, we are inclined to the opinion that the average farmer should grow as large a portion of his stock on his own farm as possible, otherwise how can he get perfection in his herd of cows. It is an education and a training for the farmer to develop and grow his own herd.

The Royal Agricultural Show.

The Royal Show was held at Birmingham the latter part of June, beginning on the 24th. The show, all through, must be considered a great success, and, according to recent English exchanges, far above the average. There were on exhibition 709 horses, 792 cattle, 624 sheep, and 198 pigs, making a total of 2,323, as compared with 2,688 at Manchester last year. The total live stock exhibits at Leicester, 1896, was 1,883; at Darlington, in 1895, 1,703; and at Cambridge, in 1894, 1,864; so that this year's exhibits are greatly in excess of the average. The attendance of visitors this year is not up to that of last year.

All the various breeds of horses, cattle, sheep, and swine, were well represented. There was an unusually large exhibit of hackney and shire horses, showing that these two breeds are growing in favor in England as elsewhere. Among the beef-cattle the Shorthorns, Herefords and Polled Angus were out in the greatest numbers. The Jerseys and Ayrshires exhibits were of a high order, and in the milking test the former figured very prominently. The sheep exhibit is always an important one, and this year was no exception to the rule. Though the numbers were not as large as last year the quality is reported to have been very much better. The large whites and Berkshires made the best representations in the swine classes. The Royal Show is the greatest exhibit of purebred live stock in the world, and British breeders prize very highly the awards won there.

A Uniform Apple Barrel.

The following circular has been sent out by the National Apple Shippers' Association, and which has been largely signed by shippers and buyers all over the United States:

"A large crop of apples is expected this season. To realize a fair price we will necessarily export a large amount, and, as we shall have to compete with Canada, we must have good cooperage and a standard barrel. The National Apple Shippers' Association and the National League of Commission Merchants have already adopted the following dimensions: Head, 17 $\frac{3}{4}$ inches; stave, 28 $\frac{1}{2}$ inches between crozins; bulge, not less than 64 inches outside circumference. The above are the measurements of the Minneapolis flour barrel.

"Believing it for the interest of the buyer, shipper and grower to bring about this much needed reform, we, the undersigned buyers and shippers, agree that we will not purchase apples packed in barrels that hold less than the above."

The object to be attained by means of this circular is a very laudable one indeed. If Canadian shippers and fruit growers have not already done so it would be well to come to a similar understanding in regard to a uniform and standard apple barrel. The Canadian apple crop is likely to be a very large one this year, and every effort should be made to get it to the consumer in the best possible shape.

THE POTATO BLIGHT.

The potato blight is a disease of the leaves, stems and the potato itself. It begins with blackish spots on the leaves and ends with rotten potatoes. It spreads rapidly in warm and moist weather and may appear at any time after the plants are from four to six inches high. For all forms of blight the Bordeaux mixture is considered to be the best. Galloway's formula for making and applying this is as follows:

* Pour into a forty-five gallon barrel about thirty gallons of clean water, then weigh out six pounds of bluestone or copper sulphate, and after tying it in a piece of coarse sacking, suspend the package just beneath the surface of the water by means of a stick laid across the top of the barrel. In another suitable vessel, such as a tub or half barrel, slack four pounds of fresh lime. Slack the lime carefully by pouring on small quantities of water at a time, the object being to obtain a smooth, creamy liquid free from grit. As soon as the bluestone is dissolved, which will require probably less than an hour, pour the lime milk into the bluestone solution, stirring constantly to effect a thorough mixing; add enough water to fill the barrel, stir again, and the mixture is then ready for use.

WHEN AND HOW.

Apply this mixture when the plants are about six inches high, and repeat five or six times at intervals of twelve or fourteen days. If it rains apply oftener. It is important to keep the plants covered with the mixture. Potato beetles may be killed at the same time by adding four ounces of Paris green to each barrel of the Bordeaux mixture. Thorough work must be done. The knapsack sprayer, to be fastened on the back, is a good machine for small field-garden syringes, or even a pail of water and a straw broom, will answer fairly well if plenty of the mixture is applied.

COST AND EFFECT.

It is estimated that potatoes may be sprayed five or six times at a cost of about \$6 to the acre. It pays to spray, because even in a year when the blight does not give much trouble the Bordeaux mixture will keep the plants green and thriving longer and so increase the yield.

AMONG OSWEGO COUNTY STRAWBERRY GROWERS.

(Written for FARMING by JOHN CRAIG, Ithaca, N.Y., late Horticulturist, Experimental Farm, Ottawa.)

A recent visit to the strawberry growing section in the vicinity of Oswego, N.Y., and along the shore of Lake Ontario, impressed me with the progress of specialism in fruit-growing, and pointed out important advances made in the course of the evolution of this industry. I take it for granted that strawberry-growers generally know something of the magnitude of the strawberry interests of this region. Away back in '75 this berry was grown here in a small way, marketed in boxes holding four to six quarts, and packed in huge two-men-to-handle crates. The growth of the industry received a tremendous impulse twelve or thirteen years ago, when the markets of Boston and New York were opened by means of a refrigerator car service—more or less imperfect at first, but gradually improving, till to-day, when berries are landed in Boston in perfect condition the morning of the second day from Oswego. This success has been achieved by observation and experiment. The cars are iced the day before loading, and re-iced when filled. The well-ventilated strawberry crate lends itself readily to the cooling process. It may be noted that the icing of the cars is usually overseen by a

local man who has a stake in the shipment.

CLASSES OF GROWERS.

One observes two classes of growers, viz., (1) those who grow for quantity and a general market, and (2) those who aim to produce fine quality and who cater to a personal market. The first usually has a larger area of standard varieties grown in the broad "matted row," while the second selects varieties of attractive appearance and good quality, and grows either in "hills" or "narrow matted rows." The relative profits from the two systems depend largely, no doubt, on the business ability of the manager or owner. An exceedingly handsome field, composed entirely of Marshall, was seen near Oswego. The plants were set originally 34x30 inches apart. Each plant was allowed to make four runners. The rows were not wider than 12 inches. The berries in this field were a sight to make one's mouth water, so uniformly large, glossy and handsome were they. These berries were graded, each box faced, and finally wrapped in paraffin tissue paper before being consigned to the crate. "Does it pay?" said I to the grower. "It suits me pretty well," was the answer, accompanied by a self-satisfied smile. These berries bring 10 to 12 cents when Bubach were selling for 7 and 8 cents.

SOME NEW WRINKLES.

One grower, who grew chickens as well as strawberries, found that the young strawberry bed and the young flock of chickens agreed wonderfully well together, so the chicken coops were distributed throughout the eight-acre strawberry patch of this spring's setting, and how the young Leghorns and "Plyms." enjoyed following the cultivator! This patch is an unhealthy place for cut worms and pure bug grubs.

VARIETIES.

I am informed by a prominent grower that a canvass of the strawberry growers three years ago resulted in the naming of over forty varieties. The favorites were the following in the order named: Bubach, Warfield, Haverland, Lovett, Parker Earle. Since then, says Mr. Davis, many others have come to the front; among these are the Marshall, Brandywine, Wm. Bilt and Carrie. Wm. Bilt rusts badly in some soils. Carrie and Marshall are, *par excellence*, among the handsomest and best in quality.

THE OPEN MARKET.

This is found every afternoon in the town of Oswego. There come the buyers and hither flock the non-shipping producers. The scene is original and striking. The buyers bustle round, and soon the lines of waiting sellers are broken by those who have sold making their way towards the refrigerator cars waiting on the not far distant railway track.

Strawberry growers are, as a rule, not happy this year. Large production and low prices will lessen the area and the number engaged in the business next year, but in this, as in other lines of earthly struggle, the fittest will survive.

PRINCE EDWARD ISLAND NOTES.

By A. E. MACPHERSON.

The beautiful rains continue, and, as a result, everything is growing at a rapid rate. Other years our crops, especially the hay crop, suffered on account of so much dry weather, but it is entirely different this year. The rain is doing untold benefit to the potato patches, as it hinders the bug from laying its spawn and, even if it is laid, it cannot hatch only in dry weather; this will help tide the plants over the stage in which the bug hinders them so much, and once they reach the stage for hilling there will not be so much chance of damage.

The turnips and mangels are growing rapidly; and along with those, always-detestable weeds, which cause so much toil and worry. The horn fly, which has become a familiar acquaintance, has again made its appearance, though not in such numbers as last year.

The supply of milk at the cheese factories is rapidly increasing and the buildings will have to be enlarged to make room for more vats. The output bids fair to be almost double of what it was last year. The farmers are greatly displeased that binder twine is going to be a higher price this fall than last, especially since it has been put on the free list.

W. H. Pethick, V.S., Government Inspector, is addressing the farmers on tuberculosis and other contagious diseases in animals; he also is examining herds for tuberculosis.

In my next I will endeavor to deal with the subject "Farming as it has been practised in Prince Edward Island."

INTENSIVE FARMING.

By L. C. WALLACE (Wallace & Fraser), Toronto, Ont., and St. John, N.B.

A reply to Mr. MacPherson: Farmers Should Raise Their Own Stock.

The article I am called upon to answer is important, in that it calls particular attention to the very vital question of profit in farming. It does not alter the true definition of "Intensive Farming" which I gave in my first article on the subject, page 312, FARMING, May 17th, but it lays stress on the rational employment of business methods. I ask every reader of this article to read my former article on the subject, with this one as my answer.

The conclusions suggested by Mr. MacPherson's arguments, if they are sound, are either that there is a surplus of horned stock, or that they are being produced at a loss of fifty per cent. This is a serious question for stock raisers, and one which demands their earnest attention, and I hope we may hear from them on this subject. In urging farmers to use rational methods of manuring with a view of present and future economy, I have the honor to address the stock raisers, who are by far the most numerous class, as well as the farmers, who are traders and feeders. To the stock raisers I say we must, by the use of phosphate, repair the loss of "bone earth." To the buyers of cattle for feeding I say that the animals purchased from farms impoverished of their "bone earth" by cattle raising come to us "bone hungry," and utilize such a large proportion of the phos-

phate of the feed and fodders we raise, or buy outside for them, that their manure, upon which we depend, is so deficient in phosphate that we also must employ means to repair the damage to our farms.

If animals are in perfect health, and the food they take is all in such a form that they can perfectly assimilate it, and the quantity taken into their stomachs only a small fraction over what they can make use of in their systems to perform their functions, so that, in fact, there is no wasted food, the condition of their manure will simply represent the continuous waste of their systems. That waste, in such a case, does not include phosphate or bone-making material, except to a remarkably small extent. This, of course, is an impossible state of affairs, from a practical standpoint at least. What I wish to draw attention to is—that the small amount of phosphate found in stable manure is from the undigested food which is expelled. Then the unutilized balance of the phosphate of the food which returns to the farm is not some new element added to the soil. It is, as it were, the soil brought up and chewed over, and perhaps made more available for the next crops. The same may be said of the nitrogen and potash not assimilated. But, while the animal lays up in its bone and (in the case of the dairy cow) gives off in its product nearly all the phosphate it assimilates from its food, it is different as regards the nitrogen and potash. Only a small portion of the nitrogen, and none of the potash, is stored in the bone, though a fair proportion of them is given off with the milk. The largest portion of these latter elements assimilated is utilized in the fleshy and liquid parts of the animal, which are continually wasting as they are making, so that in the course of the animal's lifetime on the farm nearly all potash and nitrogen consumed is returned in the shape of excrement (manure). Of all the animals on the farm, then, the dairy cow removes the most fertility, though probably the horse removes the most phosphate and nitrogen in actual weight of bone.

Most soils that we have to deal with in farming are, fairly speaking, deficient in phosphate, and what they have is mostly in such an insoluble form that the cultivated plants we use in farming cannot assimilate it sufficiently for perfection. The result is that, no matter how much nitrogen we may add to the soil by plowing down clovers, or return to the soil by the animal manures and straw, or how much potash we may return through the manure and straw to add to the already abundant supply in most soils, these elements are not thoroughly taken up by the plants, which suffer from insufficient phosphate, owing to its being drained from the soil by the requirements of the bony structure of the animal life fed on or from the farm.

With this view of the matter before us we can readily understand the immense increase in yield, and the still greater increase in feeding value, in crops manured with an available form of pure phosphate. In this also we are able to recognize the force of Wagner's statement that clovers, peas and vetches cannot make use of the free nitrogen of the atmospheric air while they suffer for want of phosphate, but

merely use up the nitrogen presented to them in the soil. This, also, may account for the failures to obtain a profitable benefit from clover manuring made by some farmers.

Is this, then, an argument in favor of purchasing highly phosphatic foods, as bran for instance? No, I think not, for that would be turning the animal from its proper purpose of production, and into a sort of animated manure factory, and even while it might be counted profitable for a few years, must eventually fail to arrest the impoverishment of the land in bone earth. The much more perfect plan, as well as the most practical and the cheapest in the long run, is to purchase the required phosphate to balance the waste from the soil, and it is sometimes found necessary to purchase the potash also, as without it in abundant supply perfection in growing cannot be attained. It is quite reasonable, however, that we should purchase back the bran of the wheat, because it is a refuse and only particularly useful for feeding, and because it is a highly phosphatic food containing most of the phosphate of the wheat, and greatly assists the animal in the assimilation of the fodders. It is not always necessary, but it is sometimes wise from the standpoint of economy, as it may be the most profitable course to pursue in the circumstances in which we may find ourselves. Since it has been undoubtedly demonstrated that the feeding value of our crops can be increased three-fold in flesh, fat and bone-producing elements by the use of pure phosphate in conjunction with the manures of the farm, the possibilities of the production on the farm in a favorable climate of all, or nearly all, the feeding stuff for the stock in any line are quite within the scope of practical economy. In figures it might be put thus: If a field of hay is worth, say \$10 per acre in actual feeding value for flesh, fat and bone (and milk production), and for an expenditure of from \$2 to \$3 per year can be increased in feeding value to be worth \$30, and better soil, better animals and better product result, would not that be more economical than buying feed stuffs and forcing the life energy of the animals to produce extra manure in an ineffectual attempt to keep up the fertility of a farm soil, probably already run below the point of proper production?

Every man must be his own mentor as to whether he shall purchase cattle to feed or breed for his own use, and it seems idle to discuss that in a general way, as circumstances alter cases. If all concluded to buy, there would be none to sell. It is more to the point to learn the art of breeding, rearing and feeding cattle profitably. Those who cannot do it under possible circumstances had better purchase their stock from those who can, and in the meantime bend their energies somewhat to improving their education on that point. Some may be so situated that they cannot raise their own stock profitably. Such will always buy if they are wise, and not continue in a losing game. No hard and fast rule can apply, and I have not in my former writing suggested that it should. The simile of the manufacturer does not apply, as manufacturers are not producers of raw material as farmers

are. By all means let us have profitable farming, but if it is to be secured to the few by despoiling the many, so that the poor may grow poorer as the rich grow richer, general good will not result.

In my writings I aim to elucidate the most advanced ideas, and a charge of being old-fashioned or behind the age rather embarrasses me, as I am at a loss whether to take it seriously or as a by play. In my article on "Intensive Farming," on page 312, May 17th, of FARMING, I did not ignore the matter of "profit," and I am surprised that Mr. MacPherson should suggest that I am impractical from anything I there said, but my respect for the editor's blue pencil protects me from going into detail on all the phases of a subject in one article even when my natural modesty is at fault.

CORRESPONDENCE.

AWARDING PRIZES IN A MILK TEST.

A BRITISH VIEW OF THE SUBJECT—THE RIGHT METHOD NOT YET OBTAINED.

Editor of FARMING:

"I have just read the article in your issue of the 7th June on the above subject. It is one of special interest to me, not only because I am anxious to discover a means of awarding prizes to milking cows which shall be fair to all competitors, but also because the present system of judging at the dairy shows in England, which system appears from your article to have been adopted in Canada, was originally suggested by myself.

This system may not be perfect, in fact, in the last journal of the British Dairy Farmers' Association I advocated certain changes, some of which the association have decided to adopt at the dairy show in October next, and if a still better system can be suggested the association would be certain to give it due consideration.

In any system of judging a milking cow by points it is essential, in England at least, to remember that the cow's milk may be used in three different ways: First, for sale in the large towns; secondly, for the manufacture of butter; thirdly, for the manufacture of cheese. If only the first consideration had to be taken into account it would be sufficient to give points merely for volume of milk, provided the milk were not of inferior quality. And this system of judging is largely adopted, a standard of 12 per cent. solids, and not less than 3 per cent. or 3.25 per cent. of fat being usually fixed as the minimum quality permissible. But when the butter-producing power of cows is alone called in question—as, for example, in the Jersey tests—the milk is weighed separated, and the cream churned, and the points are awarded mainly for the actual weight of butter produced.

The Dairy Farmers' Association, in fixing their standard of points, endeavored to take into consideration all three ways in which the cow's milk might be used.

Bearing these facts in view, it does not appear to me that Dr. Babcock's system would be an improvement upon the present system; nor do Prof. Dean's figures altogether represent what would actually be found in practice. Dr. Babcock's system would probably be fair were the butter-making capacity of the cow alone in question; or even the cheese-making capacity, perhaps. But it would be quite impossible in England to neglect that very valuable factor, the quantity of milk. Let me illustrate my meaning. Suppose two cows, "A" and "B," are competing. "A" yields in a given time 100 lbs. of milk, containing 3.15 per cent. fat, and "B" yields in the same time 70 lbs. of milk, containing 4.50 per cent. of fat. The question we have to decide is, What is the relative value of these two cows to the farmer? As milk is sold here irrespective of quality, it is evident that, for milk-selling, "A" would be much the more valuable cow. They would both produce the same amount of butter, while, as regards cheese, the production of "A" would be slightly more than that of "B."

The monetary value of the produce may be tabulated as follows:

FROM "A."		
100 lbs. milk at, say, 6c. per gallon....	60	c.
Or 3½ lbs. butter at 20c.....	70	
Or 8.60 lbs. cheese at 8c.....	69	
	311.99	
Average value of produce.....	60	
FROM "B."		
70 lbs. milk at, say, 6c. per gallon....	42	c.
Or 3½ lbs. butter at 20c.....	70	
Or 7.95 lb. cheese at 8c.....	63	
	311.75	
Average value of produce.....	58	
Difference 8c. or 1c. more than "B."		

If we judge these cows by Dr. Babcock's system, we find the results are "A" 40.5 points, "B" 37 points, or a difference of only 1-10 "B" in favor of "A."

Adopting the standard of the British Dairy Farmers' Association the relative merits of the cows would be—

	A.	B.
Points for milk.....	100	70
" " fat.....	63	63
" " other solids.....	30	26
	199	159

Difference in favor of "A" = 40 points, or 1 more than "B."

We must look at this subject from a practical point of view. The farmer does not want to know how much more valuable 300 lbs. of one milk is than 300 lbs. of another. The question he wants answered is, Of two cows giving milk, varying both in quantity and quality, which, think you, is the more valuable of the two cows "A" and "B"? With the former you obtain a profit over the other, whether you sell the milk, make butter, or make cheese. It is true this average profit is only 1-7th more for "A" than for "B," but it can be obtained in at least two directions, either by selling the milk or by making cheese, and might therefore be more justly expressed as 2-7th. Hence, I think, a standard which makes out the difference in favor of cow "A" to be only 1-10th that of cow "B" is even worse than the old standard of the British Dairy Farmers' Association.

The imperfection of the old standard lies chiefly, perhaps, in not giving sufficient value to the fat; but this might be remedied. This seems to be Dr. Babcock's view, and the points he suggests, so far as they go, deserve careful consideration. But, my object in writing is to point out that they do not go far enough, and to urge upon those who are considering a new standard the necessity of taking into account the volume of milk yielded. The subject is a difficult one, and needs mature consideration, and I shall watch with interest the progress of this discussion."

I am, sir, yours etc.,

FRED J. LLOYD,

Consulting Chemist,

British Dairy Farmers' Association, etc.,
Agricultural Laboratory, 4 Lombard Court,
London, 23rd June, 1898.

DAIRY FARMING IN MANITOBA.

Office of C. C. Macdonald, Dairy Superintendent, Winnipeg, July 4th, 1898.

Editor of FARMING:

DEAR SIR,—I have read with deep interest, in your esteemed paper of June 28th, an article on grain farming *versus* dairying, by Mr. Joseph E. Gould, and I cannot help offering my hearty congratulations to Mr. Gould for his splendid article, and also to FARMING for having such an able correspondent as Mr. Gould is. Every word uttered in that article is a gospel truth, and I would like to see this article read by every farmer in Manitoba and the great Northwest generally.

What I know of Ontario, having lived there the earlier part of my life, I know that every illustration that Mr. Gould brings out is a cold, hard fact, and the same state of affairs is fast coming about in Manitoba, in regard to grain-growing. Manitoba, as yet, in most parts of the province, has produced good crops of wheat, but there are some of the older settled parts that are not growing the same crop that they used to grow, and some of the farmers of the province are long will see where they have made the same fatal mistake that the Ontario farmers have, of draining the land of its fertility by continually

cropping without fertilizers. It would almost make an Ontario farmer's blood grow cold to see the enormous quantities of straw that are burned in this province from the threshing machine, instead of having it worked up into manure by stock.

Dairying is making rapid strides in Manitoba, but there are still many farmers in the province who do not take kindly to it; but it is earnestly hoped that these will see dairy light before it is everlastingly too late to repair the damage done by continual draining of fertility.

I think that FARMING should be in the hands of every farmer in Manitoba, and I trust that the time is not far distant when we will see it adorning every home in the province.

Wishing you every success,

I am, yours very truly,

C. C. MACDONALD.

HO FOR MANITOBA.

Editor of FARMING:

It, as is claimed, the 11th Mississippi Exposition is to be second only to the World's Fair, then Canada should be well represented in the live stock show to be held there on Oct. 3rd to 20th. If, as has been stated, it will cost \$200 for a carload of stock, there is not likely to be much done if left to individual effort, as not only is the cost high, but it would be very tiresome and hard on stock for such a long trip if the usual delays were made. If it is desirable and practical that Canada should be represented, then the officers of the Dominion Cattle Breeders' Association should take the matter up. With liberal arrangements as to freight, etc., no doubt a train load of the various breeds of cattle, sheep, hogs and horses might be gotten together; a special low rate obtained for a train load; arrangements made with the various railways, so that the special train would be sent through without delay, and stockmen given convenient arrangements for watering stock, etc. Possibly our Minister of Agriculture might bear part of the cost for freight as was done at the World's Fair. If anything is to be done it must be started quickly, as entries close 10th Aug. We know where there is one carload if favorable rates are made.

GRO. RICE.

Curries, Ont.

A RECORD BREAKER.

Editor FARMING:

I notice in the *St. George Sentinel*, of June 2nd, that Mr. G. W. Clemons gives an account of a Holstein cow that gave 420 lbs. of milk in seven days, and would like to know if her equal can be found in the province. But he don't tell us how much he was feeding her at the time the record was made. He might have been feeding all she could possibly stand.

I think I not only have her equal, but her superior, all things being considered. My cow is a full-bred Jersey, and without any extra feed, and after giving milk about six weeks, she gave, in seven days, four hundred and thirteen pounds of milk that will test away up. The highest record for one day was sixty-two pounds. She can be fed to beat this record by several pounds.

N. H. SHEPLEY,

Charing Cross, Ont.

June 23rd, 1898.

DAIRYING IN THE TERRITORIES.

Mr. Samuel Flack, Red Deer, Alta., in sending us his subscription, states that the creamery business in that district is a decided success. It is under the control of the Dominion Dairy Department. The amount of butter manufactured last season, beginning June 1st and ending Sept. 30th, was 30,153 lbs., and during the past winter 11,103 lbs. It will be gratifying to many to know that dairying is progressing so favorably in the West. Mr. Flack is a dairyman of experience and a graduate of the Guelph Dairy School, and will, no doubt, give a good account of himself in the West.

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', \$1.

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.

SOME OF OUR NEWER WEEDS.

By T. C. WHATELY.
(Continued from last issue.)

But with advancing settlement, and especially since the introduction of railways, scores of fresh ones, and among them some of our very worst ones, are being steadily introduced. As instances of unsuspected ways in which weeds are sometimes introduced, I might say that Darwin, the noted naturalist, found in six grains of earth adhering to the feet of a plover three kinds of seeds, and in mud sticking to the feet of ducks and geese shot in England seeds peculiar to the Victoria Nyanza in Central Africa. In mud sticking to the feet of a Texas steer the seeds of five different kinds of weeds and grasses common in Texas were found by a microscopist after the arrival of the animal in New York. In my own experience, in a mixture of imported grass seeds, bought of a first-class seedsman, I found four kinds of weeds I had never seen before, though I thought I had studied nearly all our common weeds.

Before proceeding to describe a number of the newer weeds in my collection, I would like to impress upon you the importance of knowing the names of our weeds, as it is a great help in recognizing them when they first make their appearance. It is then that the most satisfactory work can be done in preventing their spread. Know them, and then you can nip them in the bud so to speak. "A stitch in time saves nine" truly in dealing with weeds. If the prelate in the east who introduced the blueweed into his garden from Europe, had known it to be a bad weed, he would have saved himself the discredit of having it named "the bishop's curse," the name by which that weed is known in a certain locality. I realize that to know the weeds implies some acquaintance with the science of botany, a knowledge at present not possessed by many. But botany is one of the subjects now required to be taught in our public schools, and I would like if I could get the ear of our school trustees generally so as to persuade them to give

every encouragement to our teachers to begin the practical study of this subject. This could easily be done by encouraging pupils to bring specimens of their weeds to school, and have them identified, pressed, and mounted. Thus the subject could be taught with very little effort, and that of a very pleasurable and taste inspiring kind. This is one of the many instances in which a farmer needs to know his business thoroughly, as any business or professional man needs to know his in order to be successful in it. A leading educational authority in this province said lately, in one of our papers, that he did not believe one farmer in a dozen could give the generally accepted common names of twenty of our common weeds. I am afraid this is too true, and if so calls for a remedy.

I will now give a brief description (reference being made at the same time to the mounted specimens) of some thirty of our newer and worst weeds, accompanied by comparison with common forms said to aid in identification, viz.:

Russian thistle.—A great scourge in the Dakotas, but not likely to be so much so here. Has been noticed at a few points.

Great rag-weed.—Specimens collected at Port Huron, Michigan. A larger weed than our common rag-weed.

Creeping or perennial sow thistle.—Very generally introduced in the counties of Ontario and Durham. One of the most aggressive and difficult to eradicate. Strenuous efforts should be made to destroy it and prevent its spread.

Prickly wild lettuce.—Destined I believe to be our very worst field annual, as the purslane is our worst garden annual. Spreading fast in Lambton county and I am told about Campbellford.

Wild tare, often called wild pea.—The cultivated tare, escaped as a weed in some field, is also called by the same name. It is not liable to spread except in seed or manure, but one of the most difficult to eradicate.

Ox-eye daisy has got a firm hold in

many places. Its habit of stouling from the crown enables it to run out most grasses. It should be resolutely dealt with.

English plantain and tall buttercup.—Also two troublesome weeds in grass lands, and apt to find their way into clover fields.

Badder campion.—Not creeping rooted, indeed, but just as hard to kill as that class.

White cockle and night blooming catch-fly resemble each other and are apt to come in clover seed. They should never be allowed to go to seed.

Indian chickweed is spreading in Essex. It may become almost as troublesome as purslane in the garden.

Field speedwell, also purslane speedwell and Alyssum calycinum. I have found these three weeds very troublesome in strawberry ground. They are all annuals, making rapid growth in early spring and seeding by the first of June.

Tansy mustard.—I am not sure but this is the tumbling mustard of the Northwest Territories; a bad one, like all the mustards.

False or wild flax belongs to the mustard family, and, like red-root, pigeon weed, and other winter annuals, is bad in fall wheat.

Black bindweed (field convolvulus).—Perhaps the very hardest of our creeping rooted perennials to kill.

Field pennycress.—Stinkweed, or French weed of Manitoba; a very bad pest in Manitoba, and is becoming so here in many places. It is a winter annual, and grows and seeds throughout the summer.

Spring clot bur or cockle bur.—The worst of the sheep burrs.

Spurry.—A bad weed, though recommended by some for green manuring on sandy soils.

Biennial artemisia.—Bitter like rag-weed. Have seen it a bad pest in root crops on moist soils.

Field poppy.—A troublesome weed in England.

Wild barley (Squirrel tail grass).—Considered one of their worst pests in hay fields in the Northwest, and may come to us in timothy seed brought from there.

Wild oat.—Great care should be taken not to buy seed oats from farms infested with this weed, as when once introduced on a place it generally "comes to stay."

Crab grass.—A most noxious importation from the South.

Bur grass.—A miserable pest.

Nut grass.—A sedge. Propagates by little tubers. It is scarcely possible to ever get rid of it if once introduced.

Potentilla recta.—A new cinquefoil coming in on the Niagara frontier.

Bladder ketmia.—Collected the past summer in a field being overrun with it. Now in Ontario.

To these I may add some roadside weeds: Blueweed, atriplex, wild chicory, velvet leaf, teasel elecampane, and even sweet clover. It is necessary to exercise unceasing watchfulness to prevent these and other weeds from making our roadsides an unsightly tangle.

GROWING POTATOES AND PREVENTING DISEASES.

By ALF. BROWN, Picton.

The abundant crops of 1895 and 1896, together with an overstocked market and low prices, had the effect of many growers becoming indifferent in caring for the crop of 1897, the result of which was a light yield of poor quality. The heavier soils are not capable of producing the best quality of potatoes at any time. The lighter and more suitable soils did not give satisfactory yield and quality in 1897 on account of plants being killed by blight long before completing their growth. The writer invites the indulgence of the reader while briefly giving his experience on this subject. No attempt will be made to describe the diseases of the potato, as this is done in a very practical way by Prof. John Craig, in Farmers' Bulletin No. 23, of the Central Experimental Farm, Ottawa.

ROTATION.

We practise a three-year rotation, as nearly as possible, on all our land except what is down to pasture and fruit, and depend upon medium red clover to keep up the fertility. It may be said that we go through our rotation backwards, or in the opposite way to the common practice. Most people apply manure to the land before the hoed crop; we top-dress in the fall winter, after the corn, potatoes, or whatever hoe crop we use, hauling and spreading directly from the stables whenever the ground is frozen enough to bear a team. Our object is to mulch and fertilize all we can, to insure a good catch of clover which is sown with the grain crop. All corn is cut for the silo and all straw used for feed and bedding is cut, so that there is no clogging of implements in working the manure in the surface soil with harrow and cultivator.

CULTIVATION.

Cultivation is commenced by ploughing the clover sod late in the fall and harrowing, cultivating, and gang-ploughing in the spring, and, when ready to plant in May, strike out and plough in wide lands, dropping fresh cut seed, fifteen inches apart, in every third furrow, about six inches deep, the furrows thirty inches apart. Two good hands will with a curved knife cut and drop the seed as fast as the ground can be ploughed by one team. Harrow crosswise and lengthwise every few days up to the time the plants are three or four inches above the ground. If the work has been well done up to this time there will be little need of a hoe in the field. Scuffle on the level, for the more ridging that is done the more surface will be exposed to be dried out by sun and wind, and the greater amount of soil moisture will be lost. We scuffle once a week, or as soon as the soil is fit to work after every shower, up to the time the plants shade the ground,—deep at first, but finishing at an inch and a-half.

(To be continued.)

DENTONIA PARK FARM.

Last week a representative of FARMING, accompanied by Mr. T. C. Wallace, paid a visit to Dentonia Park Farm, East Toronto. This farm in a very few years will be one of the most noted stock farms in the country. Already a herd of over twenty pure-bred Jerseys, a number of sheep and swine, are on the farm. Among the Jerseys are two imported heifers of splendid merit. The Jersey bull, St. Lambert of Highfield, now sold, is also an animal of high merit. A herd of eight Jerseys are at present in quarantine, and will arrive at the farm about the end of this month. When these arrive the Dentonia Park herd of Jerseys will be a very creditable one indeed. The proprietor, Mr. W. E. H. Massey, of this city, is sparing no pains to make this farm one of the best in the province, and such it will be if careful management and large expenditure will accomplish it. A magnificent barn has been built with horse and cattle stables underneath. Considerable work remains to be done in the way of roadways and bridges across the delightful ravines. When this is done and everything completed, we hope to be able to give our readers a more detailed description of this up-to-date stock and dairy farm. It is only about one year since operations in the way of fitting up the buildings, roadways, etc., began. The crops this year are looking well, and all the operations of the farm so far reflect much credit upon the superintendent, Mr. Wm. Patton, who is a thoroughly practical and up-to-date farmer.

RAISING HOGS ON A SMALL FARM.

By M. J. THOMAS.

A great many farmers who own small farms do not raise hogs, giving for their reason: "We do not raise enough corn to feed them." It is to farmers situated in these circumstances that I wish to direct a few suggestions. There is scarcely a time in the year but pigs that will weigh from 40 to 60 pounds will sell at a good price to men who make a business of buying pigs and feeding them. This gives the small farmer a chance to raise the pigs and sell them to the large farmer and feeder. The first essential to success is to have good stock, and the next is good care and feeding. Do not try to keep more sows than can be properly cared for, and aim to let each sow raise two litters a year, one litter in March and then one in August or the very first of September. If it can be so arranged let the sows have the range of a clover field. For feed there is nothing better than corn and oats, equal parts, ground and soaked from one feed to the next. When the pigs are about eight weeks old take the sow away from them, and she will be ready to breed again in a few days. The first 100 pounds of a hog costs the least money, therefore, unless we have plenty of feed without buying there can be more clear money made by raising a larger number of pigs and selling them at an earlier age. It is an old saying that "The proof of the pudding is in the eating thereof." Try it and report.

LIQUID MANURE.

In an interesting discussion as to the effect of liquid manures on grass, in the columns of *The Rural New Yorker*, Dr. Hoskins, of Vermont, improves the opportunity to point out the difference between complete and incomplete fertilizers. To better understand this difference is given the analyses of fresh cows' dung and urine:

POUNDS IN ONE THOUSAND.

	Nitrogen.	Potash.	Phos. acid.
Fresh dung	1.2-2.0	1.0	1.7
Urine.....	5.8	4.9	—

It will thus be seen that the greater part of the nitrogen and potash passes away in the urine. As it contains no phosphoric acid, it cannot, of course, be a well-balanced manure. Dr. Hoskins says:

As to the separate application of urine as a fertilizer to particular crops, my own experience leads me to value it most highly for market garden crops and for small fruits. It pushes rhubarb, asparagus, celery, spinach, etc., tremendously, but it ought not usually to be applied to these or any annual crop while in full growth. Rhubarb will stand it when poured freely about the roots. Currant and gooseberry bushes respond to it in the same way, and so do fruit and ornamental trees and shrubs. I have never seen it do any harm, although on quite level spots too much, especially in hot weather, might cause injury. Many years ago I advised in print the excavation of earth from beneath old barns and stables for use as manure, and was very successful in its use myself, but many claimed that it produced very little effect. This I attribute to its not being a complete fertilizer, the nitrogenous matter having disappeared.

STEAM PLANTS FOR FARM, SHOP OR FACTORY.

Those who are desirous of using power for driving any class of machinery, in the smaller units, say from thirty horse power down, have, at the present time, a great variety of motors to select from—electrical, air, water, steam, gas, and oil motors of varied type abound, all possessing desirable features peculiar to themselves, and doing their best work under certain conditions. The steam motor, however, continues to be the most generally applicable, all its supplies, wood or coal and water, being as readily accessible in the distant camp as on the suburban farm. When wood is used there is an advantage, too, which commends itself to many farmers, in that no cash outlay is required, as a rule, for fuel supply.

One reason which has given the steam engine so firm a hold for small equipments, particularly in farm and factory use, is the many uses found for the steam in addition to driving the machinery, such as boiling, heating, drying, etc., all easily accomplished without expensive appliances.

The portable or semi-portable outfit is usually preferred, and, among the steam plants of this type before the public, the Dake engines and boilers, built by the Jenckes Machine Co., Sherbrooke, Que., may be noticed as being peculiarly compact and powerful in proportion to their weight.

The intending purchaser generally requires:

1. Simplicity in construction and operation.
2. Durability and easy renewal when necessary.
3. Economy of steam, meaning economy of fuel and time.
4. Where space and portability are concerned, compactness and the maximum of power with the minimum of weight, consistent with satisfactory running and durability.

The various styles of the Dake engine, stationary, special, hoisting and steam feed, all comply with these requirements in a remarkable degree. Space will not permit a description of the construction and means whereby the first two essentials are secured, but it may not be amiss to refer to recent experiments conducted at McGill University bearing particularly upon the last two points.

An ordinary stationary Dake engine weighing 340 pounds was found to develop 4.4 brake horsepower at 97 pounds boiler pressure, or one brake horsepower to each 77 pounds in weight of machine, which is a very favorable showing for a machine not built for lightness but for strength and durability. The floor space occupied by the engine was 2 ft. by 1½ ft.

It was also found as an average result that the coal consumption was from 50 to 75 per cent. less per horse-power per hour than that of the ordinary slide valve engine of the same rating.

high economy of the Dake type of engine is due to the fact that through its peculiar construction an earlier cut off is obtained than can possibly be secured with the ordinary plain slide valve without the aid of an additional cut-off valve, and thus the advantages of using steam expansively are far more fully realized in the Dake engine.

Another noticeable point is the high speed attained, rendering it most suitable for direct connection to dynamos and other quick revolving machines, dispensing with all belting, lighteners, etc.

The Jenckes Machine Co. have one department of their works devoted to the production of these engines, and supply them either separately or with suitable boilers, mounted on same base or independently. To give an adequate idea of the features of these engines would be impossible in the space at our command.

The makers, however, will take pleasure in answering the inquiries of any of our readers, and will quote prices and supply printed matter on application.

Publishers' Desk.

Cream Separators.—Before buying a cream separator write to Messrs. R. A. Lister & Co., 18 St. Maurice street, Montreal, for their catalogue and price list. Anyone who desires to obtain a profitable agency should also write to this firm for their terms to agents.

Gem Butter Packages.—This is the latest thing for shipping butter, and as the manufacturers will send a sample free to any address it will cost nothing to investigate its merits. Write to the Lick Package Co., 155 George street, Toronto, for free samples and price list.

Eastlake Shingles.—Those of our readers who contemplate building should get the splendid catalogue issued by the Metallic Roofing Co., 1102 King street west, Toronto. The Eastlake shingles made by them are unquestionably the acme of perfection. And as they are easily laid, moderate in price, and practically unperishable, there can be no better covering for the roofs of farm buildings of every kind.

A Farmer's Threshing Machine.—The advertisement of Messrs. Matthew Moody & Sons in this week's issue contains a cut of the famous threshing machine described in FARMING for June 28th, and will give a better idea of its utility and the facility with which it is operated than any mere verbal description.

Stock Notes.

The American Galloway Breeders' Association have decided to close Volume IX. September 1st next. All entries and transfers should be sent in as soon as possible. It will be at least twelve months before another volume is issued, and it is desirable that a large percentage of this year's crop of calves be recorded in Volume IX. Breeders are urged to make a note of this. The secretary of the association is Mr. Frank B. Hearne, Independence, Missouri.

Mr. ROBERT NESS, of Howick, Que., the well-known shipper and importer of horses, has returned from Scotland, bringing with him two Clydesdales, aged three and four years, with splendid pedigrees. One of them is by Prince of Kyle, and the other by Darnley Erskine and a Prince of Wales' dam. The four-year-old is a large animal of great weight, and a perfect beauty. He will prove a decided favorite. The three-year-old is of the thick, massive stamp, and will take a high place among the heavier breeds. He should be successful as a sire of fine cart horses.

E. JEFFES & SONS, Bond Head, report their Shorthorn calves doing exceptionally well this season. They have four fine bull calves sired by Warfare, which are the making of splendid animals. Their Berkshires are also to the front, having given splendid returns this season. All crops are looking well in the Bond Head section. The roots and corn on E. Jeffes & Sons' farm are the finest grown there for years, which is saying a great deal. This firm will likely be on hand in good shape at the Toronto Exhibition this fall. Though the Bond Head herd of Shorthorns will not be directly represented at Omaha, some representatives of this herd will likely be there. A Nebraska breeder, who purchased a number of animals from this firm a few years ago, intends showing them at the Trans-Mississippi Exposition.

The American Shorthorn Breeders' Association will duplicate the prizes won at the Trans-Mississippi and International Exhibition at Omaha, Neb., to the extent of \$2,050 in the Shorthorn classes and sweepstakes classes for all best breeds. In the Shorthorn classes the duplicate prizes will be \$20, \$15 and \$10 in each section. In the sweepstakes by ages class, open to all best breeds, the duplicate prizes will be \$50, \$25 and \$15 in each section. In the grand sweepstakes herd classes, open to all best breeds, the association will duplicate prizes to the extent of \$700. There will be two sections in this class: one herd consisting of one bull two years old or over, one cow three years old or over, one heifer two years old and under three, one heifer one year old and under two, one

STEEL
CEILINGS
FOR
CHURCHES

HALLS, THEATRES, PUBLIC
BUILDINGS, PRIVATE
RESIDENCES, SCHOOLS,
LODGE ROOMS, STORES, ETC.

Not a Substitute

but superior to lath and plaster,
will not crack and fall off, absolutely
fire proof, handsome in appearance.
Send for our beautiful catalogues showing
three hundred designs; free for the
asking. Estimates furnished on receipt
of plans.

The ...
PEDLAR METAL ROOFING CO.
Oshawa, Ont.

heifer under one year old, and the other a young herd consisting of one bull and four heifers, all under two years old, heifers bred by exhibitor, bull may be purchased. The duplicate prizes in both sections will be \$500, \$100 and \$50.

While at the Dentonia Park Farm last week (an account of the visit is given elsewhere) Mr. W. T. Norton, manager Miller & Sibley's Jersey Stock Farm at Franklin, Penn., and Captain Wm. Rolph, of Markham, were there examining the stock. The bull, St. Lambert of Highfield, attracted Captain Rolph's attention, and was purchased by him almost at first sight. Captain Rolph at first intended his animal for his own herd, but immediately after the purchase sold him to Mr. Norton to go to Penn. St. Lambert of Highfield is a pure St. Lambert, whose sire and dam were bred by Captain Rolph. His sire is Carl of St. Lambert, and his dam Niobe 2nd. His grand dam was that celebrated cow, Niobe of St. Lambert, who made an official record of 21 lbs. 6½ ozs. Mr. Norton intends to keep him as a show bull, and he will probably be seen at the Toronto Show this fall, where Miller & Sibley intend making an exhibit. As the New York State Fair takes place at Syracuse the same time as the Toronto Fair, Mr. Norton is preparing two herds to take to these separate fairs. Mr. Norton will go to Omaha this fall with two carloads of show cattle from Miller & Sibley's herd.

Captain Rolph reports great activity among Jerseys for several months back, especially among the St. Lambert strain. The demand is largely from the United States. American breeders are willing to pay much higher prices than home breeders. His stock at Markham are doing well. The Jersey cow, Adelaide of St. Lambert, sold by Captain Rolph to Miller & Sibley some months ago, is making a name for herself. In a recent official test she gave 77½ lbs. of milk in one day, and averaged 65¼ lbs. per day for 31 days, during which time she gave a total of 2,005¼ lbs. of milk. According to the Babcock test this milk would make 4 lbs. of butter per 100 lbs. The day after the test was completed this cow weighed 1,000 pounds.

BUY

Coleman's
Salt

THE BEST

For Dairy or Table Use

IT IS UNEQUALLED.

Salt on the Farm

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

TRY IT.

R. & J. Ransford,
CLINTON, ONT

MARKET REVIEW AND FORECAST

Office of FARMING.

44 and 46 Richmond street W., Toronto.
July 11th, 1898.

This is always the dull season of the year in the wholesale trade, though the volume of business being done is above the average for this month. All business men are looking forward with confidence to a big fall trade. The extent of this trade will depend upon the farmer. With better prices and big crops, it is expected that he will buy more liberally than usual, and retail merchants are more eager to lay in stocks on that account. Though trade in the United States is showing some expansion the feeling there is not so hopeful as on this side, owing to the unfavorable crop reports.

Wheat.

The wheat market during the past few weeks has been a kind of a weather one, so much has it been affected by meteorological conditions. If they were favorable the market would be easier, while on the other hand if they were unfavorable, and the wheat crop was likely to suffer, a corresponding upward tendency would result. One feature in the situation during the week is the decrease of 8,445,000 bushels in the world's wheat in sight, there being a shrinkage of 2,525,000 bushels in the visible supply in Canada and the United States, a decrease of 3,280,000 bushels about the continent, and 640,000 bushels to the United Kingdom. This is offset, however, by an increase of 17,007,000 bushels in sight as compared with that of last year. According to the Cincinatti *Press*, Current the United States yield will be 90,000,000 to 100,000,000 bushels less than the Government estimate of a month ago, or about 611,000,000 bushels. The reserve stocks in Canada and the United States are undoubtedly smaller than at this time last year, but the surplus in Europe is larger. So it is difficult to forecast with any definiteness as to what the market for this year's crop is going to be. As far as we are able to judge at present it would seem that prices are not likely to be a year lower than they are now with considerable prospect of a rise when business in this season's crop begins.

According to late cable reports, a healthier and a firmer market exists in London, with values 3d. to 6d. per quarter better. Stocks are reported to be considerably reduced, and holders are less inclined to push sales. The Toronto market has ruled somewhat inactive during the week, with a firmer feeling towards the end, when 80c. to 82c. were quoted for red winter wheat. Early in the week the figures were below 80c. Manitoba wheat is also higher, at \$1.03 to \$1.05 for No. 1 hard, Toronto and west.

Oats and Barley.

Cable reports show a firmer London market for oats at an advance of 3d. per quarter. Stocks are reported light. Notwithstanding this, the market here has still an easy tendency. The Montreal market is quiet at 50c. to 51c. 3d. 1st. It is, however, hard to effect business for export, as freight room is not available except at high rates. Oats here were easy early in the week, but toward the end the market was steady, with a fair demand at 25 1/2c. to 26c.

The barley market is merely nominal, no business being done.

Peas and Corn.

The London market for peas is steady at the recent decline of 6d. per quarter; but prices are still considered too high, and the demand is checked. The Montreal market is dull and disappointing and 57c. is the outside limit in store and 57 1/2c. about. The market here showed a firmer feeling towards the end of the week, when car lots were quoted at 48c. to 49c. west.

Receipts of corn are increasing at Montreal and the market is quiet at 37c. and 38c. The market here rules at 33c. to 35c. for Canadian yellow west, and American at 41c. Toronto.

Bran and Shorts.

Shorts here are scarce and firm at \$14 to \$16, and bran is steady at \$9. The market for Ontario bran at Montreal is quiet at \$12.25 to \$12.50 in bulk. Shorts are quiet and steady at \$13 to \$14.

Eggs and Poultry.

The London egg market is reported steady, and the more liberal receipts from Canada are meeting with good demand in Liverpool

at 58. 9d. to 6s. 3d. as to quality per 120. The Montreal market remains steady at 10 1/2c. to 11c. for choice candled goods, and 12 1/2c. to 13c. for heavy shipping eggs weighing 15 lbs. per 120. Liberal shipments are going forward to Great Britain, where they bring up to 6s. 3d. for well-known Canadian brands. Seconds sell at 8c. to 9c. The market here was somewhat unsettled late in the week, owing to increased supplies, and dealers were quoting from 10 1/2c. to 12c. for fresh quality. There are many complaints as to quality.

The poultry demand here is not very large and the market is steady at 8c. to 10c. for turkeys, and 55c. to 65c. for chickens.

Potatoes.

The market here continues dull and unchanging. Cars on the track are quoted at 25c. to 30c. Potatoes out of store sell for 40c. to 45c. This is old stock. New potatoes are quoted at 60c. to 85c. per bushel.

Hay and Straw.

The new crop of hay promises to be the largest for many years and we may look for extremely low prices. England has a large crop and the duty makes shipping to the U.S. almost prohibitive, so that the outlook is a gloomy one. Choice No. 1, which is scarce, is selling at Montreal for \$11 in car lots and ordinary No. 1 at \$9.50 to \$10. Lower grades from \$3.50 to \$7. The market here is dull and unchanged at \$8 to \$8.50. Straw is quoted at \$4 on the track. All these quotations are for baled hay.

Fruit.

Reports from one or two sources seem to indicate a small apple crop, but it is rather early yet to estimate the yield accurately. The chances are that there will be a much larger crop than last year. The strawberry season is practically finished. Raspberries are reported plentiful at Montreal at 5c. to 8c. a box. Cherries are scarce at 60c. to \$1.25 per basket. Raspberries here bring from 7c. to 10c. a box; cherries (sweet) from 60c. to 90c. per basket; cooking 50c. to 75c.; gooseberries 25c. to 40c., and red currants 25c. to 50c.

Cheese.

Notwithstanding a decrease of 220,907 boxes in the shipments of cheese from Montreal and New York so far this season, as compared with the same period last year, the cheese market continues to be disappointing to factorymen. It now seems clear that the stock of last season's goods on hand this spring in England was underestimated. If this were not the case the great shrinkage in the supplies going forward this year would surely have some effect in stimulating the market. This shrinkage may, however, tell later on. The London market is reported steady and the decline in values on this side is causing more business to be done. The speculative advance of a week or two ago checked the export business. The quotations there are 37c. to 38c. and at Liverpool 35c. 6d. The Montreal market is from 34c. to 35c. lower than a week ago, and some fine western that cost 7 1/4c. to 8c. would not now bring more than 7 1/4c. to 7 1/2c. There have been large receipts during the week and a large amount is going into cold storage. The ruling prices at the local markets during the week have been from 7c. to 7 3/4c.; the latter for very fine quality. It is hoped, however, that at these lower figures more business will be done. The warm weather and low prices will likely reduce the supply of milk and lessen the output.

Butter.

The butter market is easier, and last week the exports fell off 50 per cent. The total exports so far, however, are much in advance of last season, being 39,334 packages as compared with 20,798 packages for the same period last year. There is an exceptionally big make of creamery butter in Quebec, a large share of which is now going into cold storage. The improved cold storage facilities makes it possible to hold June creamery in good condition, though we have our doubts about it being the best in the long run for the export trade. The factorymen, however, are not doing the holding, which is wise. The shrinkage in the New York shipments so far is 34,745 packages, as compared with the same period last year. The London market is irregular, and prices for Canadian are quoted at 82c. to 84c. The Montreal market has eased off 1/4 to 1/2c. during the week; choice creamery ruling from 16 1/2c. to 16 3/4c. and good to fine at 15 1/2 to 16c. Western dairy is quoted at 13 1/4 to 13 1/2c. Creamery is steady here at 17 to 18c. for prints, and 16 1/2 to 17c.

for tubs. Dairy receipts are more liberal at 12 to 13c. for the best tubs, and 10 1/2 to 11c. for off grades.

Wool.

Dealers in the United States are looking for better things in the wool trade. In fact there has been some little speculation in the west and prices there are a little higher on that account. It is not likely, however, that the improved situation there will be felt here for some time. There is not much change in the wool situation here. Supplies from the country have been more liberal. Quotations are unbleached 10c., clothing 17c., and fleece combing 16c.

Cattle.

The cattle situation is practically unchanged, and, if anything, is a little easier. At some western markets there was a decline of 10c. per cwt. during the week, though this was largely of a local character, as the Chicago and Buffalo markets showed a stronger tendency. The London market is firm and higher, there being a good demand at the advance of 2d. per stone.

Export Cattle.—All the cattle offered during the week were readily taken at \$4.25 to \$4.75 per cwt.

Butcher's cattle. Early in the week the supply was large and the quality only fair. On Friday a moderate supply and a fair quality met with ready sale at \$3.50 to \$3.75.

Stocks and feeders.—There has been a good supply of these. Light stockers are quoted at \$3.25 to \$3.65 and feeders at \$3.75 to \$4 per cwt. The supply of stockers at Buffalo has been liberal lately, and prices have declined 25c. to 35c. lower on all kinds.

Cakes.—Rule from \$3 to \$6 each, and extra choice veals from \$7 to \$8 each. Feeding calves at Buffalo in car lots bring from \$4.40 to \$4.50 each.

Milk cows and springers.—Offerings light, and prices rule from \$25 to \$40 each. Fancy, newly-calved cows bring \$45.

Sheep and Lambs.

Notwithstanding the liberal receipts from Argentina in London there is a good demand, and prices have advanced 2 1/2d. to 3d. per stone. Receipts have been light at Buffalo, but even so prices are 25c. to 35c. lower. Best yearlings sell for \$5.25, fairly good lots \$5, and culls to fair at \$4 to \$4.75. Selections of spring lambs bring \$6.70, but \$6 to \$6.25 are the ruling prices for choice to prime lots. There is not much change here, and prime sheep rule from \$3.25 to \$3.65, and feeders \$3.75 to \$4.

Hogs.

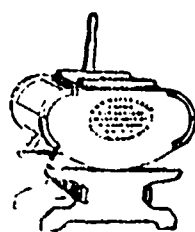
The killings in the west continue large. Prices, however, are 5c. per cwt. higher than a week ago. At Chicago supplies have been large and prices have had a slightly easier tendency lately. The market here is unchanged, choice selected bring from \$5.20 to \$5.37 1/2 off cars. Thick and light fats bring \$4.75, and sows \$3 to \$3.40.

Horses.

There is a good demand for all desirable Canadian animals at auction in London. Fine carriage horses bring £1 to £2 per head more money. The Buffalo market is fairly steady. Good to choice drivers bring from \$100 to \$140; extra speed and action, \$150 to \$200; draft horses, \$90 to \$140; under grades in proportion.

THE QUEBEC EXHIBITION.

We have received the prize list and regulations of the Quebec Exhibition, which will be held at Quebec from the 12th to the 21st September. Entries close Monday, 5th September, and should be sent to Mr. P. T. Legaré, secretary, 273 St. Paul street, Quebec.



The Maple Leaf Churn

EASIEST AND BEST

Ask your dealer for it, or send direct to the manufacturers,

WILSON BROS.
COLLINGWOOD, ONT.

BOOKS AND BULLETINS RECEIVED.

Report of the Provincial Instructor in Road-Making for 1897. This volume contains a fund of valuable information on every phase of road-making, and should be in the hands of every pathmaster and municipal officer in the country.

Pasteurization of Milk and Cream, by the Government Dairy Expert of New Zealand. This subject is treated in a practical and common sense way.

Bovine Tuberculosis. A Bulletin by the Kansas State Experimental Station.

CENTRAL CANADA EXHIBITION.

The attractions at the Ottawa exhibition this year will be unusually fine. The Siege of Delhi is the spectacular piece to be presented each night. The other special features will include horses that race alone without drivers or guides of any description; the famous "diving" horses, "Cupid" and "Powder Face," which dive from a platform forty feet high into a tank of water; troops of acrobats, tumblers, and Roman riders in novel and startling specialties. There will also be a balloon ascension with parachute leap, military displays, fireworks, and a grand illumination of the grounds every night.

OUR PREMIUMS.

Want of space prevents the publication of our usual premium list this week, but all of the articles which have been offered during the past two months are still obtainable. The watch is a strong favorite and has gladdened the hearts of a great many young people since the first announcement was made concerning it. The following is a specimen of some of the letters we have received from those who have obtained the watch:

Manitou, Man., July 6, 1898.

The watch you sent came to hand all right. It keeps very good time, and my little boy is greatly pleased with it. Wishing your paper success, I remain

Yours respectfully,
JOSEPH MCGREGOR.

We have received a second consignment of these watches from the manufacturers and are prepared to furnish them to our friends on the usual terms—a watch for three new yearly subscriptions at \$1 each. Nothing will delight the boys more than one of these watches.

Dr. Carlin's Receipt Book and Household Physician is next to the watches in popularity. And no wonder, for the amount of information it contains is marvellous. There is not a household in which it will not be found a useful and valuable acquisition. We send it to anyone—new and old subscribers alike—with FARMING for one year, for only \$1.50. There are individual receipts in it which are alone worth double the money. The other premiums we offer are of intrinsic merit and practical utility. All communications respecting premiums should be addressed to FARMING, 44-46 Richmond street west, Toronto, Ontario.

Cheese Factory and Creamery Supplies

The "MONTREUIL" Card Cutter.

The Best in the Market

The space between the small cutters is 1/4 inch, and the large blades cut 1/4 of an inch in thickness.

Butter and Cheese Factory
Outfits a Specialty.

Correspondence Solicited



THE PLESSISVILLE FOUNDRY
PLESSISVILLE, QUE.

MANITOBA

EXCURSIONS

JUNE 28, JULY 13 and 19.

WINNIPEG EXHIBITION

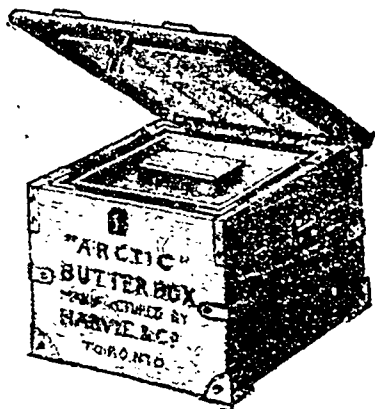
July 11th to 18th.

BRANDON EXHIBITION

July 10th to 22nd.

Write for a Free Map and Pamphlet "Manitoba as it is To-day."

W. D. SCOTT Manitoba Government
Emigration Agent
30 York St., Toronto.



Harvie's "Arctic" Butter Shipping Box

Made of spruce lumber, with galvanized iron ice tank, malleable iron hinges, handles, hasps, and corner plates, almost indestructible. Made in sizes to hold

40 lbs. in Summer, or 48 lbs. in Winter—	\$3.00.
60 " " " " " "	—\$3.50.
80 " " " " " "	—\$4.00.
100 " " " " " "	—\$4.50.

HARVIE & CO.

223 QUEEN ST. EAST, - TORONTO.

Woodstock Steel Windmills

FOR
POWER
AND
PUMPING



Get a
DANDY

WITH

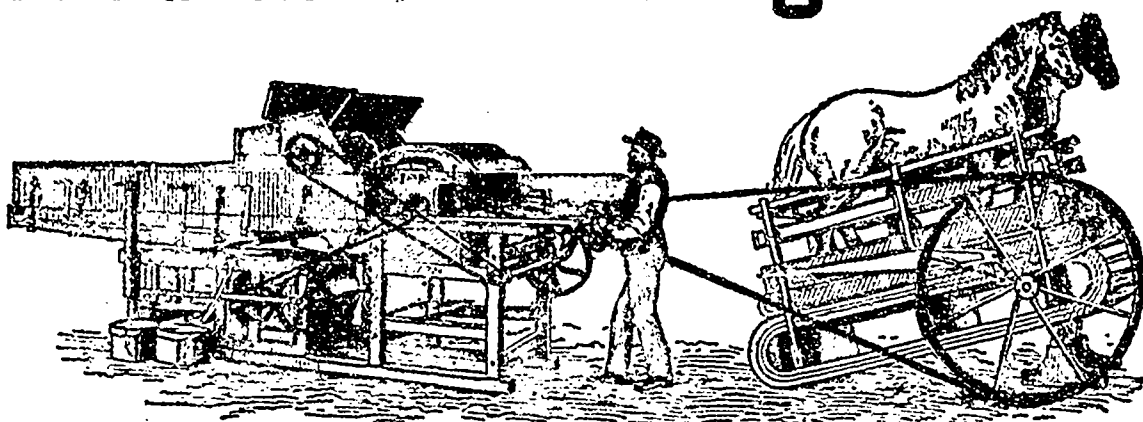
GRAPHITE BEARINGS
They run without Oil.

Steel Towers, Pumps, Tanks,
Saw Tables and Watering
Troughs, etc.

WOODSTOCK WINDMOTOR CO. Limited.

Woodstock, Ont.

A Farmer's Threshing Machine



We have lately placed one of these machines with Mr. F. W. HOBSON, Superintendent of Farmers' Institutes, Toronto. Our tread powers are justly recognized as being the best machines of their kind. This machine, under good conditions, will thresh and clean fit for market, with two horses, from 40 to 60 bushels of oats per hour, and other grains in proportion. Our Tread Powers are built to develop power, and to last. Send for catalogue. We manufacture also Feed Grinders, Feed Cutters, Hay Presses, Circular Saw Machines, etc.

Matthew Moody & Sons, - Terrebonne, Que.

CENTRAL CANADA EXHIBITION

OTTAWA, ONT.

September 16th to 24th, 1898.

Entries Close Tuesday, Sept. 13th.

Over \$75,000 expended since last Exhibition in extending and improving the Grounds and erecting New Buildings.

Prizes increased in all the principal Live Stock Classes, including Poultry and Pigeons, also new classes added to the Horse, Cattle and Swine Departments.

Special Prizes for Milk Test.
32 Gold Medals as Sweepstake Prizes for Horses and Cattle.

New Main Building, 810 feet long, constructed of Iron. Agricultural Implement Hall and Poultry Building enlarged. New Dining Halls. All buildings reconstructed and enlarged.

Live Stock accommodation unsurpassed.
Evening Entertainments and "SPECTACULAR" as usual. Special low rates on all lines of travel.

For all information address
WM. HUTCHISON, M.P., President.
E. McMAHON, Secretary.

AGENTS WANTED.

We want reliable agents in all unrepresented districts. Liberal terms will be given to men of integrity and ability who will devote their whole time to the work. Address

FARMING, Toronto, Ont.

LAND For Everybody

Free Grants of Government Lands

Cheap Railway Lands for Sale on Easy Terms

GOOD SOIL

PURE WATER

AMPLE FUEL

MOST desirable lands suitable for mixed farming can be obtained in the Old District along the line of the Calgary and Edmonton Railway, about fifty miles North of Calgary. Most desirable lands can be obtained in Southern Alberta in close proximity to the Calgary and Edmonton Railway and the Crow's Nest Pass Railway, suitable for mixed farming and ranching on both a large and small scale. North Saskatchewan also affords a splendid opening for intending settlers in the Prince Albert, Duck Lake and Rosburn Districts, on the line of the Qu'Appelle, Long Lake and Saskatchewan Railway.

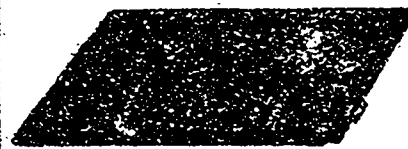
For full information concerning these districts, maps, pamphlets, etc., Apply to

OSLER, HAMMOND & NANTON,

Land Office, 381 Main St., WINNIPEG

Metal Roofing

Our Patent Safe-Lock Shingles are cheap, easily laid, handsome in appearance, and practically indestructible.



Patent Safe-Lock Shingle.

They are absolutely weather-proof, fire-proof, lightning-proof, and will last a lifetime. Perfect satisfaction guaranteed.

Samples and Price List Free on Application.

The Metal Shingle and Siding Co., Limited

PRESTON, ONT.

THE CHEESE THAT SELLS

Cheese factories that have never used that salt of pungent savor—that finely crystallized salt which dissolves so easily and has no bitter, acid taste—will best serve their own and their customers' interests by trying it now.

Progressive Grocers sell

**Windsor
Salt**

The Windsor Salt Co.
Limited,
Windsor, Ont.

One Cent

Is all it will cost you

FOR

Complete . . .
information about

The Joliette Grinder

Send us a postal and we shall be pleased to send you a Catalogue and price list.

S. VESSOT & CO.

Joliette, P.Q.



HELDERLEIGH FRUIT FARMS AND NURSERIES

400 ACRES
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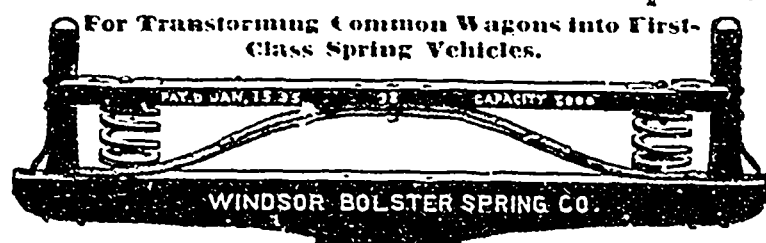
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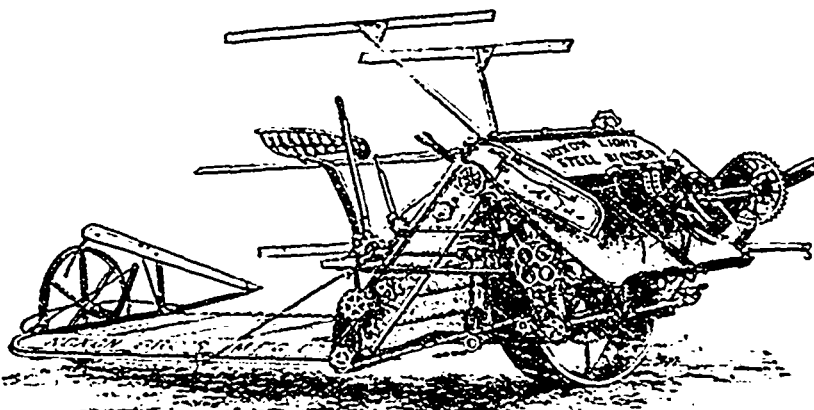
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