

J G Rutherford, VS s apl 93

MANITOBA AND WESTERN EDITION

# THE FARMER'S ADVOCATE

AND HOME MAGAZINE



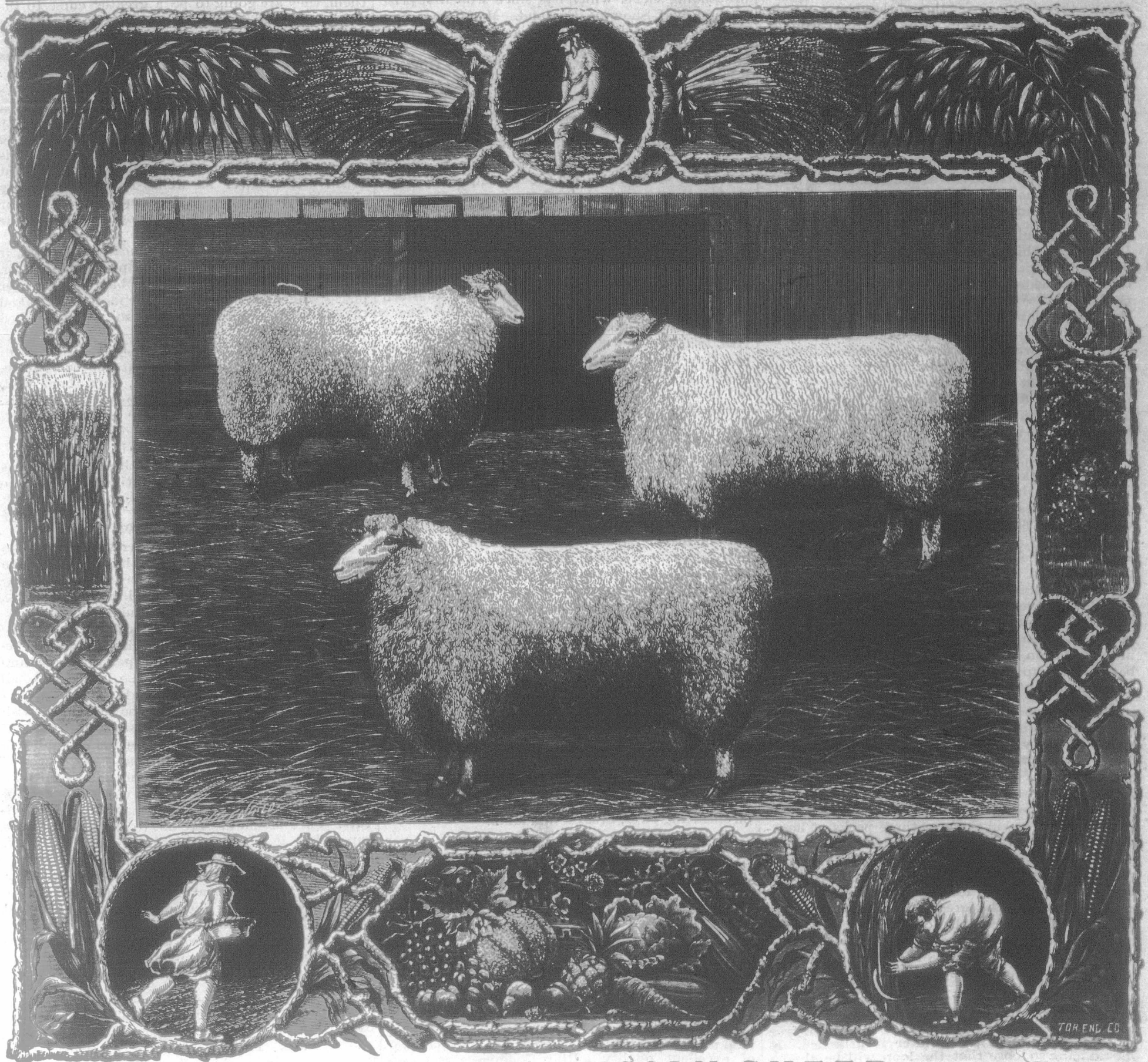
\* AGRICULTURE, STOCK, DAIRY, POULTRY, HORTICULTURE, VETERINARY, HOME CIRCLE. \*

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VOL. IV.

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No. 51



A GROUP OF LINCOLN SHEEP,  
THE PROPERTY OF MESSRS. GIBSON & WALKER.—(See Page 282.)

The most prosperous farmers are those who do not attempt to farm more land than can be thoroughly cultivated with the capital and help at their disposal.

The farmers who are constantly on the outlook for something new to try are not likely to be heard from as the most successful men. It is better to specialize along one or two lines and secure every thing that is in them.

Keep the spuds, hoes and cultivators going as much as possible at this season of the year, and thereby hinder the weeds from forming their seeds, to be troublesome next year. Cultivation also enables the soil to retain its moisture, as well as to allow a free circulation of air about the roots of the plants.

Prices for rooms in Chicago are now very low. In some parts of the city quite distant from the Exposition, rooms are renting for 50c. per day for two persons. This is in private families. There are many such localities. Farmers would do well not to defer their visit till larger demand stimulates prices.

Many a farmer is going behind financially every year by trying to raise wheat only. The longer he continues the worse he will be, as impoverishment of the land is sure to follow, while dairying is certain in its action, always leaving a quantity of cash in the house, as well as enriching the soil year by year.

Do not allow your cows to be hurried home from the pasture by dogs or thoughtless boys, or the result will be less of milk, which will be wonderfully decreased in cream richness, and is liable to be poisoned by fever brought on by undue exertion and nervous excitement. It is not safe to give such milk to little children.

Separator milk is not quite as valuable for feeding as ordinary skim milk. This is rather a recommendation for it than otherwise, as it shows that its fats have gone into the butter. However, the deficiency when fed to calves can be made up quite cheaply by the use of oil-cake meal made into porridge and mixed with the milk.

Wm. T. Ault, a farmer living near Hillsboro, Illinois, gives his experience, in the Rural World, in feeding hogs wheat. Having a good supply of the cereal, which was worth 60 cents per bushel on the market, he concluded to test its feeding value. Putting up thirty-six head of good-sized pigs, he had his wheat ground or cracked fine and soaked in water. This was fed until the hogs were fat, when he sold them at market price, and on figuring up he found that his wheat had realized in the form of pork \$1.40 per bushel. Lately conducted experiments have proven that soaking chop for hogs is unnecessary.

One of the most convenient methods for a farmer to pack summer eggs for later use is in boxes in some dry substance. The use of salt, bran, oats or dry earth are very good. Coal ashes, wheat, chaff, etc., answer very well. A layer of packing material is put in the bottom of the package, a layer of eggs, set on end, is put in so as not to touch each other, then a second layer of the packing substance is put on sufficiently thick to keep the layer apart, and so on until the box is filled. Nail up tightly, and date package and place in a cool, moderately dry place, where there will be little variation of temperature; turn the package bottom-side up every four or five days, and the eggs when wanted will come out nice and fresh.

In sections where early and short strawed varieties of peas are grown, farmers will find some difficulty in keeping the land clean and rich, because the ground is so thinly covered, and the lack of straw to return as manure. This difficulty can be easily overcome by plowing the pea fields quite shallow as soon as the crop is removed, and sowing two or three pecks of buck-wheat per acre, to be plowed under as soon as it comes into blossom, which will be in a very few weeks after sowing. The land may be plowed deeply this time and left till spring, or just deep enough to cover the green manure, which soon decays sufficiently to be cross plowed. Twice plowing is preferable if time will allow, as the effect on the mechanical condition of the land will be highly satisfactory to those who try it. The plowing in of the crop is greatly facilitated by rolling round and round the piece the same way that the plowing is to be done, and by using a heavy chain hung from the end of the double-tree to the beam where the coulter is attached. It should hang so loose that the loop will be almost covered by the falling furrow.

#### Lincoln Sheep, the Property of Gibson & Walker.

The Lincolns, an illustration of which adorns our first page, were imported by Messrs. Gibson & Walker. Mr. John T. Gibson, of Denfield, Ont., is an experienced English farmer, and has had a long experience as breeder and manager of live stock. He is considered one of the best judges of cattle, sheep and swine, and is frequently called on to act as single judge at the most important Canadian shows. Last year he was unanimously chosen as expert judge of long wools by the Provincial Fat Stock Club, and gave such good satisfaction that he was again chosen to act in the same capacity this year. In 1860 he emigrated to Canada, but again returned to England. He has had much experience as a breeder of Lincoln sheep both in Canada and the United States. He visited England in 1891, inspecting the flocks of several Lincoln breeders, and selected a draft of very choice specimens from those owned by H. Dudding, which Mr. Gibson considers the largest and best of these sheep in England. The ram he selected to head their flock was, he thought, the best he could procure; in fact, he experienced considerable difficulty in getting his owner to put a price on him. Mr. Gibson also chose what he considered were the best from among a flock of 700 breeding ewes. A number of ewes selected were in lamb by a ram for which Mr. Dudding paid \$525, the highest price paid in 1890 for a Lincoln ram. The balance of the ewes bought were in lamb to a very large upstanding sheep, which has since won first prize at the Royal Show of England. Mr. Gibson now has a number of lambs and yearlings got by this ram and out of imported ewes.

Mr. Graham Walker, of Iderton, Mr. Gibson's partner, is well versed in all that pertains to practical sheep husbandry. His family for three generations have been noted and successful sheep owners. In 1840 their flock was established. The first direct importation from England, was made in 1853, and comprised one ram and seven ewes. Since that date stock rams have been imported every two or three years. In 1887 the importation consisted of two rams and four ewes. In 1890 further additions were made from England. Ever since the foundation of the flock it has been very successful in the show ring. In 1891 representatives from this flock won a large share of the prizes offered to this class at the Toronto Industrial and Western Fair. At the latter they carried off the bronze medal for best flock any breed. On September 11th, 1891, the show flock was weighed. A yearling ram tipped the beam at 324 pounds, a ram lamb 168 pounds, a breeding ewe 323 pounds, a yearling ewe 276 pounds, and a ewe lamb 154 pounds. A fine flock is kept on the farm of each of the members of the firm. In 1892 a number of exceedingly fine animals of each sex were imported. Last fall, as in previous years, these gentlemen were most successful exhibitors.

Mr. Graham Walker has recently returned from England, bringing with him seventy shearing ewes and three rams, which arrived at the farms in nice condition. Most of them are thin in flesh, owing to the scarcity of food in England, caused by the dry spring following a sharp winter. The animals of this importation were selected from the flocks of Mr. H. Dudding and others, and, as on previous occasions, have size and quality with grand coats of long lustrous wool. The following are the weights of some of their sheep shorn soon after April 1st and weighed soon after May 1st, 1893: - Two-shear ram, 356 pounds; two shear ewe 275 pounds; her lambs, two months old, 75 pounds; one-shear ram, 304 pounds; one-shear ewe 209 pounds. As the foundation of this flock was bred by Mr. Dudding, it will be of interest to our readers to know that sheep bred and owned by this gentleman took three out of a possible of four first prizes awarded Lincolns at the late Royal Show of England. The prizes won were first on aged ram, first on shearing ewes, first on ram lamb.

The ram which won in the aged class this year won first as a yearling last year, was one of a pen of five ram lambs, 1891, winning first, and has never been beaten. These were purchased by Messrs. Gibson and Walker, also a three-year-old and a pair of two-year-old ewes. These won first as yearlings at the English Royal Show, and they were never beaten. In the recent importations are six sheep, each of which has won a first prize at the Royal Agricultural Society's Show.

Last April a member of our staff inspected Mr. Gibson's flock, and was highly pleased with the animals. They were uniformly large, of good quality and well-wooled. The flock averages sixteen pounds per sheep of unwashed but clean wool, of excellent quality. Riby Conqueror, the ram illustrated, the sire of the lambs and of some of the

yearlings now on the farms, is a large, massive, thick-fleshed, showy sheep, robust and very active; in show condition would weigh over 400 pounds. When two years old his fleece weighed 26 pounds; in quality it is even, fine and lustrous. The two ewes in the illustrations are similar in quality and breeding, being descended from some of Mr. Dudding's show winners, and are themselves also successful prize takers; the lambs and yearlings, male and female, in this flock are of equal merit.

Mr. Gibson also owns a fine herd of Shorthorns; his stock bull has been chosen by the Government to go to Chicago. At a later date we will give our readers full particulars concerning this herd.

#### Fighting the Horn Fly.

The farmers of this country are becoming so familiar with the habits and effects of the Horn Fly that comments along this line are unnecessary. By a letter from the pen of C. H. De Lafosse, of Corsicana, Texas, in the Breeder's Gazette, we must conclude that this new, very annoying pest has not by any means reached its worst stages. He says: "I am a native Texan, and have been in the stock business all my life; have seen all manner of cow and horse pests, from the old big black fly down, but have never seen anything to equal these flies. They bite the cattle from daylight till dark, and roost upon them at night. They do not affect the horn, as some seem to think; they bite where the skin is thinnest, where they cannot be reached by the tail. If these flies continue here (and I believe they will) and some way is not devised to destroy them, they are going to be a greater curse to the stockmen than the army worm is to the cotton planter.

One of the most reasonable remedies that has been proposed is given in the Breeder's Gazette. Prepare a stick as large or larger than a man's thumb, whittle a knob at one end, wrap a rag firmly around the end of the stick and tie firmly with a stout cord well wrapped around so as to clinch down behind the knob, and your weapon is a swab to apply the medicine with. An old paint brush will answer as well. Now, the remedy which has been successful in keeping them off for a week at a time is: Crude cotton-seed oil, say one gallon; common pine tar, one pint, thoroughly stirred together over a gentle heat (be careful, it easily boils over and does not stop after it is taken off). Apply this thoroughly, rubbing it well over places where the flies congregate most thickly, and the animal is safe for a week or so, unless washed off by the rain.

Another remedy is given by J. P. Braswill, of Brenton. Take kerosene, spirits of turpentine, sulphur and crysalic ointment, mix them well, and rub or sprinkle the mixture on the animals. I would suggest that a little tar can do no harm and will make it more adhesive.

Whoever does the milking, be it man or woman, boy or girl, can apply either of these preparations whenever needed, and no loss of time or trouble to the farmer need result.

#### Weaning Lambs.

The season of the year has arrived when lambs should be weaned, and in order that no stagnation in their growth should take place, it will be necessary to give a little supplemental food at this time. A small quantity of bran, oats and oil-cake answers the purpose very well for a grain ration. The lambs should be taught to eat this kind of food before weaning, by constructing a pen in the pasture with creep-hole entrances for the lambs, so small that the ewes cannot go through. The sides and top of the entrances should be provided with rollers, to enable the lambs to pass through without tearing the wool from their bodies. For lamb pasture there is nothing better than second growth clover, which will be in prime condition by the middle of August. If no clover is available, a field of rape joining a grass field will make a good substitute. Care should be taken not to allow them in the rape while it is wet, or bloating is apt to result. The ewes should be placed on rather scanty pasture for a couple of weeks, so far removed from the lambs that the bleating of either may not be heard by the others. The udders should be looked to for a few days, and if noticed to be distended should be milked out, and well rubbed with goose oil if swollen. When properly dried they should be put on good feed to recruit and get in condition for winter.

In marketing farm produce of all kinds, be very careful to offer it in the most attractive and neatest form. There is no part of a farmer's work so remunerative as this. Such finished products as ripe fruits and butter require special attention.

## Timely Notes for August—No. 1.

## THE PLAGUE OF AGENTS.

Will anyone rise and explain a feasible plan for suppressing the horde of travelling agents? Agents for binders, agents for books, agents for insurance, agents for bogus jewellery, etc. An agent came here a little while ago selling watches, with a yarn about the failure of his house in Montreal through the disappearance of their buyer in England with—I am afraid to say how many hundred thousand dollars. His stuff was palpably bogus, with the exception of some cheaper grades which were simply decoys. I bought a clock that was to be paid for on delivery, and after examination; as I signed no promise to pay, nor paid any deposit, it is hardly necessary to say the clock never came. He simply got a dinner at my expense and went on further. Yet this man sold a number of articles in this district which turned out frauds.

Another very learned agent—this time for books—wanted me to subscribe \$15 to some house that was to sell me books at half price, and so on, and so on. I couldn't see it, and I told the man so plainly, and he left. As for implement and insurance agents, what need to speak of them, for are they not always with us? I sometimes wonder if they own a private brass-plating arrangement at home, for they have brass enough in their faces. When I want a new machine I prefer to go to the different warehouses and examine the various makes, and so I can generally depend on getting the best that the market affords.

Again, we are deluged with circulars from pushing firms in the east, who offer us all kinds of goods, from scales down to writing paper, at surprising figures, but it will be usually found that the Winnipeg price for the same article is very little more than the Ontario or Quebec one, and generally less than the eastern price with the freight added.

## SELLING OF STOCK.

The embargo on cattle entering England, the Commercial Bank failure, the scarcity of money, etc., are all used this summer in depressing the price of fat stock, and in many instances the butchers, especially the country butchers, will not pay cash, but say they can not buy unless they can buy on credit, etc., etc. But put the boot on the other leg, and then the situation is quite reversed. A neighbor of mine having a fat hog for sale was offered for it four and a-half cents a pound live weight (with a deduction of five per cent.); in return as part payment he was asked seventeen and eighteen cents for cured pork. He didn't "trade." Good steers are worth \$10 a piece less than last year, and in spite of the high price quoted for mutton in Winnipeg, the discriminations of one kind and another, and the superabundance of wolves, keep many good men out of the sheep business. Horses are almost unsaleable, though we have not yet reached the condition of Australian and South American horse raisers of selling our "fine, fat young horses"—for their hides and tallow!

## THE CENTRAL INSTITUTE MEETING.

I was unable through press of work to attend the Central Institute meeting at Brandon, but it was unavoidable. I think the motion to discuss all questions bearing on the welfare of the farming community, whether political or not, should have been passed by an unanimous vote. I fail to see why we should not squarely face all drawbacks and try to overcome them, whether created by Tory or Liberal, and I also think that we want more farmers, and less lawyers, land agents and boomers, in parliament. The secretary's salary is surely too small—\$60 a year; why, it is a month's pay of an ordinary clerk.

## GENERAL.

The prospect of cheap wheat this fall is so great that we ought to look round us for something to convert it into more than thirty-five or forty cents a bushel, for that is about the price I expect for No. 2 hard. Pigs I consider the most suitable at present prices—grades of Berkshire and Yorkshire on good big sows, for preference.

Don't try to keep too many pigs on one small piece of ground. Keep shifting the pen.

A good combination is wheat and oats for feeding green. I sowed a piece this spring on heavily manured land, and I am feeding a bull and four horses on it, and shall be able to cut two good crops off it—some six tons to the acre.

Weeds are very plentiful this year, and I hope the Central Institute will urge upon the government the enforcement of the penalties for letting weeds grow. If the weed inspectors—where there are any—won't prosecute the lazy, then prosecute the inspector.

A large immigration of Icelanders is expected to arrive in Manitoba during the next few months. There will probably be some 2,000 in all. They are a good, hardy and thrifty class, and do well in this country.

## Mixed Farming.

[A paper prepared for late meeting of Manitoba Central Institute, by S. A. Bedford, Superintendent of Experimental Farm, Brandon.]

For years the feeling in this province was largely against diversified farming, but owing to the prevailing low prices of grain, and to the losses during adverse seasons, opinion is rapidly changing, and nearly all progressive farmers are making preparations to increase their herds or flocks. There are, however, too many still dependent on "king" wheat, and to these I would particularly direct my remarks. I would advocate mixed farming for the following reasons:—

1st. It is the most profitable system, permitting as it does the utilization of all the waste products of the farm, and converting them into marketable commodities of a class requiring the least outlay for transportation—a very important consideration to those who live so far from the sea board.

2nd. It brings in money at all seasons of the year, largely doing away with the borrowing of money at high rates of interest. We know that a large proportion of the farmers, solely dependent on grain, have to call the bankers, or what is even worse, the note shavers, to their assistance, before they can realize on their crop, and this means a heavy outlay for interest, which no farmer can afford.

3rd. Mixed farming greatly lessens the risk of total loss through an unfavorable season. All the farmer's eggs are not in the one basket, and should a portion of the grain be injured he has stock to feed it too. In the winter of '91 and '92 we found on the Experimental Farm that badly frozen grain was worth from 45 to 50 cents per bushel for feed, or nearly double its value for export; and, besides, if a portion of an injured crop is fed it reduces the amount on the market, and by this means helps to keep up the price.

4th. This system ensures a plentiful supply of barnyard manure, and the fertility of the farm is kept up. We are already realizing that this is necessary here, as well as in the eastern provinces.

5th. The keeping of stock gives an opportunity for a rotation of crops less exhaustive than the present system or want of system.

6th. And also spreads the farm operations over twelve months, instead of seven months.

7th. Keeps money in the province that is now being sent out of the country for such products as cured or frozen meats, poultry, cheese, butter, etc., for is it not a disgraceful fact that we send a large proportion of our coarse grain to be fed to stock in the eastern provinces, and then purchase the cured meat, etc., at high prices, paying tolls to a host of middlemen, besides freight each way to the railroads?

8th. By keeping stock we could engage most of our hired help by the year at a much lower rate per month than is now paid for a short season, and do away with the constant change of men so vexatious under the present system. The hired men would also remain in the province, and make good settlers, instead of being compelled to return to Ontario in the fall.

9th. The last but not least, mixed farming is in my opinion far more agreeable than mere grain growing. A wheat field breast high waving in the wind is a pleasant sight, but it only lasts for a short time, while farm animals are a source of interest all the year around.

There are other reasons that I might bring forward to show the evils of exclusive wheat growing, but I think I have already proved my position, and we will next consider whether it is possible to follow this system with our soil and the climatic conditions prevailing in this province.

## TO SUCCEED WITH STOCK WE REQUIRE:

1st. A healthy climate. In this particular Manitoba rates high; our climate is as healthy as any on the continent, sickness among stock being almost unknown, and animals give the maximum yields of beef, mutton or dairy products.

2nd. Abundance of both summer and winter feed. The area of unbroken prairie throughout the province is still enormous, and should a farmer be located in a section of country where the area of wild prairie is limited the young growing cattle can be herded at a distance at a dollar per head for the season.

The early settlers of the province, having been altogether dependent on hay marshes for winter feed, looked with dismay on their decreasing yield, as if their sole dependence was on this product for winter feed; but of late years necessity has compelled them to look to other sources, and it is found that we can grow and cure a number of excellent substitutes for marsh hay. Realizing the importance of this subject, the Experimental Farms have paid considerable attention to this important subject, and I will briefly give some of the results.

Of the imported hay grasses Timothy and Brome Grass are hardy, and the last-mentioned quite productive. We find about a dozen of our native grasses hardy and productive under cultivation, and most of them of good quality. Field roots of all kinds do well here. German, Hungarian and Common Millets give large returns if properly treated.

Oats and peas or oats alone, cut on the green side, and spring rye all yield well, and if bound in small, loose sheaves can be easily cured. Fodder corn is also prolific here, if the soil and exposure are suitable. We also find that even wheat straw cut as it is on the green side is not to be despised for

cattle feed, and should not be classed with the often badly cured wheat straw of the east.

We now come to the question of winter stabling. Owing to the high price of lumber we are to a certain extent at a disadvantage in respect to buildings, but in districts where stone or gravel can be obtained, excellent buildings can be erected at a reasonable cost, and very fair temporary buildings can with care be built with sod, and in other districts logs are available for the purpose; and it will generally be found that when a settler is determined to find shelter for his stock, building material of some kind suitable to his means can be had.

The next point to consider is whether there is a prospect of a reliable market at paying prices for the products of a mixed farm. The answer to this I think, to a large extent, depends on the quality of the products; if we produce only rank butter, soft badly flavored cheese, runty cattle, sheep or swine, we must not expect to find a ready market at good prices. I know of parties this year who were unable to get three cents per pound for badly fed steers, while their neighbors received from four to four and a-half cents per pound for well-selected and properly fed cattle, and the same thing applies to dairy produce, and all other products of the farm.

If then it is advisable to adopt this system, how is it to be done? Shall we at once abandon our wheat fields and let them run to weeds, sell off our implements at a sacrifice, and go into stock raising on a large scale? This I think would be going to the other extreme, and I would rather advise a gradual reduction of the area in wheat (this can best be done by seeding the older portions down to grass), a steady increase of the herds and flocks, as shelter can be obtained for them. By this means there will be no sudden change, with its resulting loss, and the farmer will gradually adapt himself to the change, and very soon a great improvement will be noticed all over our province. The farmers will not tremble in the fall at the least sign of the thermometer dropping below the frost line; he will to a large extent be independent of the money lender. Our land will produce even better crops of grain than it does at present, and farming will be placed on a more solid basis than at present, and as a natural consequence all our commercial interests will also be benefitted.

## Bees in Manitoba.

BY GILBERT GUNN, GONOR, MANITOBA.

During my seven years' experience in bee-keeping in Manitoba, the winter just past has proved the most disastrous. I lost two-thirds of the bees which were put in the cellar last fall. Some of them died from the want of food, but most from the cellar being too damp. I have always kept them in a stone-lined cellar under our dwelling house. It would be better to keep them in a cellar lined with lumber, unless one could get proper ventilation for a stone one; in that case a stone one would be the best, but the great trouble with stone is that it gathers frost or rime on the inside, and the hives get damp and mouldy, the bees dying from the effects of it. Another thing I have taken notice of is, that the hives which only throw off one swarm in the summer winter the best, for the following reasons: On account of the late springs which we have, it is all the way from the tenth of April until the last week in May before the bees are taken out of their winter quarters, and a week or longer before they can gather pollen. I have taken them out of the cellar on the seventh of April, and in about ten days they began to gather pollen, and again I have taken them out on the twenty-fourth of May and they did not get any pollen until three or four days after. Another reason is because we hardly ever get a swarm before the last of June, by the time we would get a second one it would be the middle of July, and, as we always begin to take away the surplus honey about the twenty-fifth of July, they would only have ten days to raise young bees before they would have to begin to put away their store for winter, and by the last of August, when the honey stops coming in, they would not cover more than eight frames in a Jones hive; now, this is too few to winter well, and the old hive is left ten days before the honey season with a virgin queen, whereas, if only one swarm is taken from a hive, it is so much stronger. When the honey begins to be gathered, the queen is laying, and has been so for some time; there is plenty young bees to hatch and take the place of the ones that die from day to day. I got the first swarm of this season on the twenty-seventh of June. It was an artificial one. I have got over one hundred pounds of honey for every hive of bees that I started with in the spring; now I think this is as good as can be done in the Eastern Provinces, and I am sure the prices for both kinds of honey are better than in Ontario. Of course, owing, it is no doubt, to the high express and freight rates on bees and bee supplies, it is more expensive starting in the business than it is in the east. Still I think the difference in the price of honey pays for the greater expense in starting. It is to be regretted that the Industrial Exhibition takes place so early in the summer, as it is too early for the bee-keepers of the Province to make any display of honey, but it is to be hoped that the day is not far distant when we will have an association of our own and an exhibition at a time when it will be more suitable for the advancement of bee-keeping.

### Experiments in the Feeding of Swine.

Read before the last meeting of the Dominion Swine Breeders' Association by C. A. Zavitz, B. S. A., Experimentalist, O. A. C., Guelph, Ont.]

I assure you it affords me no small amount of satisfaction to be present at this, the Dominion Swine Breeders' Association, not that I am specially pleased to appear before you in the capacity of a speaker, but that I may become better acquainted with the workings of this Association, and also that I may listen to the papers and discussions as presented by its members. It would seem selfish on the part of any of us, whether member or not, if, on being asked to take a place in the proceedings of the annual meeting, we were unwilling to do all in our power to advance the interest of the Association such as this assembled, even though that part be small.

It is difficult to estimate the influence of the various agricultural associations upon the farming of Ontario at the present day, but it is still more difficult to estimate the great influence which these combined forces are able to exert upon the future progress of agriculture in this fair province of ours. The time has been and is not far past when education along special lines of farming was obtained almost entirely from individual experience. Such is not the case to-day. The most successful farmers of the present time, those who get the most out of their land, their crops, their swine, their sheep, their cattle and their labor, are those who think and plan and work most industriously, most skilfully and most intelligently, and who take the fullest advantage of the experience of others.

I wish to call your attention for a short time to a system of co-operation which, I venture to say, is to become one of the greatest powers of influence which the agricultural world has yet beheld. I have reference to that of the Agricultural Experiment Stations. After a brief account of their rise, development and general work, a few of the summary results obtained from experiments conducted in the special line of swine breeding will be considered.

It is only about forty years since the establishment of the first Agricultural Experiment Station. It was located in Germany, near the city of Liepsic, upon a farm of sixteen acres, which belonged to the Liepsic Agricultural Society. The station was assisted at once by all the Saxon Agricultural Societies, under the leadership of Councillor Renning, their secretary, and was soon taken under the charge of the State. There were barns, a house, and some improved stock at the inauguration. Two or three rooms were fitted up a chemical laboratory, a small glass house was erected for experiments with vegetables, and in this way the first Agricultural Experiment Station in Europe was established. Their growth on that continent, however, has been a rapid one since that. In 1857 there were eleven stations; in 1862 there were nineteen; in 1867 there was thirty; five years later there were sixty-two, and to-day there are upwards of one hundred stations to be found in the different countries of Europe. This system of co-operative work was not confined to Europe alone, but it has extended into various parts of Asia, Africa, Australia and America.

The first Agricultural Experiment Station on this side of the Atlantic was the one established in 1875 at Middleton, Conn., in the chemical laboratory of Wesley University. In the following year the Ontario Experiment Station was established at Guelph. The example was speedily followed elsewhere; in 1880 four were in operation, and there are at present sixty-five agricultural experiment stations in the United States, and six in the Dominion of Canada.

The sixty-five American stations now employ 481 trained men in the prosecution of experimental enquiry. The number of officers in the various lines of work is as follows:—Directors, seventy-one; chemists, one hundred and fourteen; agriculturists, forty-six; horticulturists, fifty; botanists, forty-nine; entomologists, forty-five; veterinarians, twenty-four; meteorologists, fourteen; biologists, four; and in other lines of work, one hundred and fifty-seven. The total appropriations to the experimental stations of the United States during 1891 was \$889,408.00. The number of annual reports published was fifty-one, and that of the bulletins two hundred and fifty-five. The mailing lists of the various stations aggregated about 350,000 names.

The great importance of the swine-growing interests of the United States, and the pressing need of more accurate information as to how to feed swine most economically and profitably led to a large amount of experimenting in swine feeding at the stations. No less than twenty-two of the stations have conducted experiments in swine feeding, and eleven of this number have made a specialty of this line of work. The number of tests made in feeding swine now number upwards of two hundred, and about two thousand animals of various ages and breeds have been used. No careful summary of the whole work has yet been made, but there is one at present being compiled at the central office of experiment stations at Washington. Is it not a wise policy on the part of the members of the Swine Breeders' Association of Ontario to keep a close eye to the investigations going on among our American neighbors, who are spending annually about \$1,000,000 in agricultural investigations of various kinds? We are perfectly willing that the

people of the United States watch the doings of our stations with a close scrutiny, but at the same time we desire the same opportunity and privilege of gaining information from their experiments.

The following results relating to a few of the experiments in swine feeding, and which are of special interest and practical value, have been gleaned from bulletins of the stations, and from reports of the central office at Washington.

#### FEEDING FOR FAT AND FOR LEAN.

A considerable amount of experimenting has been done for the purpose of ascertaining the influence of different kinds of feed upon the carcass of the animal. Foods rich in nitrogenous substances, such as shorts, bran, peas, clover, etc., have been used against foods containing but little of the nitrogenous materials, such as corn. There are some variations in the results obtained, but the whole trend of the work seems to show that the carcass of a pig can be considerably influenced in many important parts by the character of the feed given. Prof. W. O. Atwater, of the Department of Agriculture at Washington, in a report of 1889 says: "By the feeding trials already conducted, especially with young animals, it has been demonstrated that different feeds modify the relative proportion of the different organs of the body, that the blood can be increased or diminished, the liver made larger or smaller, the muscular system increased or decreased in proportion to the rest of the body, even the bones can be made weaker or stronger. These marked differences in results are not produced either by over-feeding or under-feeding, but by difference in the chemical constituents of the ration. Here is a side of live stock management that is practically new to us, and its development must be of the highest interest." A nitrogenous ration shows a much greater difference when fed to young animals than when used with older ones. The reports of the Wisconsin Agricultural Experiment Station for the years 1887, 1888, 1889, 1890 and 1891 contain much valuable information regarding a series of carefully conducted experiments in feeding nitrogenous and non-nitrogenous feeds to swine. The conclusions from these tests are given in the report of 1890 as follows, regarding the points in favor of feeding a nitrogenous ration, such as shorts, bran and corn:

- (1.) A far more rapid growth.
- (2.) A much more economical gain for food consumed.
- (3.) Much more blood in the body.
- (4.) Larger livers.
- (5.) A larger proportion of lean meat (muscle) to fat.
- (6.) A larger proportion of ash to a given volume of bone.
- (7.) Somewhat stronger bones in proportion to weight of body.

In the last report of the Wisconsin Station the results of an experiment is given, in which it is shown that pigs which have received peas possessed about forty-seven per cent. more lean meat than those which had received corn.

#### INFLUENCE OF AGE AND WEIGHT OF ANIMALS UPON THE ECONOMICAL USE OF FEEDS.

The experiments upon this subject go to show beyond question that the amount of feed eaten to produce one pound of live weight increases with the age and weight of the animal, and as the animal approaches maturity greater is the amount of feed required. The experiments point out most emphatically the fact that for producing cheap pork it is essential to use young and growing animals, and stop the fattening process at the proper time. Our own experiments, along with those of others, tend to show that pigs should be turned off when they reach the weight of from one hundred and sixty to one hundred and eighty pounds.

#### THE VALUE OF COOKING FEED FOR SWINE.

Upwards of twenty experiments have been conducted in the United States regarding the relative value of cooked and raw feed. In almost every instance the absolute gain in live weight, and the gain in weight per pound of feed consumed, was greater from the raw than from the cooked feed. In nearly all cases, however, the animals consumed a greater quantity of the raw than the cooked food, and this may partially explain the cause of the greater gain in the former case. Even where as much of the cooked as the raw feed was consumed the latter not unfrequently gave the best results. On the whole these results go to show that no advantage was gained by the cooking of the feed, and in fact there seems to be a disadvantage in feeding cooked food as against the raw material. Our own tests agree exactly with the results of these experiments. It should be noted that in most of the experiments the cooked feed was fed cold, thus making it a test of cooked feed and not warm feed.

#### GRINDING FEED.

A dozen or more experiments have been conducted to ascertain more fully the influence of feeding ground grain as against the unground. The results vary considerably among themselves, owing, no doubt, to the kinds of grain fed, the amount of feed consumed by the animal, and other causes. The results of the experiments carried on at the Ontario station, which lasted for two winters, gave results in favor of grinding when peas and barley were used. Several of the American stations have obtained results against grinding. Where corn is grown to a large extent and used as the principal factor of the feed, the results may be different from those which we have obtained from peas and oats.

#### PASTURAGE.

A few experiments have given very favorable results as to rapidity and cheapness of growth from the pasture field. Alfalfa has proven to be a very cheap food. Clover has been found to be of much value. Rape has been but little tested as yet, but from our experiments with it this plant promises to be of much value as a food for swine. There is room for much valuable work of an experimental nature with different kinds of pasture crops.

#### Chatty Stock Letter from the States.

(FROM OUR CHICAGO CORRESPONDENT.)

Northwestern range cattle owners were in a hurry to get the shipping season open, and they sent in a whole lot of cattle that was too thin to kill and not of good enough quality to tempt feeders.

States farmers, as well as Canadians, have lately had the "hay fever," and liberal shipments of western dried grass have been made to the fodder-famine regions of Europe. It ought not to take long to supply the demand at the rate shipments are being made. It has been said that it would be a good thing for our people, instead of worrying about not being able to ship stock cattle, to send them all the hay they want and then prepare to send them a combination of hay and cattle in the shape of beeves. The export cattle trade has lately afforded the shippers little comfort, and losses have been large. There is no wonder exporters are engaging more space for hay than for cattle. The quality of the cattle now being marketed is rather indifferent. While cattle prices are low, they have been low before, and under really less favorable conditions to owners. When the low point was reached last year big fat export cattle and 1200-lb. dressed beef cattle were selling in about the same notch, \$3.75@4.00. Now the "spread" in values is more equitable. Canning cattle, \$1.00@2.30; butcher stock, \$2.20@2.75; green steers, \$3.00@3.50; and good to choice corn-fed cattle, \$4.25@5.00. It denotes a healthier condition of trade to have a wide spread in values than to have no premium on really good stock. It is always demoralizing to have an article that cost 50 per cent. more than another to produce sell at the same price. Distillery feeders have been taking advantage of the situation, and have bought a good many 1000-lb. range steers at \$2.25@2.50 per 100 lbs. They are certainly not taking many chances at these prices. Texas cattle continue to come forward largely in excess of former years. They are selling fairly well, but the low grades have suffered lately. The cause of the great break in low grades is not far to seek. Cattle good enough to sell on the block can be converted into money in a short time, but money in canned beef is apt to be tied up for months, and buyers are not tying up money for months just now unless they can get great big interest. And the interest must be paid in advance by the owner of the cattle.

The late closeness in the money market tended to reduce the growing demand for stock cattle. That demand was coming from unusual quarters in the western country, and there is reason to believe that as soon as confidence is fully restored there will be a bigger demand than for years. Of course it's a big country and there are lots more cattle scattered about than people realize, but there is a dearth of feeding cattle in many quarters.

The hog situation suffered considerably of late, and the best heavy hogs sold about \$2 below the high point of the year, at \$5.75. The best light, however, sold at a premium over heavy of about 40c., showing that farmers are holding backs their pigs to eat the comparatively cheap corn on hand.

Sheep men have been so anxious to realize lately that they have glutted the market very badly. Lately, however, there was some sign of improvement, and prices were as follows: Good to choice natives, \$4.50@5; mediums, \$3.50@4.25; poor to fair, \$2.50@3.60; Texas, \$2@4; grass Western, \$3.50@4; good to choice lambs, \$5@5.90; poor to medium, \$3.50@5.

#### Economy in Feeding.

The farmer who gets the largest returns for every pound of hay and grain fed is the economical feeder. So says the National Stockman. We hear it and we read it, but how many of us bring the facts home to ourselves and our stock that a certain amount of feed is required to sustain life, and it is only the food consumed over and above this that gives returns in growth, milk, wool, etc. True economy demands that our stock have all the feed they can properly digest and assimilate. Rapid growth is always the cheapest; it also demands that nothing be wasted. Some do not value hay and grain grown on their farms and by their own labor the same as if they purchased with cash. This is wrong, for what a farmer produces on the farm constitutes his living and his bank account. Every bushel of grain and ton of hay fed must be counted at market price, and all it lacks of returning this is a direct loss and is wasted. To avoid this we must provide comfortable quarters, suitable racks and boxes for feeding, and feed well-balanced rations.

THE FARMER'S ADVOCATE & HOME MAGAZINE

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Our Monthly Prize Essays.

CONDITIONS OF COMPETITION.  
1.—No award will be made unless one essay at least comes up to the standard for publication.  
2.—The essays will be judged by the ideas, arguments, conciseness and conformity with the subject, and not by the grammar, punctuation or spelling.  
3.—Should any of the other essays contain valuable matter, not fully covered by the one awarded the first prize, or should any present different views of the same topic, and we consider such views meritorious, we will publish such essays in full, or extracts from them as we may deem best, and allow the writer ten cents per inch (one dollar per column) printed matter for as much of such articles as we publish. By this rule each writer who sends us valuable matter will receive remuneration for his labor, whether he be the winner of the first prize or not.  
See section 11 and four following in publisher's announcement above.  
Everyone interested in dairying should not only read, but study that instructive little book, "Dairying for Profit or the Poor Man's Cow," which may be obtained from the author, Mrs. E. M. Jones, Brockville, Ont. Price, 30 cents. Over 62,000 copies have been sold, and in order to further stimulate its circulation, we will give two copies to every old subscriber sending in his own name (renewal) and that of one new yearly subscriber accompanied by two dollars.  
A prize of \$5.00 will be given for the best essay on "Harvesting," describing best and most profitable method of cutting, stooking, stacking and threshing say 100 acres of crop. Essay to be in this office by August 5th.

Sow Thistle.

Mr. W. A. Brodie has sent us a weed for identification, and asks for a successful plan of eradication. On examination we find the weed to be the worst of the several varieties of Sow Thistle (*Sonchus arvensis*), sometimes known as the Corn Sow Thistle. It is a creeping perennial. The plant has an upright habit of growth, and often reaches the height of three feet, or may be much less, according to the conditions to which it is subjected. Like the "Canada Thistle," it is somewhat branched towards the top. The stems are rather hairy or bristly, especially the flower stems. The prickles upon the leaves are harmless. The stems are hollow, and when wounded a milky juice is exuded. The flowers are yellow. A plant produces many seeds. This plant makes its appearance in May and continues to grow until autumn. It blossoms and matures seed in July, August and September. It will grow in any kind of soil, but is most at home in rich, moist loams, and it gives the least trouble in stiff clays. It is propagated by means of the seeds, which float about in the air, owing to the downy attachment which they possess, and as these are very numerous the plants increase very fast when allowed to mature. This plant also propagates rapidly by means of its numerous rootstocks, which contain a very large number of buds.

The following are the modes of dealing with this intruder:

1. Drop out of the rotation so far as practicable all such crops as allow the thistle seeds to ripen before these are cut, until infested fields have been dealt with.
2. Plow the land immediately after harvest, shallow enough and narrow enough to cut the thistles off clean without breaking off the creeping rootstocks. Keep the thistles from breathing above ground until the late autumn plowing, which should be deep for the sake of the crop which is to come after. In the spring keep the thistles under by the use of a suitable cultivator until the time of planting a crop of corn, roots or rape. Give the crop thus planted sufficient horse-hoeing to keep down all weed growth, and also keep the thistles cut out of the line of the rows by hand-hoeing. Go over the crop once or twice after the horse cultivation ceases, and the thistles will be pretty well subdued; but it will be necessary to keep a close watch on the next crop or two, using the spud or hand pulling whenever they appear.

The writer has succeeded in entirely cleaning a field that had several patches, which were spreading rapidly, by summer-fallowing as follows:

The land was plowed in the fore part of June, after which buckwheat was sown at the rate of five pecks to the acre; this was plowed under as soon as it came into flower. The field was then harrowed and rolled, and after decomposition had done its work sufficiently, was plowed again and left till the following spring, when a light coat of manure was given. The land thus treated was sown to turnips and well cultivated. Since that time, which was two years ago, not a single sow thistle has made its appearance.

The November number of FARMER'S ADVOCATE, 1892, page 431, gives a pretty full description of this weed.

Sheep in Manitoba.

In these days when the advantages of mixed farming, as opposed to wheat growing alone, are admitted by all who are interested in agriculture, no apology is necessary for again drawing the attention of readers of the ADVOCATE to the importance of sheep raising as a branch of mixed farming.

The abundant woolly covering with which Nature has provided it, indicates that the sheep is adapted to withstand the severe cold of our winters, and this is amply proved by the experience of those who have been engaged in sheep farming in the Canadian Northwest. Indeed, the climate of the summer as well as the winter months seems to suit them, as they are remarkably free from the diseases which are prevalent among flocks in older settled countries.

To those who have had experience in the old country in fattening sheep with the help of oil-cakes and other expensive artificial foods, the rapidity with which sheep take on flesh and increase in weight in summer, upon the prairie grasses alone, comes as a sort of revelation.

As to the question of profit, there is no doubt that a flock, large or small, managed with care and attention will pay well; indeed there is no branch in farming that at present prices will yield such a large and certain percentage upon the capital invested.

In making this statement we refer to sheep reared for the butcher, and not to pure-bred flocks kept for ram breeding. In the meantime, probably the supply of these latter is in excess of the demand, although by-and-by, when the industry spreads and the prairies of the Northwest are stocked with flocks numbering millions, there will be ample de-

mand at paying prices for all the pure-bred rams that are raised.

For butchers' sheep it is not necessary to have pure-bred ewes. Good ewes of almost any cross will do to start with, but it is imperative to have pure-bred rams. The particular breed of ram is a matter of opinion, and it is scarcely safe to indicate a preference. He should be a good sheep of his kind, and that a kind reaching a heavy weight at an early age. By the continued use of superior rams, a flock of originally very indifferent ewes will soon be graded up to a pretty fair level.

In Manitoba abundance of food for sheep is found ready to hand, or can be grown at little expense. The prairie grasses in summer, and the same converted into hay for the winter use, are the mainstay. Failing a supply of the latter, sheep will thrive during winter on the straw and chaff of the grain crops, supplemented by a little oats or light grain of any kind.

On a mixed farm a flock of any number from twenty to three hundred ewes would be found profitable. Where settlement is not very close, and a run on the prairies can be got, the oversight of the latter number would occupy the attention of a careful man throughout the year. In more closely settled districts, where the area under cultivation is greater, it is necessary to have inclosed pastures of an extent suitable to the number of sheep. It will be found advantageous to divide the pasture into two enclosures, so that the flock may be changed from one to the other every two or three weeks, as the grazing will thus be kept clean and sweet. The pasture should be on dry land where there is mixed herbage, and not low-lying land of a marshy nature.

Some previous experience in handling sheep is an undoubted advantage, but the want of this should not discourage any one who is anxious to have a flock, and who is prepared to take some trouble with them and give them the necessary care and attention. That is really the point that determines the difference between success and failure.

It would seem to argue a lack of enterprise among the farmers of Manitoba, that Winnipeg has frequently to draw her supplies of mutton from Ontario, Nova Scotia, and even pay the duty of three cents per pound or thirty per cent. on the living animal brought from St. Paul. It may be that this arises from a want of capital, rather than a lack of enterprise. If so, we hope that the Farmers' Provincial Loan Company, whose prospectus we have just had the pleasure of perusing, and which is backed by men of position, will make it a feature of their business to lend money to farmers for the purchase of sheep. The farmer could, from the profits of his flock, repay his loan in three annual instalments, with interest at 10 or 12 per cent., have half as much annually for himself, and at the end of three years have a flock of his own equal in number and quality to that with which he started. This presupposes careful attention and good management, and fair average success.

Feeding Hogs.

In answer to an enquirer, who is in doubt as to whether he is correctly feeding his hogs or not, and who says that "the feed has been ground—three-quarters oats, balance shorts and corn," the editor of the "Swine Breeders' Journal" gives the following reply:

"If for breakfast, dinner and supper each day, for the time you have been feeding your herd, the rations have been three-quarters ground oats, balance corn and shorts, then there is a 'big' doubt as to the correctness of your method. But if your three-quarters feed has been supplemented with a change on an average of three times a week, then your ration will do. It is not so much what you feed a hog as it is when and how you feed it. You can kill pigs and worry matured hogs on the ration mentioned, if you keep them at it long and hard enough. The science of feeding is to know what is the best to feed at the proper time. A good feeder can tell when a change should be given, and an experienced feeder the best feed to give at that time. The rotation of feeds by schedule is better than feeding a mixture of all the grains forever. But the best plan is to feed a seasonable variety, also a seasonable management. Breeding boars, old sows in pig, old sows with suckling pigs, young sows in pig and with pig, and fall gilts, is the assortment on nearly every breeding farm in the country to-day. To obtain the best results, each and every one of these classes require a special management in some respect. The breeding boar must sustain vitality and vigor, without making fat; the aged brood sows must be kept healthy, strong and vigorous, and just fat enough to prevent suckling down, yet successfully raise the pigs; the young sow, to farrow, must be built up in bone, muscle and vital forces, and carry as much fat as possible without injury to her; the fall pigs must be making pounds every day, or they are losing money. If a three-quarters perpetual rotation can do this, then there is very little to learn in feeding hogs."

We would be pleased if hundreds of our readers would write the ADVOCATE, giving briefly their method of feeding hogs, presenting the separate management of all classes to be found in a herd. The good to be derived from letters of that character would be invaluable. The feeding of hogs is a simple thing, if a profit is not desired; but feeding hogs to make the best results (the most money) is a problem that has been correctly worked by a very small number of feeders.

### Pure-bred Cattle Breeders' Association.

The annual meeting of the Pure-bred Cattle Breeders' Association of Manitoba and the Northwest Territories was held on July 19th, at the Winnipeg Industrial Exhibition, the retiring president, Robert Hall, of Brandon, in the chair. The principal business of the meeting was the election of officers for the ensuing year, which resulted as follows: President, E. A. Struthers, Russell; vice-president, Leslie Smith, Wawanessa; 2nd vice-president, H. O. Ayearst, DeClare; secretary, W. S. Lister, Middlechurch; and the following directors representing the various breeds: Shorthorns, John Robson, Manitou; Herefords, D. Stewart, Westbourne; Galloways, W. Martin, St. Jean; Holstein, W. J. Young, Emerson; Jerseys, James Bray, Portage la Prairie; Ayrshires, D. Steel, Glenboro; Polled-Angus, Robert Hall, Brandon. The following were also elected directors: J. D. McGregor, Brandon, R. D. Foley, Manitou, and James Glennie, Portage la Prairie. A number of motions were then passed. A committee of three of the directors was appointed to look after railroad transportation. The association passed a resolution favoring the changing of all the stables to the pattern of the one last erected, and of having them floored. With reference to the Winnipeg exhibition they moved that in future the exhibitions be not longer than four days, from Tuesday to Friday. The meeting then closed after passing votes of thanks to the C. P. R. for free transportation of exhibits, and to the retiring directors for services during the year.

### Keeping Accounts by Farmers.

(A paper read by H. McKellar, Chief Clerk of Agricultural Department, at the Central Institute Convention.)

During my immigration work in Ontario and the Maritime Provinces, in 1891 and 1892, the statement was often made:—"You only grow wheat in Manitoba, and when your wheat crop fails, or if the price is low, farmers are completely destitute." In most cases I satisfied enquirers that we could and did succeed in raising horses, cattle, hogs, poultry, vegetables, etc., and that the time was fast approaching when every farmer would depend, not on wheat alone, but on the returns from mixed husbandry. As no statistics exist to show what any practical farmer's revenue has been in Manitoba from a system of mixed farming, I desire to collect such information in tabulated form, and arranged to do so by sending out blank forms to the various farmers' institutes, asking them to co-operate by the individual members keeping exact accounts of all cash receipts for the year, under the various headings as shown on these printed slips. Glancing at those slips you will find page one gives a stock-taking on January 1st, 1893, also a stock-taking on January 1st, 1894. The difference in these shows whether the farmer is poorer or richer in assets.

Now turn to page two, here you find a monthly summary of all receipts for the year, in separate columns for the various kinds of grain, animals, dairy, and all products likely to be disposed of by a practical farmer. These reports would be the truest, the most practical and the most convincing proofs that could be given to the world regarding the possibilities of our province, and would completely eradicate from the minds of eastern men the idea that Manitoba is only a wheat country. I may say that my suggestion was met with indifference; I was assured by those to whom I submitted the scheme that farmers would not take the trouble to keep such a record—that farmers never keep accounts.

The matter was dropped for the time being; I have studied the case more thoroughly, and to-day return to it more resolved than ever that good would result, not only as a means of giving information regarding our province, which alone was my first intention, but that the farmers themselves would derive a thousandfold benefit. It is principally with the latter object in view that I am addressing you here to-day. It is hardly necessary for me to say that every business man, banker, merchant, miller, butcher and even the corner grocer keeps accounts of every transaction, every day, and all the year. The folly of doing business in any of these branches without keeping accounts is so great that we would all laugh at the idea, and predict ruin to all who would be so foolish; is it possible that the farmer alone is the man who needs not keep accounts? One of the greatest hindrances to successful farming to-day is through not keeping accounts. There are 22,000 farmers in Manitoba, of whom I venture to say that not 1,000 of them can give a statement at the end of the year of the proceeds of their work from the different sources of revenue—grain, stock, butter, eggs, etc. Now, I do not for a moment say that any knowledge of book-keeping, so called, is necessary to keep farmers' accounts. You are all aware that every business man provides books ruled to make the entries required for his own special purpose. Bank books, freight books, insurance books are all ruled to suit their various uses. Why have we not a book especially prepared for farmers' accounts? It can be done and done cheaply; if a practical book were prepared and offered for sale in our village bookstores, thousands of farmers would purchase the same and keep accounts.

You all know that the common diary is utterly worthless for farmers' use. The common journal is not practical. I have a book here prepared on the lines suggested by page two, by which accounts may be kept for the year, and the summary made as on page two. Pages one and two are the same as the slips now in your hands. Page three is for

the month of January, with columns as on page two, all ruled, having printed headings. On this page the entries are made, as sales are made of the various farm products during the month, with a total at the bottom. This total would be put down on page two for January at the end of the month. Page four is for February. Five is for March. Twelve pages in all. Any farmer in the province who can write could make these entries. Where there are children, they would consider it a pleasure to make the entries, "keeping the accounts". Then twelve pages in day book form are added for entries of expenditure, simply for convenience, for as soon as farmers would learn how much money really came into their hands, they would also want to know where it went out. This is the sum total of all book-keeping. A few pages are then added for memoranda.

This book can be supplied retail at \$1.00 each. This information compiled annually would direct the attention of farmers to those branches of mixed farming most remunerative; it would give valuable information to the Department of Agriculture; it would supply subjects for many discussions at your institute meetings, as well as themes for practical articles in our agricultural journals. Yet the greatest good would result to the farmers themselves, to their boys and girls, who carefully keep the accounts, for they could take more interest in their work, and would soon learn that farming pays. In this way one grand step would be taken in solving the problem, "What must we do to keep our boys on the farm?"

Gentlemen, I have submitted this subject to you in practical form briefly. I should be pleased to hear your comments, and I hope to have your co-operation in introducing this system of keeping accounts for the coming year.

[After a prolonged discussion, in which all favored the keeping of books, it was resolved to recommend all local institutes to urge the use of this book by all members. It certainly is simple, complete, and is not expensive, and we heartily recommend it to all who desire an easy and efficient way of keeping their accounts. Send your application for a book to the secretary of the Central Institute. The greater the number ordered the cheaper can the book be supplied.—ED.]

### Agricultural Exhibitions.

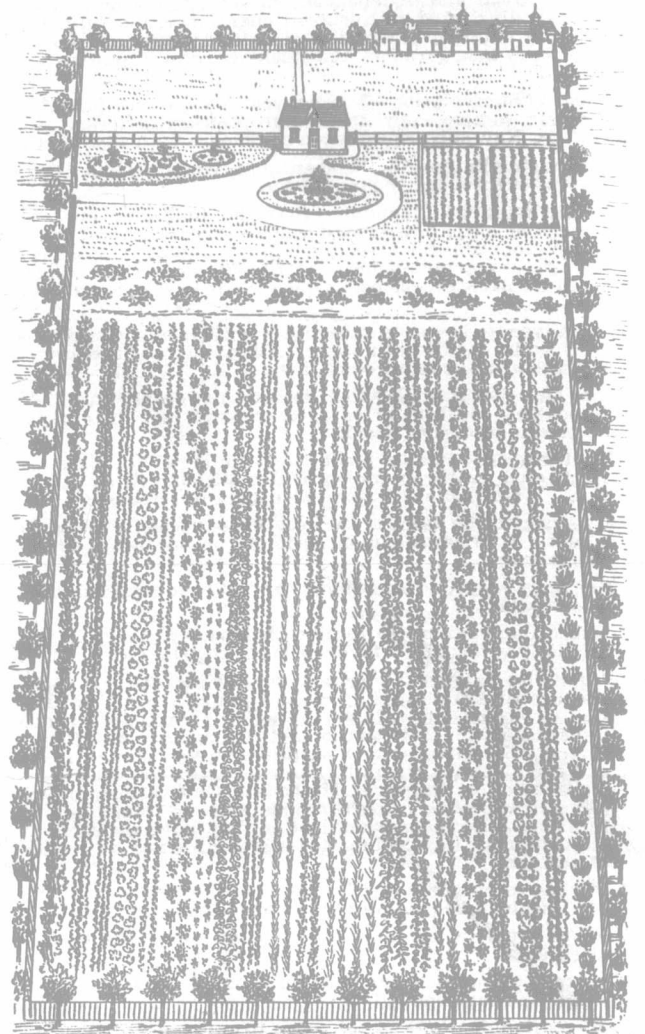
Boissevain.....	August 3rd and 4th.
Melita.....	August 3rd and 4th.
Meadow Lea.....	October 3rd.
McGregor.....	October 3rd.
Pilot Mound.....	October 3rd and 4th.
Birtle.....	October 4th.
North Plympton.....	October 4th and 5th.
Oak River.....	October 5th.
Somerseset.....	October 5th.
Yorkton.....	October 5th.
Wolseley.....	5th.
Portage la Prairie.....	October 5th and 6th.
Virde.....	October 5th and 6th.
Manitou.....	" "
Killarney.....	" "
Shoal Lake.....	October 10th.
Neepawa.....	October 10th and 11th.
Stonewall.....	" 10th and 11th.
Wapella.....	" 10th and 12th.
Rapid City.....	October 11th.
Gartmore.....	" 11th.
Carman.....	October 11th and 12th.
Battleford, N.W. T.....	" 12th and 13th.
Cartwright.....	" 12th and 13th.
Holland.....	" 13th.
Souris.....	October

### Farmer's Garden.

BY ROBERT BARCLAY, BALMORAL.

Various farmers and others have repeatedly asked me what way I would recommend as being the best to lay out their garden in the nicest and most useful manner, with the smallest amount of labor. Now, Mr. Editor, one would, at first sight, think that such a question as this could be easily solved, and that any man with an ordinary amount of brains could give a satisfactory answer to it right away; but I am of a different opinion, and although I have seen every class of gardening in many countries, both of a public and private character (in fact, I may say that I have taken a deep interest in this branch, and have visited the gardens and orchards of all classes of the people, from those of royalty and nobility to those of the homely peasant and the amateur artisan), I say the question is one of the most difficult to answer so as to suit the bulk of farmers. However, I shall try for the benefit of your subscribers to give my views upon the subject as tersely and explicitly as possible, dealing principally with the saving of manual labor, which at the seasons of the year it is most wanted is so very scarce in this country. So as to use the horse as much as possible for the garden work instead of the man, you must have your land fenced in on an oblong and not on a square, as so many are in the habit of having it, and when you ask them why they have it so, you invariably get the answer, "Oh! that is how every one had it down below," or "Oh! you never saw a garden in any other shape in the old country where I come from." There is just a little too much conservatism in this, and I would like to remind all such persons that we are very differently placed here; and that while we were circumscribed as to quantity as well as quality of land, and it was laid out and owned in Ontario and Great Britain so as to constitute fields and orchards pretty much on the square, here we are by no means cramped for either breadth or length of landed property, and consequently can employ more acreage and less manual labor, thereby reducing wages, saving hard cash, and, I hold, giving greater satisfaction by getting over the crop in a fifth of the time, and, as a matter of course, keeping the weeds down and culti-

vating better as you can go over it more frequently, which tends also to produce a larger and more luxuriant, as well as a better paying crop. I propose to give you the plan of garden I laid out for a friend of mine, which I consider one of the most useful for this country, which, however, may not suit everyone, as the residences in many instances were put up before the highways proper were opened out, and were situated so as to take advantage of the old trails. But I would advise any who have their gardens placed so that they cannot be enlarged by lengthening to change it to another portion of the farm, convenient to the house, where it can be laid out after the following pattern:



PLAN.

Such is the plan, and I have marked the various articles in general use, and now give you the different distances:—Onions, carrots, beets, parsnips, parsley, wax beans, and such like, twenty-one to twenty-four inches between the drills; cabbage, cauliflower, Brussels sprouts, Scotch kale or greens, broad Windsor beans, potatoes and the like, also tomatoes, three feet between each drill, thus allowing room for the cultivator to work freely through the former, and both plow and cultivator in the latter, as you will find the plow most beneficial and advantageous for running them all up with the exception of the tomatoes, which do not require it unless when planted in a windy situation. Of course, there are many who will not wish or require full rows of some of the vegetables, but they can use their own discretion and sow or plant two or more different varieties of pretty much the same type and size, such as beet and turnips or parsnips, and cabbage along with cauliflower, and when you wish to enlarge your garden always lengthen. You will notice I have placed it in front of the house. I prefer this situation on account of it being more out of the way than any other from the cattle, pigs and poultry, but if this don't suit everyone they can easily adapt the same plan to either end or the back of the house. I must say that in travelling through our Province and the Northwest Territories one does find the bulk of the gardens in the most ridiculous situations and out-of-the-way places, which I presume is to be accounted for in the fact that most of our homesteaders and settlers never took such a thing as a garden in this country into consideration when they were choosing the site for their house. But times are changed now, and you invariably find the new-comers fixing on a good spot along the side of a bluff or bush for their house, stables and garden. You will notice that I plant vegetable marrows, pumpkins, &c., nearest the house. I do so on account of those vegetables requiring more constant attention than others; in fact, no one need expect to grow them successfully here unless they are prepared to visit them daily and perform the work of bees in hybridising. This is easily done by pulling off the male flowers and pressing them gently against that of the other sex, thereby causing innoctuation and fruit. Some people will tell you that this is unnecessary, as there are plenty of bumble bees and flies in Manitoba to do it, but do not listen them, as I have seen many fine crops of magnificent vines without the least sign of fruit, with the exception of plenty of bloom, and this was in some cases owing to ignorance in not hybridising. The best time of the day for the purpose is about eight o'clock in the morning, as the blooms are very apt to close up shortly after this hour.

QUESTIONS AND ANSWERS.

[In order to make this department as useful as possible, parties enclosing stamped envelopes will receive answers by mail, in cases where early replies appear to us advisable; all enquiries, when of general interest, will be published in next succeeding issue, if received at this office in sufficient time. Enquirers must in all cases attach their name and address in full, though not necessarily for publication.]

Veterinary.

ANSWERED BY W. A. DUNBAR, V. S., WINNIPEG. RINGBONE.

J. D. GRAHAM, Carman, Man.:—"A six-year-old mare has a ring bone on one hind foot; it came on when she was two years old, and was blistered at the time; was not lame till about a year ago, but has been getting worse since. The first blister took the hair off; and the place is quite hard now. Please let me know what can be done?"

[The case being of long standing, the only remedy that will be of probable benefit is *firing*, which should be performed only by a properly qualified person.]

SWELLED LEG.

W. B. FRY, Valley P. O., Moosomin:—"Kindly let me know what would be good for a mare with a swollen leg; it is very hard and sore; it swelled off and on all winter. I think there is something in it. Also what is good for worms?"

[You do not state what part of your mare's leg is swollen, nor do you mention whether she is lame or not. The swelling may be due to an inflamed condition of the lymphatic vessels, proceeding from an external or constitutional cause. If the mare is not pregnant, feed her on bran mash alone for sixteen hours and then give purgative dose as follows:—Barbadoes aloes, one ounce; ginger, two drachms; soft soap sufficient to form a ball. Continue the bran-mash diet while the medicine is operating. When purgation has ceased, give morning and evening, in bran mash, for ten days:—nitrate of potassium, two drachms; sulphate of iron and powdered gentian, of each one drachm. If the swelling is between the hock and foot of the hind leg, or between the knee and foot of fore-leg, apply the following lotion morning and evening:—Acetate of lead and sulphate of zinc, of each one ounce; methylated spirits, six ounces; fluid extract of belladonna, one ounce; water, one pint. Hand rub the leg downward when applying this lotion and apply a bandage. Give moderate and regular exercise. Feed light when animal is not working. For worms, give on an empty stomach:—raw linseed oil, one pint; turpentine and sulphuric ether, of each one ounce. Follow up by giving, in bran-mash, every morning for one week, nuxvomica and sulphate of iron, of each one drachm.]

LAME FOWLS.

A. McLEOD, Portage la Prairie:—"I should like you to give me an opinion as to what to do with my fowl. About the 1st May a game rooster in his third season took lame in his right leg, which has gradually grown worse, until now he has no use of the limb. The claws are doubled right under. His comb is a healthy color and he eats well. A yearling cockerel took it some three weeks ago and is now in about the same state. No hens have as yet been affected. The roost is dry and warm?"

[Your roosters are possibly suffering from arthritic gout, brought on by heavy feeding and, by not having to *scratch for their living*, insufficient exercise. Examine the feet and see if there are any *nodules* (small hard lumps) upon the under surface near the junction of the toes. Is your hen-house large enough for the number of hens that occupy it? You have stated that the roost is dry and warm; is it *clean* and large enough so that the birds can sit upon it without having to grasp it with their feet? Have you a dry yard with ample scratching and dusting facilities in it? Please answer the above questions.]

ECZEMA.

A FARMER, Lorlie, Assa.:—"A five-year-old horse had scratches very bad last summer, were very hard to heal, and were *stocked* until winter; gave gentian and iron sulphate, which partially reduced swelling. The scratches are getting bad again, worse before rain, and there are small sore spots all over leg from fetlock to hock. What is wrong, and how can I cure it?"

[Your horse's system is out of condition, and the legs manifest a tendency to become "greasy." Feed exclusively on bran mash for sixteen hours, and then give the following purgative dose:—Barbadoes aloes, seven drachms; calomel, one drachm; ginger, two drachms; syrup or soap, sufficient to form a ball. Continue the bran mash diet until the physic has ceased to operate. After this give every morning in mash for two weeks:—Hyposulphite of soda, half an ounce; powdered gentian, two drachms; and, during the same period, give every evening iodide of potassium, one drachm. While the legs remain swollen bandage them at night, and apply to them once or twice a day the following ointment:—Boric acid, iodoform and carbolic acid, of each two drachms; vaseline, four ounces; mix. Give regular exercise. Feed very moderately of grain when not working.]

J. WORTLEY BELLHOUSE, Marringhurst, Man.:—"Some three-week-old pigs of mine took sick, seemed to get weak in the back and hind legs, and in a few days, though otherwise apparently in good condition, died. I have other pigs just born, and should like to know the cause and cure, if there is any, for the above complaint?"

[The symptoms are those of indigestion, resulting in constipation and partial paralysis, due, probably, to a faulty condition of the sow's milk. Give the sow a purgative, consisting of from four to six ounces of Epsom salts, according to age and size of sow. Dissolve the salts in one pint of hot water, and add a teaspoonful of ground ginger.—Give small pigs a dessertspoonful of castor oil, and rub belly and back with a liniment composed of spirits of camphor, three ounces; soap liniment, four ounces; fluid extract of belladonna, one ounce. Give good attention to the sanitary condition of your pig house, and see that your young pigs have dry shelter from the hot rays of the sun.]

ANSWERED BY DR. MOLE, M. R. C. V. S., TORONTO. SPECIFIC OPHTHALMIA.

LYNDEN:—"Will you kindly inform me what is wrong with my horse? Last spring he had a severe attack of influenza, which I fancy has made him deaf, and when leading him into the stable he is disinclined to enter. When driving him along the road, he will go right up to any object and then suddenly shy away from it. I would like to know what to do with him, as he is a valuable animal."

[This is a serious affection of the eyes, and very often the result of an attack of influenza. It runs its course with considerable rapidity, and often apparently subsides without treatment, returning, however, after a short interval, each attack leaving the eyes weaker than before until a "cataract" forms, when blindness results. When due, as may be in this case, to paralysis of the optic nerve, it is known as "amaurosis" amongst veterinary surgeons. It is rarely attended with that swollen condition of the eyelids, or excessive secretion of tears, which accompanies the more common form of ophthalmia. Probably due to hereditary predisposition, with the attack of influenza as the exciting cause. The pupil of the eye will be seen to be fully dilated, but will not respond to the influence of light. There is no treatment likely to be of service; warm fomentation and a lotion of a soothing character may be used. Take acetate of lead liquid, two drachms; tincture of opium, twenty drops; water, one pint; and bathe the eyes night and morning.]

Miscellaneous.

STERILIZED MILK.

JOHN PEARCE:—"1st. What is sterilized milk? 2nd. How is it sterilized? 3rd. Where, and for what price is it usually sold? 4th. Is it true that sterilized milk will keep for some length of time? Much longer than otherwise? 5th. With a herd of from fifteen to twenty cows, could it be made to pay?"

[1. Milk which has been heated to a temperature of about 175 degrees Fahr., is popularly called "Sterilized Milk."

[2. The heating may be effected in a vessel over a fire or by the use of steam or hot water under the milk pan or milk can.]

[3. Such milk is sometimes sold in the large cities of Canada and the United States. The price is often one cent or two cents per quart higher than that charged for ordinary milk.]

[4. Sterilized milk, if protected from contact with ordinary air, will keep sweet for a day or sometimes several days longer than ordinary milk which has not been so treated.]

[5. The question of profit would depend entirely upon whether the purchasers were willing to pay an increased price for the product.]

Increase by Dividing.

On account of the slight percentage of increase, a number of bee-keepers appear to have become anxious to increase the number of colonies by artificial means. I have been requested by letter to give my views as to the advisability of dividing colonies after the honey flow, and lately have come across a man who had actually done so. The argument is, that the hive after the upper story has been on it appears crowded, and a good strong colony should still remain for winter after dividing. My advice would be, not to divide; it will be found when cold weather comes there are none too many bees, and dividing late in the season lessens the chance of successful wintering. Then nothing is to be gained by dividing a colony after the honey flow, from a dollars and cents standpoint: the hive, combs and stores for winter, added to the risk of winter loss ordinary, is greater than the price of a colony in the spring, to say nothing of the queen that should be purchased to put with the queenless divided colony.]

PRICE OF HONEY.

Readers of the FARMER'S ADVOCATE will be interested in the price of honey. The season throughout Canada has been a rather poor one for honey, the crop is probably slightly better than last year, and prices should be about the same as last year. There should be a fair margin between retail prices

to consumers and prices to storekeepers; if this is not given, the storekeeper will not handle our produce, and we lose a portion of our market, as he is able to reach many we fail to sell to. It is a serious mistake to sell for less retail sooner than wholesale; for instance, suppose 10 lbs. of honey are retailed at 12c. per lb., and the wholesale price is 10c. per lb., too many will cut prices, and retail at 11c. in preference to wholesaling at 10c. Such an action has the effect of driving storekeepers from handling honey, and injures the bee-keeper. There should be a business-like distinction between wholesale and retail, and the rule not departed from.

NOTES.

Comb honey should be properly graded, light honey well filled being number one, light honey not well filled number two, and dark grades of honey number three; it does not pay to mix them.

Now is the time to see that every colony has at least thirty pounds of honey for winter stores. An eight-frame Langstrath hive, consisting of bottom board, body, eight frames, with combs and lid, should weigh with bees and stores sixty pounds. If you know what the hive you use weighs with combs in, it is not a difficult matter to find out when the colony has thirty pounds of stores; yet the weight of the combs vary considerably, old combs weighing very much more than new. I allow 30 lbs. for bees, hive and combs in a Langstrath. If a colony is short of stores, the more quickly it is fed the better. A good feeder (by that I mean a feeder so constructed that the bees can take the honey from it rapidly, the bees will not drown, and the syrup can be put into it without coming in contact with the bees), such a feeder should be used, and it should never be empty day or night until the required amount is fed; by such a method there will be less waste than if a small quantity only is fed each day. We should not make the mistake to think when 20 lbs. of syrup are given to the bees they will gain 20 lbs.: from repeated tests the best that can be expected is a gain of 15 lbs., and often very much worse—they might not gain more than 5 lbs. It is yet an unsolved problem what is done with this quantity lost in storing; that the results are such is, however, sufficient—the scientific explanation we will leave to our professors. If there is still honey uncapped in sections, they should be spread in the supers; the bees will then carry the honey below. To do this quickly a quilt may be put between the comb honey super and the brood-chamber, with one end of the quilt turned up; this gives the bees a chance to come up and carry down the honey. If there is honey in the extracting supers they should be removed, a quilt, as in the comb honey, placed in position, and the extracting comb spread after uncapping all sealed honey. Of course, if there is plenty of honey below in the hive, this is not necessary. A few combs of sealed stores should then be kept for colonies which may be short in the spring. For stimulative feeding they are far better than anything else, and worth more than the price of the honey which could be extracted. As with farm stock, cattle, horses, &c., it does not pay to starve bees, and it is well to look a long way ahead of us.

Syrup for feeding should be made of two parts granulated sugar to one of water, the mixture brought to a boil; syrup should be put into the feeder when about blood heat.

Avoid exposing sweets to the bees; feed at night and early in the morning, and wash away carefully any honey you may spill in pouring into the feeder. Do not attempt to feed up weak colonies—give it to the stronger, and after the syrup has been stored in the combs give them to the weaker; this prevents robbing.

Salting Stock.

At this season when the farmers are exceedingly busy with harvesting, some of the important "little things" are apt to be neglected. Salting the stock may be classed in this important list. It is the practice, and perhaps unwisely so, to salt the stock once a week, which is considered by too many as all that is necessary. If the once a-week system happens to be forgotten occasionally, two or three weeks may elapse, during which time the poor brutes will not only suffer from the want of it, but will fail to give their owners profitable returns. When stock have to go a week or more without salt they eat too much when it is given, which produces evil effects; but when kept constantly within easy access, it acts as a corrective in the digestive function diminishes the dangers that arise from bloat or hoven, while it stipulates a healthy action throughout the system. In the case of the dairy cow regular salting is extremely important, as secretion of milk goes on in best form only when the animal is free from any abnormal condition. If placed conveniently in the form of rock salt, there is no danger of any animal taking more than its necessities require. If the granular salt is to be used, strong boxes should be provided, placed two or three feet from the ground, and have a covering to exclude the rain. A little sulphur mixed with the salt is a good thing. Whenever the cows are noticed chewing bones, a little hardwood ashes mixed with the salt has the effect of satisfying the craving which prompts them to chew the bones.

### The Effect of Changing Foods.

The above subject was discussed at length in the FARMER'S ADVOCATE for April 15th, wherein conclusions were given, drawn from the chief authentic investigations up to date. Since then a bulletin has reached us from the Colorado Experiment Station, where last year a lengthy trial occurred with two sets of cows, in order to test the comparative effect of oat chop and wheat bran, fed along with the alfalfa hay they could eat and all the water they would drink. The following general conclusions are drawn from the experiment:—

"From a study of the tabulation we learn that the quality of milk was quite perceptibly influenced by the change of food given these cows. It will be also observed that in every case, by the Babcock analysis, the wheat bran produced the best results; and that the gravimetric analysis exhibited two cases as good or better, with the other two but slightly lower. It must be remembered that in the two cases which showed a lower per cent. when the cows were on bran, the samples were from the two longest in milk; and, further, that if there is any advantage from this fact it was given the oat chopped ration, which was fed first. Three of the cows lost in the yield of milk, which might be due to some extent to the same cause, but more likely to natural fluctuations or the condition of the weather at that time. This is the most likely, since there is sufficient evidence extant that bran causes a better flow of milk than oats; while they gained in weight on the oat chop, each lost a few pounds on the bran ration. The difference in either case could have been caused by the difference in the water drank at a single time."

"From daily analysis and close observation, we ascertained it to be a fact that a longer time is necessary for securing an even yield of butterfat from some cows than others. While with some the per cent. may be influenced by a change in the ration in forty-eight hours, and such cows become regular in that length of time, with others we find the per cent. influenced for better or worse, according to the quality of the ration, and grow regular in sixty-four to seventy-two hours, and still others (exceptions) requiring even more time. As should be expected, this is governed to a great extent by the appetite of the cow. Those animals that might be termed good feeders, and that will eat one ration with about the same relish as another, exhibit in quality of the milk the results of the change in feed the sooner, and in every case under our observation a steadier flow, with more uniform per cent. of butterfat. Naturally, then, we would expect and do find that the sly or dainty feeder shows a greater variation in both quality and quantity."

### Dairy Notes.

In these days of co-operative dairying every error that is being made whereby profits are lessened should at once be rectified.

A separator in perfect working order will skim milk so close that not more than one-twentieth of one per cent. of butterfat will be left in it. A separator bowl out of balance will not do nearly as good work, and invariably leaves two-tenths of one per cent. of butterfat in the skim-milk, or almost the same as the deep-setting system. This amount of fat lost in a creamery receiving 10,000 lbs. of milk per day, is equivalent to 24 lbs. of butter wasted per day, or about \$2,000 per annum—rather a heavy price to pay for carelessness. Separators and engines that run them must not be carelessly handled. They are as delicate as watches, and require constant, intelligent supervision. Keep them clean and well oiled, and see that the bowl gets no hard knock nor fall.

Farmers may have owned cattle for a score of years and learned but very few facts about caring for dairy cows and dairy products. He may think he knows, but he don't know. It not only requires special study, but it requires careful study of the nature and functions of the dairy cow, and the conditions and properties of the dairy products, before either the cow or the products are understood, and I assure you before a profit can be realized they must be understood. To this understanding must be carried out the programme 365 days in the year. Do not go into the dairy business unless you intend never to give it up. There is no subject whose study requires more extended observation or careful thought. It is true there are cases where men and women have grown up in the dairy business and know from experience that certain causes produce certain effects, never asking how or why, but these succeed to a certain degree. A new beginner does not enjoy this knowledge; most persons get it by study. Successful dairying has its foundations on years of careful and special study. The man who will not submit himself to be educated and developed in dairy knowledge will most assuredly fail. Study and preparation come first. The dairyman must be educated to be in sympathy with the comfort and happiness of his cows, and take delight in everything that conduces to their welfare. He must know the causes that produce the irregularities and deficits, or he will never avoid them.

### AVERAGES FROM THE WORLD'S FAIR BUTTER CONTEST.

Divided into periods of seven days, the following figures show the amount of butter credited to the several breeds. The Guernseys and Jerseys each had twenty-five cows in the contest, but the Shorthorns had only twenty-three cows for the first nine days and twenty-four for the remainder of the time.

POUNDS OF BUTTER CREDITED.			
	GUERNSEYS.	JERSEYS.	SHORTHORNS.
June 1-7.....	303.52 lbs.	357.39 lbs.	235.78 lbs.
" 8-14.....	286.17 "	350.66 "	243.53 "
" 15-21.....	280.31 "	341.35 "	249.31 "
" 22-28.....	274.49 "	328.78 "	239.78 "
" 29-July 5.....	278.58 "	337.68 "	226.54 "
AVERAGE PER COW.			
1st Week.....	12.14 lbs.	14.38 lbs.	10.22 lbs.
2nd ".....	11.45 "	14.03 "	10.27 "
3rd ".....	12.21 "	13.65 "	10.40 "
4th ".....	11.98 "	13.15 "	10.00 "
5th ".....	11.14 "	13.50 "	9.08 "
AVERAGES FOR THE DIFFERENT BREEDS UP TO JUNE 15TH ARE:			
For milk.....	29.2 lbs.	33.2 lbs.	23.84 lbs.
For butter.....	1.6 "	1.94 "	1.42 "

### Success in Dairying.

Success in dairying depends in a very large measure upon the individual effort of the dairyman. Unless he puts skill and intelligence into the business by selecting the proper cow, providing her with the proper food, and giving her his best attention, he cannot expect to reap a very large profit out of his investment. Too many patrons of our cheese factories carry on the dairy branch of their farming operations in a sort of haphazard way, and then condemn the business because it does not return them a handsome profit.

It pays to keep a good cow or none. It is surprising how many poor cows are kept in some of our oldest dairy districts by men of long experience. In many factories last season where one patron would realize \$45.00 per cow for the season, his neighbor would only realize \$25.00. This is due nearly altogether to the good judgment and superior intelligence of the \$45.00 man in selecting and feeding his cows, as compared with the lack of good judgment and carelessness on the part of the \$25.00 man.

It costs on an average about \$28.00 or \$30.00 to keep a cow during a year, and about half of the cows kept by the average dairyman give in return for this expenditure about \$30.00 per annum, and a great number come far short of this amount. This means that there are numbers of cows that might as well be taken to the butcher's "block," for all the benefit they are to their owners. If it were pointed out to a farmer that his hired man, for example, was not worth his board or the wages he was receiving, the farmer would simply rise up in his wrath and get more work out of that man, or give him the G. B. Why should not a much good sense and superior judgment be shown in dealing with the cow that does not pay for her keep?

The profit in any business is not always at the market end of the concern, but at the home end. The profit depends upon the difference between the cost of production and the price obtained. Therefore, the man who can produce goods the cheapest is going to reap the largest profit. This logic will apply especially to the business of farming, and particularly dairying, as the market price of dairy products does not vary considerably in comparing one season with another.

It is wonderful how world-wide is the influence and success of the Babcock Milk Tester. Lately we received a copy of a bulletin, issued by the Department of Agriculture, New South Wales, giving a detailed account of experiments carried on in testing the different percentages of butterfat in milk by this machine. Truly, the Babcock Tester may be said to be one of the greatest inventions of this nineteenth century. Its power to show up dishonesty and the true value of milk is felt in every branch of dairying, and is the true friend of the good cow and the upright dairyman. "Justice and correct payment for value received," is the motto with which it is revolutionizing the dairy world.

During the month of August the cheese which is shown at our fall exhibitions is usually made. Patrons can assist the cheese makers very much in this regard, by giving particular attention to the care of the milk, and have it sent to the factory in as good a condition as possible. The good flavor of a cheese has considerable to do with the number of marks it will score when submitted to the scrutinizing test of an experienced judge of cheese. It also pays to have the cheese as neat and clean as possible, without any projecting edges or uncouth fringes. Frequently cheese have been prevented from taking first-place because of some little unsightliness in the appearance.

### The Economical Production of Butter.

BY JAS. W. ROBERTSON, DAIRY COMMISSIONER.  
(Continued from Page 151.)

It is never economical to produce poor butter. A pound of butter which will not fetch more than 11 cents has cost somebody just as much as a pound of butter which will sell for 25 cents. It is always economical to help the cow to produce a large quantity of butterfat in her milk; because five-sixths of the butter is fat, and one-sixth water and curd. Now, you will not forget that the elaboration of milk by the cow is a most mysterious and exhausting process. It means exhaustion of the nervous force. If you have a cow that is abused, kept out in the cold, ill-fed and uncomfortable, she will give you less butterfat in variably than one that gets better attention. In butter-making it pays always to be a gentleman. Our folks in Canada are getting to "size a man up" by the clothes he wears. That is a poor plan to discover a man's gentleness or greatness. I believe in the meaning of the word in dairying and elsewhere—a man who is gentle and ender and strong. Now, if you will be harsh and cruel with the cows, you are no gentleman; and you will get only a rough man's pay from them.

Then, after the milk is made by the cow, it is always economical to have the best process provided to get the butterfat out of the milk. After the milk is set, if left at rest, its globules of fat which are held in suspension easily rise to the top. Stillness and coolness are two conditions required. Because many of the patrons of cheese factories use the cheese factory cans for setting milk in, after the factory closes, so as to get a large share of the cream for butter-making, I have had some tests made to discover their suitability for that purpose. I have found the loss from deep setting in common factory milk cans to be six per cent. greater than when the milk was set in ordinary shot-gun cans. Then, I set the milk at temperatures from 98 degrees down to 78 degrees, putting the cans in ice water, and found no appreciable difference when milk was set immediately after milking. I have set the milk immediately after milking and one hour later, and have not been able to avoid losing 11 per cent. additional of the butterfat by the delay of one hour in setting. The slowness of a man is contagious—it affects the fat globules in his milk. Then, we have set the milk for periods of 11 and 22 hours respectively; and in the 11 hours' setting there was an additional loss of 8 per cent. We have added water at different temperatures, from 160 degrees down to 60 degrees. I have found no appreciable difference from putting water in the milk in deep-setting pails. Then in setting tests with cows at different periods of lactation—nine, six and two months—we found by the use of the deep-setting pails we recovered only about two-thirds of the butterfat. For four days we set the milk pails in water at 38 degrees, with the milk, when set, at a temperature of 78 degrees; and the loss from milk of cows that had calved nine months, was 28 per cent.; from that of those that had calved six months, 26 per cent.; and from those which had calved two months, 43 per cent. of the butterfat unrecovered. For four days the milk was re-heated to 98 degrees, and set in water at 38 degrees, the loss from the milk of cows which had calved nine months being 34 per cent.; from the milk of those that had calved six months, 24 per cent.; and from that of cows which had calved two months, 12 per cent. of unrecovered butterfat. These are the average losses in deep-setting pails. Now, in shallow pans we obtained better results from the milk of cows calved more than six months than by any other method of setting. Many farmers say, that by the whirling process of a centrifugal cream separator you cannot get all the butter out. If a cow has calved more than six months, by the use of the centrifugal machine you will get over 25 per cent. more butter from the milk than by the ordinary deep-setting method. If she has not calved over two or three months, you will get about 10 or 12 per cent. more butter.

Then, we have been trying the effect of heating milk, to try and remove that offensive odor which is caused by the feeding of turnips. When we heated the new milk to 150 degrees, we have not been able to quite eliminate the odor. Then we have heated the cream to 150 degrees. A few years ago it was thought that if you heated the cream above 90 degrees you would burst the globules of fat and spoil the butter. That is not the case, and by heating the sweet cream to 150 degrees we have quite eliminated all the odor of turnips. The butter seems to keep better, and we got one pound of butter from one pound less of milk than we got by not heating the cream. A common complaint that comes to us by mail is that "the butter won't come." Well, the butter will come, if the cream be churned at a proper temperature. I have put the limit of time for churning at thirty-five or forty minutes. I heat the cream just high enough to make the butter come after about thirty-five minutes of agitation.



I find some people complain that there are specks in the butter. If you allow the vessel containing the cream to be exposed to the action of the atmosphere a part of its moisture will evaporate, and a scum or skin will be formed on the top of the cream. That will be broken up by the churning, and you will have merely small portions of thickened dried cream in your butter. Prevention is better than an attempt at cure. Let the cream vessel be covered, or by frequent stirring prevent the formation of the skin of dried cream. The straining of the cream into the churn is also a good measure for keeping specks of thickened cream or curd from finding their way into the butter.

Occasionally, butter makers find the butter full of streaks. That condition may come from the retention of portions of the butter-milk in the mass of the butter. The addition of a quart of water for every two gallons of cream, after the granules of butter begin to appear and before the churning is completed, will help to bring about a speedy and full separation of the butter-milk. When the butter-milk has been removed the granular butter should be washed with cold water. In summer the temperature of the water should be about 55 degrees, and in winter about 60 degrees. For the washing, the churn should be revolved a half faster than for the churning. A streaky condition of the butter sometimes results from an imperfect mixture of the salt with the butter. Re-working after the salt is dissolved will correct that. Fine-grained salt only should be used. The presence of the salt should be perceptible to the taste, but not to the sense of touch. Attention to these few points which I have mentioned will assist you to produce butter economically; and, if the butter be produced under the direction of skilful men in creameries, the labor will be very much reduced, and the profits of every farmer may be increased.

**Poultry on the Farm.**

BY MRS. IDA E. TILSON, WEST SALEM, WIS.

Solomon said, "A righteous man regardeth the life of his beast"; and a famous poet has written, "Cleanliness is next to godliness". If we combine these two, we must show our love and mercy by keeping our poultry quarters tidy and comfortable, and we will find cleanliness saves more lives than physic does. There are good reasons for cleaning hen-houses in the autumn, and as good for cleaning in spring. If uncertain which arguments are stronger, clean both times. My principal overhauling is in late spring, just before I teach my young chickens, to live in the hen-house, because I wish to give them a chance, as it were, and be sure no parasites are draining their tender, half-grown bodies. I also wish to clean after my hens set, since a setter attracts parasites to herself as a magnet does iron filings, wise midgets soon learning that hen is there all the time, without chance or disposition to run away. Besides my main cleaning I do a great deal of "slicking up" all through the year, and every day. Some ladies visiting here found, when getting into their buggy for the homeward drive, they had brought along a setting hen which had stolen her nest under the seat, behind its curtain. I have often thought of that biddy, and how many another fowl has set, hatched, and afterward lived in a quite different kind of buggy place. Last spring a man said he had not cleaned his hen-house all winter. Those hens better "strike," for if they continue to lay he may continue the same old state of affairs, and never clean their premises. I was once told of a man in whose office tobacco juice had accumulated till he swam about and then took to spitting overhead, and I suppose there are hen-houses where, with less exaggeration, dirt is well-nigh universal. Red mites and other insects frequent wall crevices, doing their biting at night, and not usually living by day on any except some setting hens. Fumigation with brimstone is good. Get every fowl out, sweep down cobwebs, remove nest fillings and all rubbish, close doors, windows and every opening; then, on an old stove-top or in a kettle set within an old dish-pan, place quite a lot of real live coals, put on them two pounds or so of brimstone broken in pieces; "get out of there" speedily, but stay faithfully by, at least two hours, to watch for any signs of fire—of which, however, there is not much danger, so I was told by a doctor who had practiced fumigation against contagious diseases. I had this done regularly several years, and smoke would pour out under eaves and seem to permeate the whole hen-house; but strong, hot whitewash, well "sloshed" on walls and into every crevice, has proved fully as good. Keep adding fresh hot water, and put in some turpentine or sulphur, "I don't care whis and a little of bosc," as an uncle, when a child, answered a lady who asked his choice of two kinds of cake. It is said that Cologne city has seven hundred smells, and probably the

more pungent odors about a hen-house, the more hope there is of offending each and every bug; hence I often lay tobacco, cedar or elder sprigs about, too, and have read that Queen Victoria's royal hen-house is kept well-decorated with heather and other evergreen branches. As white is a good reflector, whitewashed walls make hen-houses much lighter inside—quite a valuable consideration during winter. It is apparent that a patient, careful man will conduct fumigation best, while a swift, reckless one is better adapted to whitewashing. I have a large paint brush by which I easily and quickly cover roosts with kerosene. Roosts wound with woollen rags, kept saturated in this oil, and kerosene foot baths have been recommended by poultry journals, till found too severe, as many fowls were thereby made weak-legged. Such a painting of roosts as recommended above, I have harmlessly practiced for years. No scaly legs have appeared in my flock during a long time, as I early "weeded out" every such specimen, but I remember occasionally applying kerosene successfully to their legs by means of cloth or tooth-brush; still, coal-oil is very penetrating, and, as I have written before, needs careful use. Soapsuds for scaly legs, and pyrethrum for other relief of hens, are safest. My movable nests are taken out doors on cleaning day, brushed off and out, then have kerosene poured from a can into every joint and crack, and finally receive new fillings, with clean, washed nest-eggs. About this time windows are removed and laid away, to be washed and replaced in autumn.

I have read that road-working and repairing are little practised in parts of China. Their beasts are still driven one behind another, and, in time, such a groove is made that a person standing on an adjoining field might see a row of donkey-backs apparently plowing through the earth; stepping to the edge of the public way and looking down, he would discover, treading their time-worn rut, the legs under those backs. This illustrates a tendency sometimes seen in work and business. Successful poultry culture requires that we keep out of ruts, and use the best and quickest methods. Windy and rainy weather should not find us ventilating our hen-houses and feeding our flocks just the same as in mild, still times. I intend, every night, to observe the wind's direction, the sky's appearance, and the thermometer's record, and, though one cannot always tell what a night may bring forth, I believe my fowls are thus made more comfortable than if I ignored these weather indications. A south wind promises a warm night; a north wind will reduce the temperature before morning; a breeze chills more than does still air of the same temperature, and our breezes here usually come from the west. So there are many practical points and plain signs easily learned by each for her own locality. A while ago I read a novel way of cleaning. Said its author: "When the outside of hen-house is thoroughly wet by rain or hose, then throw lime all over the inside, into every crack, and the lime will stick on account of this dampness." The paper was northern, that writer southern. Now, a single-boarded building, through which water could so penetrate, is probably all right for the south. I had such a hen-house myself in Florida, but very different plans must be made on our northern prairies, where cold winds travel ever so many knots an hour. Top ventilation may be a fine thing somewhere, as so many architects put cupola ventilators into their plans, but it will not answer here—north, where fowls so easily get roup. Try yourself, without additional covering, sitting under an open cupola some breezy night, when the mercury in the thermometer is going way down cellar, but first engage your physician, or have some reliable croup and grippe medicine handy. The son of a woman having a large flock of fowls once came to view mine, and, after his survey, said, "I told mother I knew your hens weren't sneezing and snuffling around like hers, and why is it?" The familiar diamond-shaped openings in gable ends, now boarded over, and the closed cupola, were pointed to as silent witnesses of my progress in making things comfortable, and, I afterward learned, my example was followed with happy results. The young man said in extenuation that their hen-house already smelled strong enough; then I advised reducing the number of inmates, but he took the equally good course of building another house. Those who have read, observed and experimented, know what a change has come in amount of ground space allowed for each hen. Three square feet was a standard calculation, or forty fowls to a 10x12 house; now some poulterers recommend even ten square feet. I know, by actual trial of reduced and increased numbers, that my birds do better with an average space of at least four or five feet each.

I chanced on another article which literally said: "Always set hens on the ground," but my March brooders could hardly take that prescription unless they should "set to rise no more." Whenever such strong words as "never" or "always" are used in directions, I am reminded of that passage in 'Pinafore': "What! Never?" "Well, hardly ever." I mentioned to you a woman who could not find time to feed her little chicks over two or three times a day, and forty died; yet, I did

not intend to intimate that all chicks thus treated would die, for that would be placing poulterers in a very deep rut. I do believe little chicks thrive best fed often, and lack of attention will surely show; but seasons vary, and breeds and surroundings differ. The active Leghorn forages sooner and farther than the lazier Plymouth Rock or phlegmatic little Brahma. A large grass run takes the place of food otherwise needed. An active mother will provide more for her brood than a lazy one does. An old, fat, pet hen of mine, named "Butter," once permitted to hatch out some chicks, was never seen scratching, nor did she pretend to do a thing but station them early and continuously under our dining-room window. During warm, pleasant weather, we need not feed so much as in stormy, windy times, when fowls cannot get about. At such times, too, droppings quickly dry into a sort of peat, and do not need removal so often as when it is rainy or foggy, and everything soaks and steams. Indeed, the text of this whole article is—we should not do things simply because our forefathers or others have done so, nor because we did so yesterday and have formed a habit, but, instead, ought to cultivate our own powers of original thought and observation, and know whether their ways are applicable to our cases.

**How to Raise Turkeys.**

BY M. MAW, WINNIPEG.

In reply to your request for a few notes on "how to raise turkeys" with success, I send the following:—The desideratum is to get strong, healthy breeding stock. The best adapted for this climate is the Bronze, or a cross between the wild and the Bronze. Never in-breed; if you do your trouble commences, the product being a weak, small boned specimen, liable to disease. You can always get good, young, healthy Toms in the early spring from any reliable breeder for a few dollars. It is false economy not to get one, as by doing so you are laying the foundation of a good, strong, healthy flock, that will return you a big percentage in a few months. Set all the early eggs under hens, and when the turkey hen wants to set shut her up for a few days, and she will commence laying again without delay. Set her next time. By so doing you will secure a double clutch of young turkeys. When they hatch dust the mother under the wings, vent, breast and neck with "Persian insect powder" (you can get it at any drug store), and she will distribute it over the chicks. Lice make the young turkeys appear heavy and weak, and they soon die. There are two varieties of lice: one a small, active fellow that travels all over the body; the other locates back of the neck, is hard to find, but a terrible blood sucker. A drop of hot lard on the end of your finger well rubbed into the fluff on the neck will generally kill the lice, but be careful not to use much or you will kill the turkey. The first food, when they are thirty-six to forty-eight hours old, is dry bread crumbs or stale bread soaked in milk and squeezed dry. They are very fond of green onion tops chopped up small, also dandelion leaves. If you plant a lot of refuse onions in a patch of your garden, you will have a plentiful supply of green tops all summer. I never feed hard boiled egg; it binds the bowels. Rolled oats, cooked corn meal (never feed it raw), scraps from the table, are acceptable. Don't feed more than the birds will eat up clean; it sours and spoils their appetite. Give clean water in a small, flat dish—a sardine tin does well, and see they have plenty of small, sharp gravel and a good dry dust bath. Shut the whole family up at night in a building, if possible—if not, in a waterproof coop—and don't let them out till the grass is perfectly dry. They will object and do a lot of talking, but remember, a young turkey once wet through is stunted for life and may as well die, if it doesn't. They soon begin to feed themselves on grubs and flies. They are very fond of the green caterpillars that destroy the leaves on our maple trees; if the young turks are allowed to run under these trees they will soon destroy every caterpillar. Be sure and keep young turkeys in a place where they get plenty of fresh air: I lost my whole flock one year through putting them in a building at night that was windproof. The old turkey will keep them warm, all they want is protection from wet. I have no trouble with Bronze Turkeys either when first hatched, or when they "shoot the red" at from six to eight weeks old, but had lots of trouble from swelled head caused from overheating and crowding at night, and breathing hot, foul air. Let them roost on the top of the building when grown up; last winter I kept mine in a loft that had lots of openings but a good roof, and they did well, kept healthy, enjoyed their food and were quite fat in the spring. One of the most successful breeders in Ohio wintered a flock of two hundred turkeys in a grove of trees and only lost two. I shall be glad to give any information in my power to any of your readers who write me and enclose stamp for reply.



## MINNIE MAY'S DEPARTMENT.

Minnie May offers a prize of \$5.00 for the best article on the "World's Fair." All communications to be in our office by the 8th of September.

## Our Irish Letter.

DEAR CANADIAN SISTERS AND BROTHERS:

I am having such a high time in Wales that I cannot resist sharing my pleasures with you all, so now start to give you a description of my trip so far. We are settling down for a little, and I hope to send you another letter next month written from "Ould Ireland." I take copious notes of all my seeings and doings.

Our party crossed last Tuesday week. We had a bright passage, though roughish, but enjoyed every mile of it thoroughly. We came on to Bangor from Hollyhead, straight as a die, and were safely housed by five o'clock, having left Dublin at nine. We devoted the day after this housing—to getting rid of our most unbecoming sunburnt faces, or rather, trying to. We utterly failed. My nose was a show for several days. Nevertheless, I've seen, oh! such heaps of wonderful places. (Sunburn does not affect one's eyes.) There are two Bangors, Upper and Lower. We are staying in the former, and it is a labor of necessity (not of love) to find ourselves climbing towards home—if we have been touring in the Lower, of which we can only see the roofs and chimneys from our windows. The Menai Strand runs right up past this terrace, only a tennis ground and road between us and it. As I write in my window I can count 27 boats, two steamers and one man-of-war lying underneath me in the strait. It is simply lovely. This man-of-war is now used as a training ship for the youngsters who wish to crown themselves with glory in the days to come, serving in our navy. To the left—far up the strait—nearly two miles away, I can see, by standing at said window, the wonderful "Menai Bridge," and the tubular railway bridge a quarter of a mile further up. Through this tube the train ran which brought us to Bangor from Hollyhead. It seems too wonderful to believe, but such is a fact, it is supported by massive pillars built up from the bed of the strait. The Menai Bridge swings right across, supported by such massive, iron chains as one can only imagine until seen; and they are so beautiful as well as massive, hanging in festoons, so to speak, from one side to the other. There are three stone arches supporting the bridge at either side, also built into the bed. I am afraid I fail to describe the beauty of the bridge. I really cannot do it justice. One must pay toll going across, but not returning. At the opposite side is Anglesea, an island literally studded with lovely places, and wooded from one end to the other. A road runs right round the island, each turn of it pointing to newer beauties than the preceding one. Wales is certainly an exquisite country. One of these days we went to Carnarvon, and a lady friend joined me in climbing—or rather clambering—up three of the seven towers which form part of the old castle wall—the walls of the very rooms in which Edward the Sixth played as a child. The view from the top of the towers was something to be remembered all one's life; and to descend in spirit (as we did shortly in body) from the sublime to the ridiculous, underneath all this old historical splendor, in the market square of the town, not 300 yards from us, there was a horse fair being held, and we could see the buying and selling going on from this magnificent old ruin. Such is life.

We went another day to Beaw-Maris, and gazed over the old castle there. More picturesque, in a way, than Carnarvon it is, but one has not the same creepy feeling that you must have when you tread on the pathways where our kings and queens have been. Both of them, though, were most interesting. Round and inside the walls of Beaw-Maris Castle there are tennis courts and croquet grounds. We saw these games being played, while sitting on the walls, and heaps of tourists, like ourselves, only a degree more greedy, were displaying their luncheon baskets on the grass inside the walls. I dare say we should have done the same, had we been as wise as "Taffy," but being very Irish in our ways, we had not supplied ourselves with these pleasant adjuncts, contenting ourselves with sandwiches instead, which we enjoyed on the top of the "Queen's Tower." I do not know why it should have had this particular name, but the fact remains. We returned in a steamboat, as we went. These excursion steamers seem never to cease plying in Wales. On Sunday we went again to Anglesea, over the Menai Bridge, to afternoon service in a Methodist church, conducted by an old minister in the language of the country—Welsh. We did not understand one word, but he seemed most earnest, and held a large congregation enthralled. The singing was delightful; everyone joined—I doing the same, without trying to pronounce a word, but as my neighbors were singing too, the deficiency of language was not noticeable.

This morning my friend and I went for a short climb, but found ourselves at Penrym Castle before we stopped. Such a very magnificent place as it is I have never seen before—never. Most beautifully kept. Not one blade of grass unkempt, nor one leaf of the grand-looking trees seeming as if they could blow crooked. It is much grander than Beaw-Maris could ever have been, though perhaps not so large as Carnarvon, but it is so ex-

quisitely kept that it is a delight to remember it—not the same kind of delight one has in remembering the other historic places, at the same time my eyes were greatly rested, seeing everything so beautiful. There was an atmosphere of wealth from one entrance gate to the other, which the beautiful ruins of the others certainly had not. I am afraid this sounds too practical, but it was true. Your Irish friend,

S. M. STUDDERT-KENNEDY.

## Scenes in the Northwest.

BY A FARMER'S DAUGHTER.

Calgary's four days summer fair is at an end, and it is needless to say, the fair was a success—or rather the races were, for somehow or other the turf offers more attractions and is a better drawing card to the people of the "Woolly West" than any number of fine horses and cattle on exhibition. The two together, however, were a very happy combination, as testified by the large crowd in attendance on the four successive days. To an Easterner the crowd itself would be one of the attractions. Imagine Indians by the score, nay, by the hundreds, in all the glory of colored blankets, feathers and paint, many of them literally loaded down with bead-work and brass jewellery. Here a group of splendid looking Blackfeet, on horseback, there the lithe, agile Stoney and the equally fine looking Blood; a little further on, the less splendid Cree, and the stolid, ugly-faced Sarcee, their bright colors and gay trappings forming a pretty background to the more sober coloring of their white brethren. Here, too, the western cowboy, in spurs, leather straps, flannel shirt, gray sombrero, cartridge belt and pistol, never absent from his horse and lariat. Mingling with all, and giving just the touch of coloring needed to complete the whole, are the mounted police in their gray red uniforms and gleaming white helmets. Horse racing is the same all the world over, so a description would be superfluous, but each day there was something on the programme particularly unique and interesting, which I only wished some of the readers of the *ADVOCATE* could have been there to enjoy. The first day there was an Indian polo match and pony race, both of them very interesting and amusing. The polo match was between the Blackfeet and Stonies; time to play, two hours. The Stonies first succeeded in getting a goal, then the Blackfeet, then again the Stonies, and when time was called, with the ball again up very near the Stoney goal, the umpire declared the game a draw and the money was divided. In the pony race there were twenty-four starters, and the helter-skelter way they rode was very amusing. Many of the ponies ridden were really very fine, and some of the Indians quite jockeyed in appearance. I noticed one or two in pale-blue jerseys elaborately trimmed with beads and skins, while several were in tights of brilliant-colored sateen, &c. They all rode bareback, and when the word "go" came for a few seconds nothing could be seen but dust, then gradually the stronger drew away from the weaker and the spectators breathed freely once more. From post to post it was a race for blood, and when a young Sarcee on a pretty buckskin pony passed the flags a winner, the cheering and enthusiasm was intense. The race was repeated each successive day, barring out the winners of the preceding one. Tandem races, polo races, hurdle races, cowboy races, athletic sports, and foot-races, occupied the programme until the last day, when the cowboy roping contest—looked forward to by everybody as the crowning event of the week—took place. This was the lassoing, throwing and tying up of wild steers ready for branding in the shortest possible time, and the crowd awaited with breathless interest a spectacle so novel and interesting. There were three entries only but they were old cattlemen who thoroughly understood the handling of a lariat. The first man threw and tied his steer up in good style; time, 4 min. 55 sec. John Weir, a colored man, then took the field and he accomplished the work in such an astonishingly short time that the spectators were hardly aware it was begun till it was over; time, 54 seconds—the shortest, I believe, on record. The third competitor also made good speed, tying his steer up in 2 min. 51 sec., closing the event, which was thoroughly enjoyed. I have since heard a whisper that the agricultural society is likely to send these same men, with their horses and a number of wild steers, to the Toronto Industrial, and should the rumor turn out to be correct I would advise all who can to be there to see.

Caroline Gage and her company of artists were at the opera house during the exhibition, and each night played to bumper houses. The last night was particularly interesting, as the prizes won at the races were presented very gracefully by Miss Gage, between the acts, and when the great, brawny negro John Weir, "who had once been a slave and is now a most-respected rancher in Alberta," went forward to receive his seventy-five dollar saddle, the audience for a few seconds forgot its dignity and cheered enthusiastically.

How time does go, like everything else in this western country. For the last week I have been trying to snatch a quiet hour to complete this article, but it has been one continuous round of

sight-seeing and pleasure, such as can only be enjoyed on a ranch in the Canadian Northwest, and here I am back again in Calgary with nothing accomplished, but with very grateful remembrances of the many pleasures enjoyed and the hospitality and kindness generally of the settlers of the Cochrane Valley. Some kind friends drove in for me ten days ago, taking me out to their ranch and creamery at Big Hill Springs, twenty-four miles west of Calgary, and, needless to say, every hour from my departure to my return was enjoyed. We left town at 10 a. m. with a team and democrat, stopping half-way at Burnmore Hackney Ranch, to rest and have dinner, and there I had my first peep into bachelor's hall in Alberta. It was remarkably cosy, and we enjoyed the comforts of a good dinner none the less because it was prepared by a man cook. The way out was very beautiful, one minute up the top of a hill, the next down in the green valley; all the way the most luxuriant grass and the most brilliant prairie flowers. Now catching a magnificent view of the mountains, for there happened to be a mirage that day, and we sometimes almost imagined we were driving at their very foot; then again down in the depths, where all we could see was the green tops of the hills. At five in the afternoon we reached our destination.

Big Hill Springs ranch and creamery is situated just at the first foot hills; the buildings in a lovely green glen, with hills rising to two hundred feet on either side. It has the most perfect natural water supply of any place I have ever seen. Half a mile up from the house is the head of numberless springs, from which the place takes its name, and in the ascent many miniature Niagaras are passed, which are remarkably beautiful. At the foot of the valley the water is utilized for the power in connection with the creamery, then flows on through the glen, twisting and turning and doubling up over and over a beautiful stream of cold, clear water, fresh from the mountains, which even in the depth of winter never freezes over. To lovers of horses and cattle ranch life must be particularly attractive. There is a peculiar fascination about the wild, free life for many people, and the fact of having horses innumerable at your command, where distance is of very little importance, is an additional charm; but, like everything else, it has its drawbacks, and the lonely, isolated life led by many of the ranchers in Alberta must be very trying.

I hear vague rumors, which I hope will materialize of a riding and driving party to Banff, eighty miles away, for the first of next month, camping out on the road going and returning, and while there for a week or two, and keeping our own horses to explore the mountains around and in the vicinity. If it does materialize, I hope to be able to tell you many interesting things of the trip; if not, we will just have to go as others go, by train, and even then there will be "big heaps" as the Indians say, to see and write about.

## Days Gone By.

BY JAMES WHITCOMBE RILEY.

Oh, the days gone by! Oh, the days gone by!  
The apple in the orchard, and the pathway through the rye;  
The chirrup of the robin, and the whistle of the quail,  
As he piped across the meadows sweet as any nightingale;  
When the bloom was on the clover, and the blue was in the sky,

And my happy heart brimmed over in the days gone by.  
In the days gone by, when my naked feet were tripped  
By the honeysuckle's tangles, where the water-lilies dipped,  
And the ripple of the river lipped the moss along the brink,  
Where the placid-eyed and lazy-footed cattle came to drink,  
And the tilting snipe stood fearless of the truant's wayward cry.

Oh, the days gone by! Oh, the days gone by!  
The music of the laughing lip, the lustre of the eye;  
The childish faith in fairies, and Aladdin's magic ring,  
The simple, soul-reposing, glad belief in everything,  
When life was like a story, holding neither sob nor sigh,  
In the olden, golden glory of the days gone by.

A good and simple remedy for ear-ache, caused by exposure to cold, is a flannel bag filled with hops, and dipped into hot vinegar, which must be carefully wrung out. Lay this as hot as can be borne over the suffering ear, cover it with dry flannel, and change the hop bag as often as it gets cool. This usually comforts the child, and induces sleep. Fomentations with flannels simply wrung out of hot water often do a great deal of good, and the best way to manage them is to have boiling water in a narrow jug, roll up the flannel, put in first one end and then the other, and then, holding the roll by each end, to twist and wring it over a basin. The heat remains in the flannel for a long while if kept rolled up to the last minute before opening and laying on the affected part.

Is it any wonder, says the Philadelphia Times, that men grow less sentimental as wives grow more careless? The little details of dress that were so taking before matrimony are quite as attractive afterward, and the wife who desires to retain her husband's affection, and the loyal admiration of those who visit her home, should look to it that she is just as daintily appointed after as before marriage. It is our solemn duty to keep our homes and ourselves up to the highest degree of perfection, remembering always to keep within the limit of our means. Yet by ingenuity the smallest income can be made to produce pleasing effects, even though in an humble way, and the woman whose aim is to put the best foot forward always, both before the world and her own family circle, will be the one to reap the reward of affectionate admiration and esteem for the efforts made to always keep up appearances.

## UNCLE TOM'S DEPARTMENT.

## MY DEAR NEPHEWS AND NIECES:—

Yes, the dog days are here, and up to their usual record. The wheat and barley are changing from green to gold under their powerful presence. I wonder why the ancients called Sirius "the dogstar," for some of you already know it is the time Sirius is above the horizon at the same part of the day with the sun, which is called "dog days". It is the brightest of the fixed stars, and the principal star in the constellation, "Canis Major." You are interested in the stars, for do I not remember how we together watched for the evening star to appear, followed by one and another, till the whole canopy overhead seemed dotted with diamonds, and as we walked down to the shore we saw the reflection in the water there. We knew some of the constellations, and the name of some of the stars you remember we quoted from the Book of Job: "Canst thou bind the sweet influence of the Pleiades, or loose the bands of Orion." And as we looked at what Tennyson called the tangle of "silver braid," and at the familiar stars of Orion, with his belt and sword, we felt how small we are, even as we do among mighty mountains. These have since Job's time—since formed by the hand of God—gone on, and will go on, till time shall be no more, while generation after generation has passed away. "All that tread the globe are but a handful to the tribes that slumber in its bosom." We are on the stage to act our little part, then follow them—how short our part, how quickly lost among the many thousands!

But we must call a halt. We have been meditating. Oh, yes, we were at the heavens. What a pity we cannot read its face in the starlight as we read a book, naming each star as quickly as we do a familiar face.

There is a man, an American too, who tells a simple story of the change such a study made in his life. He was at his daily work, not thinking of changing it, when one evening while waiting for a friend he picked up a book on astronomy to pass away the time. He read, grew interested, and read on, and finally bought the book and used it. When refused admittance to the observatory among the astronomers of his town he made one for himself, and when the learned men of his city went to consult in Germany they found this unknown man was ahead of them. To-day he is on the west coast of America. His name is known, and his fame as one of the first astronomers of his time is established. But I must remember that, as I write, the harvest sun is beating down on my nephews, and that my nieces, too, are busy with fruit and flowers, so I must just close, wishing those of you who go to Chicago a most pleasant and instructive visit, and those who are at home a happy, happy harvest time.

UNCLE TOM.

Harriet Beecher Stowe was eighty-one years old on June 14. She lives in a pretty but unpretentious gray stone cottage in Hartford, where she is cared for by her daughters. Notably active of body, for her years, she is ever on foot, and her bent, slight figure, with its white hair crowning the dark, wrinkled face, is a familiar sight in the neighborhood. She wanders in and out, and is fond of slipping across the street to the home of her sister, Mrs. Hooker, and one of her delights is to hear music sung and played.

A London critic once went all the way to Manchester to see Beerbohm Tree play "Hamlet." It was agreed that he should lunch with Tree after the performance, and so he did. Tree was mightily disturbed because his guest made no reference to the play. So, as the guest was departing, Tree followed him through the door and called to him as he descended the stairs: "Oh, I say, old man, what did you think of 'Hamlet'?" To this the departing guest answered: "Wonderful play, old man—most wonderful play ever written."

A gentleman whose taste inclined him to haunt "old curiosity" shops, where he picked up many antique and—in some instances—valuable articles for what is termed a "mere song," was one day rewarded by a singular stroke of luck. He purchased a stuffed cat—a large, beautiful black Persian, heavy and sleek-coated, as in life. It had belonged, he was told, to an old miser, who must have loved his deceased cat, or he would not have gone to the expense of having it stuffed. Examining his new purchase, he discovered that one of its eyes was loose; pursuing his investigations further, he removed the artificial eye, and from the interior turned out some hundred sovereigns, each wrapped up separately in wool and tissue paper.

## NOT THE FIRST TIME.

A two-hundred-pound old lady the other morning entered a West End street car, and found it full. Hanging by a strap, she cast black looks at an inoffensive but ungallant male beauty, who sat sucking the head of his cane.

A sudden lurch of the car flung the lady upon him with great force.

"I say, darn it, don't you know," exclaimed the youth, "you've crushed my foot to a jelly!"

"It's not the first time I've made calf's foot jelly," was the answer.

And all the other people grinned, and were glad because it had not happened to them.

## Prize for Selected Poetry.

ADA SMITHSON, GREYSTOCK, ONT.

James Hogg.

James Hogg was born in 1770. He was a Scotch peasant poet of considerable genius, and was familiarly known as *The Ettrick Shepherd*, for in his early life he followed the occupation of a shepherd. In 1801 he made the acquaintance of Scott, and assisted him in collecting ballads for the *Minstrelsy of the Scottish Border*. His finest poem is *The Queen's Wake*, a collection of ballads and tales. He was a contributor to *Blackwood* and other periodicals, and also wrote songs of much beauty. He died in 1835.

## The Skylark.

Bird of the wilderness,  
Blithesome and cumberless;  
Sweet be thy matin o'er moorland and lea!  
Emblem of happiness,  
Blest is thy dwelling-place—  
Oh, to abide in the desert with thee!

Wild is thy lay and loud,  
Far in the downy cloud;  
Love gives it energy, love gives it birth.  
Where, on thy dewy wing,  
Where art thou journeying?  
Thy lay is in heaven, thy love is on earth.

O'er fell and fountain sheen,  
O'er moor and mountain green,  
O'er the red streamer that heralds the day,  
Over the cloudlet dim,  
Over the rainbow's rim,  
Musical cherub, soar, singing, away.

Then, when the gloaming comes,  
Low in the heather blooms,  
Sweet will thy welcome and bed of love be!  
Emblem of happiness,  
Blest is thy dwelling-place—  
Oh, to abide in the desert with thee!

Lucy Larcom.

The literary career of Lucy Larcom has been an interesting one from certain points of view peculiar to herself. "Hannah Binding Shoes" is a good ballad and deserves its popularity; but the religious poems of her later life rise to a strength and enforce a respect far surpassing that shown by, or shown to, her folklore. These last are enviable for their dignity, their symmetry and their usefulness. Many of them rise to inspiration as unquestionably as anything in our devotional literature. Her most human poems—those on "Friendship," which we all know, have a serious and a sacred touch.

"A friend, it is another name for God,  
Whose love inspires all love, is all in all.  
Profane it not, lest lowest shame befall!  
Worship no idol, whether star or clod!  
Nor think that any friend is truly thine,  
Save as life's closest link with Love Divine."

## The Flying Years.

As a dream when night is done,  
As a shadow flees the sun;  
As a ship whose white sails skim  
Over the horizon dim,  
As a life complete of days  
Vanisheth from mortal ways,  
As a hope that pales to fear—  
Is the dying of the year.

As the first gold shaft of light  
Shivers through the wreck of night;  
As the thrill and stir that bring  
Promise of the budding spring;  
As new thoughts of life that rise  
Mirrored in a sick man's eyes,  
As strange joys to hearts forlorn,  
So another year is born.

Glad or sad, a dwindling span  
Is the little life of man,  
Love, and hope, and work, and tears,  
Fly before the flying years;  
Yet shall tremulous hearts grow bold  
All the story is not told,  
For around us as a sea  
Spreads God's great Eternity.

## Two Lovers.

BY GEORGE ELIOT.

Two lovers by a moss-grown spring,  
They leaned soft cheeks together there;  
Mingled the dark and sunny hair,  
And heard the wooing thrushes sing.  
O budding time!  
O love's best prime!

Two wedded from the portal sept;  
The bells made happy carollings,  
The air was soft as fanning wings,  
White petals on the pathway slept.  
O pure eyed bride!  
O tender pride!

Two faces o'er a cradle bent;  
Two hands above the head were locked;  
These pressed each other while they rocked,  
Those watched a life that love had sent.  
O solemn hour!  
O hidden power!

Two parents by the evening fire;  
The red light fell about their knees,  
On heads that rose by slow degrees,  
Like buds upon the lily spire.  
O patient life!  
O tender strife!

The two still sat together there,  
The red light shone about their knees,  
But all the heads by slow degrees  
Had gone and left that lonely pair,  
O voyage fast!  
O vanished past!

The red light shone upon the floor,  
And made the space between them wide;  
They drew their chairs up side by side,  
Their pale cheeks joined, and said "once more"  
O memories!  
O past that is!

## Puzzles.

## 1—CHARADE.

This morn the postman unto me  
A photograph did bring;  
A happy family, I must say,  
They make COMPLETE the ring.

Dear "Uncle Tom's" the centre piece,  
"Miss Armand's" at his right;  
Upon his left "yours truly" stands,  
Though LAST a sorry plight.

Sir "Henry Reeve" and "Lily Day"  
Right hand supporters, too;  
With "Charlie Edwards" on the left,  
And "Geo. Blythe" full in view.

"Miss Smithson" and our friend "Devitt"  
In the front ranks bold stand,  
Guarded well by "Mary Morrison"  
And "Geo. Rogers" on each hand.

"Friend Bobier" and "A. B. Pickett,"  
"Miss Clara Rillance," too,  
"Miss Graham" and the "Snider" boys,  
Are taken PRIME the crew.

"A Borrow(ed) man" stands at the head,  
Commanding one and all,  
And now, dear friends, a kind good-night,  
And into bed I'll crawl.

St. Paul, Minn.

FAIR BROTHER.

## 2—PENTAGON.

1—A letter. 2—A boy's name. 3—A person who cultivates nature. 4—Resembling the poetry of Homer. 5—A variety of sheep having very fine wool. 6—Circles. 7—Value.  
ADA SMITHSON.

## 3—TRANSPOSITION.

A merry boy one summer day  
Within a garden fair was found;  
His heart was full of childish play,  
While sunshine beamed on all around;  
When o'er his head a bird he spied,  
Alighting on a branching tree,  
And, picking up a FIRST, he said,  
"Now, swift and sure my aim shall be!"

Just then there came a gush of song  
So sweet, the boy grew hushed and still  
He heard the SECOND in LAST so strong,  
Which seemed the summer air to fill,  
His arm fell down, his heart was stirred,  
He felt he could not harm the bird.

Geo. W. Blyth.

## 4—DECAPITATION.

In our mystic circle,  
Another friend has come  
To try his hand at posing,  
And aid us in the Dom.

Our souvenir was a great success,  
And I would to you say—  
If you have not received one,  
Send for it—without delay!

What nice perception has been shown  
By our good Uncle Tom,  
In so tastefully arranging the portraits  
Of those who are in the Dom.

This prattling talk I now must stop,  
And all this at once to the mail;  
My rhyme has come to a ONE, and may  
To London now set sail.

ADA SMITHSON.

## 5—ENIGMA.

I am a word of eight letters.  
My 1, 2, 3, is to fondle.  
My 8, 7, 3, is cunning.  
My 3, 8, 1, is to touch lightly.  
My 3, 2, 8, is a plant.  
My 3, 2, 8, 7, is to lacerate.  
My 1, 6, 3, is a deep vessel.  
My 4, 6, 3, is a small bed.  
My 2, 8, 3, is to take food.  
My 2, 4, 5, 6, is a sound reflected.  
My 3, 8, 1, 2, is a narrow fillet.  
My 3, 8, 7, 2, is a weed.  
My 4, 8, 7, 3, is a carriage with two wheels.  
My 3, 6, 7, 4, 5, is a light.  
My 3, 6, 1, is a toy.  
My whole is a river in Russia.

IRENE M. CRAIG.

## 6—RIDDLE.

Tho' I'm not very large I play a great part—  
In cottage and mansion, and in every mart;  
But I'm very intractable, often 'tis said,  
That, though you may drive me, I cannot be led;  
I boast of no beauty, but I'm in great demand,  
And wherever you are I am always on hand.

ADA ARMAND.

## 7—DIAMOND.

1—In the ADVOCATE. 2—To wrap up in a veil. 3—A sort of mushroom. 4—An ornamental head-dress. 5—To insnare. 6—To suffer. 7—In the ADVOCATE.  
ADA ARMAND.

## 8—TRANSPOSITION.

An innocent man was condemned to die  
At the first one of the bell,  
With face all two he made a THREE,  
But fruitless his words all fell,  
The scaffold he mounts—ah! will he thus die,  
So guiltless, brave and proud?  
Ah, no; for see, he has made a FOUR  
And is lost in the surging crowd.

ADA ARMAND.

## 9—CHARADES.

(A). First, three-fourths of a pole. Second, used in summer. Third, an animal. Total, a guardian of the peace.  
(B). First, a house of entertainment. Second, to harden. Third, masticated. Total, passionate.  
(C). First, equal. Second, a title. Third, strong. Total, venial.  
H. REEVE.

## Answers to July 1st Puzzles.

1—Parasol. 2—Inherit. 3—Light-house. 4—Read, dear. 5—Misanthrope. 6—A fish. 7—Charlie Edwards.

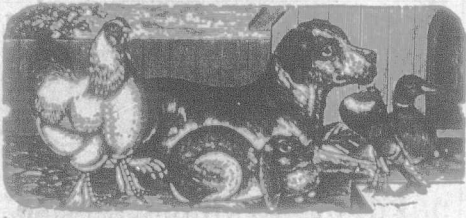
## Names of Those Who Have Sent Correct Answers to July 1st Puzzles.

Henry Reeve, Oliver Snider, Addison Snider, Josie Sheehan, Geo. W. Blyth, I. Irvine Devitt, Ada Smithson, Joshua Umbach, Morley Smithson, A. R. Borrowman.

Pat had been suffering from a severe and prolonged attack of la grippe. "Well, Pat," said a friend meeting him on the street, "I hear you've been having a pretty hard time of it." "Faith an' I have," said Pat. "An' it's the right name they give to it, too, for when it takes hold of a man it's no mind to let go. It took me thraa wakes to fale better after I was entoirely well."

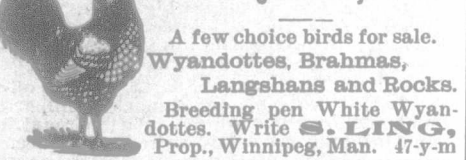


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Fort Rouge Poultry Yards.



A few choice birds for sale. Wyandottes, Brahmas, Langshans and Rocks. Breeding pen White Wyandottes. Write S. LING, Prop., Winnipeg, Man. 47-y-m

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SASKATOON, SASK., N.W.T. Breeder of W. Wyandottes, R. C. W. Leghorns, Cornish Indian Games & Pekin Ducks. Stock and eggs for sale. Eggs, \$2.25 per 15, or \$4.00 per 30. Duck Eggs, \$2.00 per 9. Won first, second and third on Leghorns at Industrial, Winnipeg, 1892. Wyandotte yard is headed by Snowflake, winner of first at Provincial, 1891, as best Cockerel in exhibition, and second at Provincial, 1892, in strong competition, being beaten by his sire. Games second to none. 43-y-m

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Under the authority of Sec. 18, 19, 20, 22, and 26 of the Veterinary Association Act, 1890 (53 Vic., Chap. 60), the following persons ONLY are entitled to practice as Veterinary Surgeons in the Province of Manitoba, or to collect fees for services rendered as such.

- Alton, W. W. Wawanessa. Dunbar, W. A. Winnipeg. Dann, Joseph. Deloraine. Fisher, John Frederick. Brandon. Fisher, Peter M. Melita. Hinman, Willet J. Winnipeg. Hopkins, Arthur George. Hartney. Irwin, John James. Stonewall. Lipssett, J. H. Holland. Little, Charles. Winnipeg. Little, William. Boissevain. Little, Michael. Pilot Mound. Livingston, Archibald M. Melita. McFadden, D. H. Emerson. McMillan, Adam. Oak Lake. McNaught, David. Rapid City. Morrison, Wm. McLeod. Glenboro. Murray, George P. Morden. McLoughrey, R. A. Elkhorn. Poole, John Wesley. Carman. Rutherford, John Gunion. Portage la Prairie. Shoults, Wm. A. Gladstone. Smith, Henry D. Winnipeg. Spiers, John. Virden. Taylor, William Ralph. Portage la Prairie. Thompson, S. J. Carberry. Torrance, Frederick. Brandon. Walker, J. St. Clair. Boissevain. Young, M. Manitou.

The practice of the veterinary profession in Manitoba by any other person is in direct contravention of the statute and renders him liable to prosecution. 47-1-f-m H. D. SMITH, REGISTRAR.

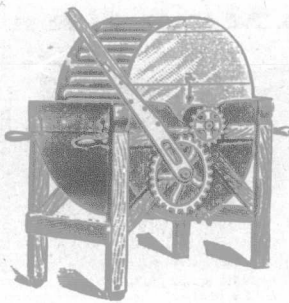
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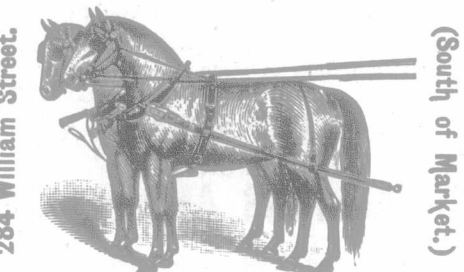
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Table with columns: EAST BOUND, WEST BOUND, STATIONS, Times. Lists train schedules between Morris and Brandon.

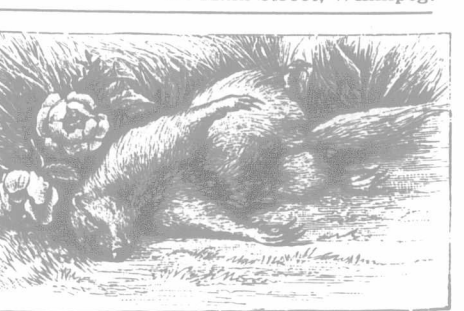
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Age.	Mutual Reserve.	Old Line Companies.
25	\$ 9 33	\$19 89
30	9 79	22 70
35	10 81	26 38
40	12 09	31 30
45	13 57	37 97
50	16 02	47 18
55	19 71	59 91
60	25 42	77 62

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**TABLE COMPILED FROM SWORN REPORTS.**

Organizations.	Mortality each \$1,000 in Force.	Expenses each \$1,000 in Force.	Net Assets each \$100 Liability.
Equitable, 1891	\$11 11	\$10 15	\$134 00
Mutual, 1891	13 54	10 57	108 00
New York Life, '92	11 46	11 11	114 00
Mutual Reserve, '92	11 43	4 60	275 00

Circulars explaining the system of the Mutual Reserve will be forwarded on application, or information furnished by any of the Agents of the Company throughout Manitoba, Northwest Territories and British Columbia, or by applying to JAMES THOMSON, Manager for Northwest Territories, Calgary, Alberta. STANLEY HENDERSON, Manager for British Columbia, Vancouver; or at the Head Office for Northwest Canada, McIntyre Block, Winnipeg.

47-1-f-m **A. R. McNICHOL, General Manager.**

This is **A. GIBSON'S** Space.

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He Buys Butter from Farmers

And Does Not Object to

**EGGS, POULTRY, PORK,** or the produce of the farmer in general, when in good order. If you have anything to sell, or want to buy FRUIT or nice TEA, it would pay you and be best to call, as we think he has some special offers he would like to tell you about.

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41-y-m 456 ALEXANDER ST.,  
**WINNIPEG, MAN.**

**WE ARE STILL SELLING THOSE CHOICE SUITS AT BOTTOM PRICES**

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IT WILL BE  
A Pleasure to Inspect the Values, if You  
Do Not Buy.

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MERCHANT TAILOR,  
480 Main Street Winnipeg, Man.  
44-y-m

**JOHN E. SMITH,**

Beresford Stock Farm,  
Has now, in the CITY OF BRANDON, at his new Stock Emporium,

**SHORTHORN and HEREFORD BULLS, also COWS and HEIFERS of BOTH BREEDS.**

**Clydesdale Stallions, Mares & Fillies**

Prices low and terms easy. Write or wire.  
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MANUFACTURERS OF TRACTION AND PLAIN ENGINES  
WITH IMPROVED  
**STRAW-BURNER.** It is pronounced by experts to be AT THE HEAD OF THE LIST.

SAVING IN WATER AND D POWERFUL in Operation and Duration.

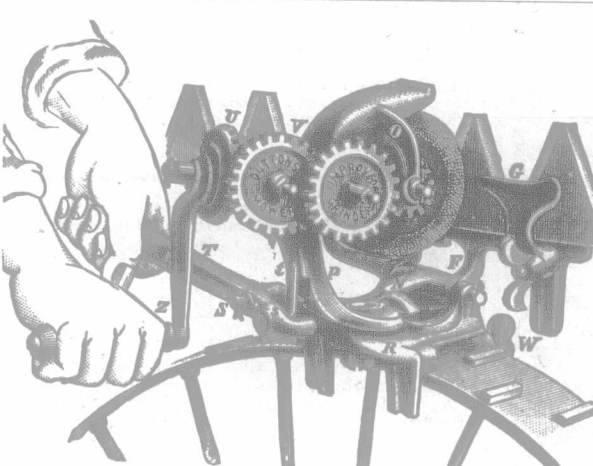
**BURNS FUEL most economically.**  
OUR IMPROVED IRONCLAD J. I. C. AGITATOR  
**SEPARATOR has no equal.**

BEFORE buying any other, } PRINCESS AVENUE, WINNIPEG.  
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**THE BUCKLE PRINTING CO.**

Have Refitted and are Printing again. Improved Premises and Plant. New Type and Stock.

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**THE NEW DUTTON**  
Mower and Binder Knife Grinder

Stone Always Wet. No Heating of Sections

Keeps level as good as new. Fastens to any mower wheel.

To introduce machines will sell a limited number at wholesale price to farmers. For descriptive circular and price write the

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WINNIPEG, MANITOBA, \*  
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—CALL AT—

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Lumber, Lath, Shingles, Lime, Hair, Brick, Mouldings, Sash, Doors, Frames, Etc., and Get His Prices.

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48-2-y-m

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Butter, Cheese, and Farm Produce  
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Electric Appliances for all parts of the body. Cures Rheumatism, Dyspepsia, Sore Eyes, Sciatica, Lumbago, Kidney trouble, Weak Limbs, Neuralgia, Catarrh, Headache, Asthma, Bronchitis, Chronic Colds, etc.  
General Agent,  
**R. B. THOMPSON,**  
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does not necessarily imply content and happiness on the part of its possessor. It is not money that gives us pleasure, but the things that money will buy.

Some people spend money foolishly, and fancy they find enjoyment in doing it, but the pleasure is more fancied than real. No man who buys

**The McCormick No. 4 Steel Mower**

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We are building the No. 4 to meet the demand for a really superior mower, one that embodies the prime requisites of durability, convenience and light draft.

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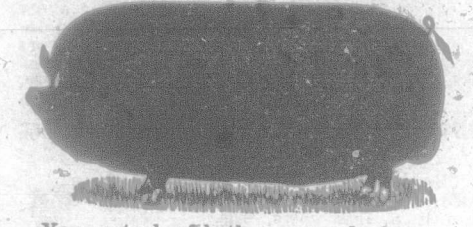


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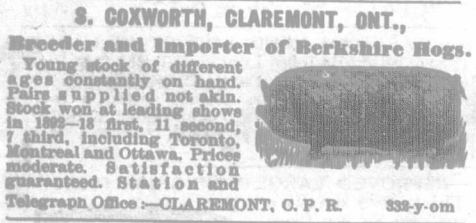
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Young stock of both sexes and of various ages for sale. Show Rams and Ewes, Ram Lambs and Ewe Lambs. Come and see, or address—

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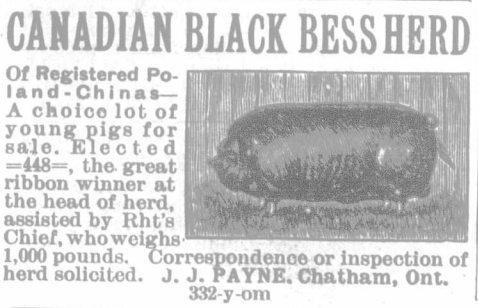
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and other subjects required by young men intending to be farmers.  
For circular giving full information as to cost, terms of admission, etc., apply to  
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PRESIDENT.

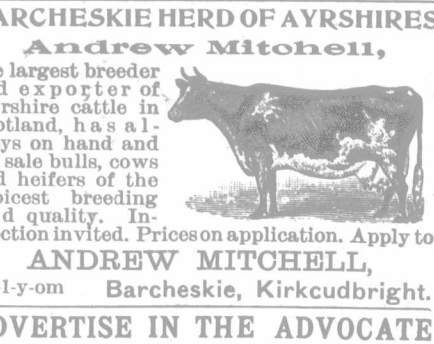
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Will knit 10 pairs socks per day. Will do all work any plain circular knitting machine will do, from homeseam or factory yarn. The most practical family knitter on the market. A child can operate it. Strong, Durable, Simple, Rapid. We guarantee every machine to do good work. Beware of imitations. Agents wanted. Write for particulars.  
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USE THE  
**Champion Cooler**  
and you need not. It is for the use of the farmer immediately after milking, and removes all the animal heat and odors at once. We guarantee that milk will keep from 12 to 24 hours longer by its use. Easily cleaned. Never gets out of order. Prices according to size of dairy, \$7 to \$10. Send for our descriptive folder. We want an agent in every town, and will allow a liberal commission. Address,  
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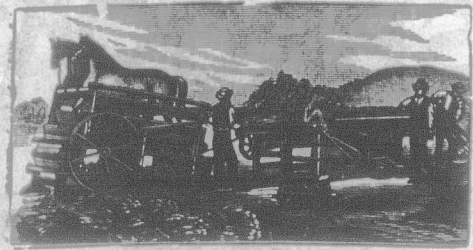


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131 birds scoring 90 to 96. B. and W. F. Rocks, Wb. and S. Wyandottes, Wh. and Br. Leg-horns, and Bronze Turkeys. 500 selected birds, pairs, trios and pens, mated for best results. 300 Toms and Hens sired by 44 and 47 lb. Toms. 25-sears a breeder. Valuable illustrated circular, free. **F. M. MURGER**, DeKalb, Ill. Editor of the "Poultry Churn," 25 cts. per year. 327-1-y-om

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**CANADA'S GREAT INDUSTRIAL FAIR**  
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THE GREAT LIVE STOCK AND AGRICULTURAL EXPOSITION OF THE DOMINION,  
**SEPTEMBER 4th to 16th, 1893.**  
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New Horse Stables, New Cattle Sheds, and many other New Buildings.  
\$30,000 in prizes, principally for Live Stock, Agricultural and Dairy Products. Entries for Live Stock positively close August 12th, for Agricultural Products August 19th, and Poultry August 26th. New and Varied Attractions—Cheap Excursions on all the Railroads. The People's Great Annual Holiday Outing For Prize Lists, Entry Forms and all particulars, drop a Post Card to  
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**SOFA, - CHAIR - AND - BED - SPRINGS**  
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RAPIDLY TAKING THE PLACE OF SHINGLES.

Is put up in rolls of 108 square feet each, 36 feet long by 3 feet wide, and cost 2 1/2c. per square foot, thus affording a light, durable and inexpensive roofing suitable for buildings of every description, and can be laid by ordinary workmen. One man will lay ten square in a day, which brings the cost of Mica Roofing about 75c. per square cheaper than shingles. Special terms to dealers who buy our Mica Roofing to sell again. Orders and correspondence answered promptly.

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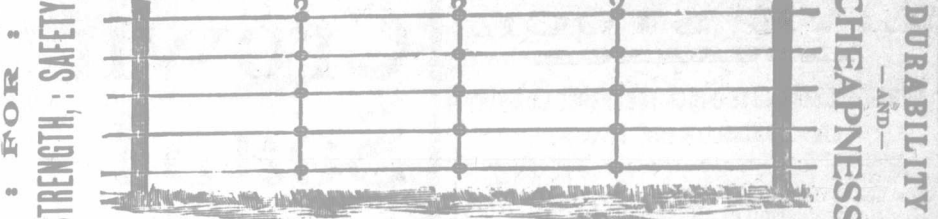
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Are the best finished and finest shooting guns in the world. Write for Catalogue.  
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**W. W. GREENER, Birmingham, England.**

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AS BUILT BY Ingersoll, - Ontario.

Apply to the above for Farm Rights and Agencies to build in any part of the Dominion.  
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THE QUICKEST ROUTE TO THE OLD COUNTRY. The name of this line is a guarantee of safety, speed and comfort. Every steamer of this popular company is of the highest class, and every passenger advertises the line.

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OF LAND FOR SALE FROM \$5 TO \$10 PER ACRE.

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This is a young and rising country, with productive powers for grain, fruits, vegetables, stock and poultry raising, second to none in America.

We offer lands on the Islands of the Gulf of Georgia and on the water front of Mainland, where there are no cold winters, no snow and no frost, with good facilities for marketing. "Settlers located on Government lands." For further particulars apply to  
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McLAREN'S COOK'S FRIEND

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FRUIT EVAPORATOR

THE ZIMMERMAN The Standard Machine Different sizes and prices. Illustrated Catalogue free. THE BLYMYER IRON WORKS CO., Cincinnati, O.  
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It will pay you to purchase a farm from the Company at reasonable prices in well-settled districts, convenient to churches, railways and schools, rather than to take up homestead land in outlying parts of the country.

Full and accurate descriptions of Company's lands will be furnished to intending purchasers on application to the undersigned, either by letter or personally, at the offices of the Company, Main and York Streets, Winnipeg.

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Keweenaw,  
Langley,

Lethbridge,  
Lower Fort Garry,  
Macleod,  
Manitou,  
Mattawa,  
Morden,  
Nelson,  
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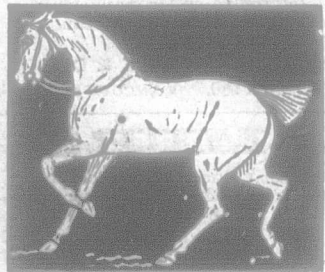
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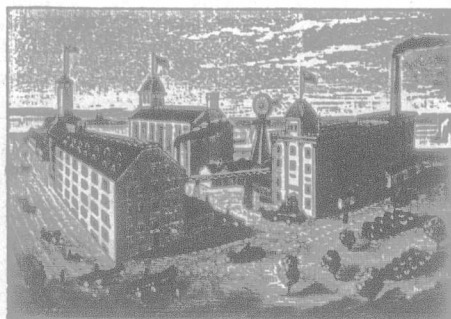
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