

FARMER'S ADVOCATE

AND HOME MAGAZINE

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THE FARMER'S ADVOCATE & HOME MAGAZINE

WILLIAM WHELD, EDITOR AND PROPRIETOR

THE LEADING AGRICULTURAL JOURNAL PUBLISHED IN THE DOMINION.

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

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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, our object being to encourage farmers who have enjoyed few educational advantages.

3.—Should one or more essays, in addition to the one receiving the first prize, present a different view of the question, a second prize will be awarded, but the payment will be in agricultural books. First prize essayists may choose books or money, or part of both. Selections of books from our advertised list must be sent in not later than the 15th of the month in which the essays appear. Second prize essayists may order books for any amount not exceeding \$3.00, but no balance will be remitted in cash. When first prize essayists mention nothing about books, we will remit the money.

A prize of \$5 has been awarded to Mr. W. A. Hale, of Sherbrooke, P. Q., for the best essay on *How Shall we Best Protect our Flocks from the Ravages of the Dog.*

A prize of \$5 will be given for the best essay on *The Most Successful System of Feeding and Caring for Cows in Stables in Autumn and Winter, Having Special Regard for Purity of the Product.* Essay to be in this office by the 10th of September.

A prize of \$5 will be given for the best essay on *The Management of Agricultural Exhibitions.* Essay to be in this office by the 10th of October.

Until dogs are legislated out of existence, or a new class of dog-owners arises, these pests will be a great drawback to sheep-raising.

Editorial.

Low Railroad Rates.

We have, during the past few months, devoted some time to endeavoring to obtain from the various railroad companies as advantageous rates from the Atlantic and Pacific coasts and intermediate points, for those who wish to visit the western part of Ontario, as has been given to induce our inhabitants to visit other places on all parts of the continent. We have frequently called attention to this western portion of Ontario as the finest agricultural part of the continent, which statement the existence of numerous large and successful agricultural exhibitions tends to prove. Many would like to visit Western Ontario to secure good farm stock. Many would see advantages here that have not been realized elsewhere, although glowingly painted on distributed literature, and by means of which so many have been misled, and realized the fact when too late. The cities of London and Toronto each appointed delegates from their civic bodies to act with us in endeavoring to secure low rates during the holding of our exhibitions, and we are pleased to inform you that we have been able to make a slight impression, and that better rates will be given this year than heretofore. But the world was not made in a day. The M. C. R. (or Canada Southern) and C. P. R. have courteously listened and acceded partially to our request.

Our Stock Prizes.

During the past year we have awarded some valuable stock prizes to farmers, as a reward for sending us new subscribers. In this way we have been able to put pure bred animals in neighborhoods where they have not previously been well represented, thereby doing good to the pure bred trade, as well as to the winners and the neighborhood to which they have gone. We intend to continue these prizes during the remainder of this year and 1890. See the list now offered in the advertising columns, page 295. This list will be much enlarged during the coming year. All the animals offered are from the flocks and herds of well-known and very reliable breeders. When at Messrs. Green Bros., Innerkip, Ont., we were so much pleased with his recent importation of large Yorkshire pigs—which experts claim are the coming bacon hog—that we made arrangements whereby we can offer as a subscription prize, a pair of imported pigs or a pair bred from imported sire and dam, for seventy new subscribers. When sent out these pigs will be four months old or under. They are well bred and of good quality, and may be seen at the Toronto Industrial or Provincial Fair at Messrs. Green Bros. pens.

All our subscription prizes have given satisfaction wherever awarded. We guarantee satisfaction to all future winners.

On the Wing.

(Continued from August number.)

On our return journey from Detroit we took one of the steamers running to Sarnia. We pass Belle Isle, which contains seven hundred acres of land. This is Detroit's park, and is connected with the city by a magnificent iron bridge. Ornamental bridges, islands and lakes are seen. In the lakes are beautiful pleasure boats. A gondola passes near to us. At the south end of the island carriages are seen driving in all directions, at the north end hundreds of men are at work—the wheelbarrow brigade is seen in long lines excavating more lakes, building mounds, roads, etc., etc. We pass through Lake St. Clair, and the canal to which the legislators of America have recently had their attention drawn. As we passed through there happened to be but two vessels in it, although the river and lake were literally swarming with them. The boat we were on was a fast one, and passed numerous craft. The St. Clair Flats cover a large extent of mileage, and consist of shallow waters, in which in many places rushes and flags grow. Along the main channel of the river on the American side numerous pleasure houses have been built on spiles driven into the mud below the water. Many wealthy Americans come here to fish and live on the water. A fine summer hotel is here, called the Oaklands. Grounds have been made around it, and it is a popular pleasure resort. The circuitous route of the river, the clear blue water, and the numerous vessels continually met, make this an enjoyable trip, one far surpassing in interest to us either of the world-renowned but dirty, black, stinking rivers, the Thames (Eng.) or Clyde. After about five hours of as pleasant a boat ride as ever we had, we land in Sarnia.

Detroit is the most progressive city on our frontier—in fact, taking everything into consideration, we would prefer to live there than in any other inland city in the Union. Windsor, *vis-a-vis*, although rapidly progressing, is but a mere shanty in comparison to Detroit. Sarnia is not yet as good as Windsor, and Port Huron, that is noised all over the States, is not in our estimation as well laid out, or as well kept up, nor as nice a place to live in as Sarnia.

Two miles from Sarnia there is a fine natural beach. A farmer living there had such a demand from visitors to spend a few days at his place he was under the necessity of adding building to building, until finally a company was formed to erect a summer hotel on his place. This is now completed, and is a commodious, comfortable summer resort, and at reasonable rates. In the

United States, for instance, \$3 to \$7 per day is charged at the pleasure and health resorts, while here at the Wisbeach good accommodation can be had for from \$7 to \$10 per week. Further, here the water is cooler and purer than in any southern port; fishing is good and fish good to eat when caught, which is not the case at all places we have visited. The scenery is good and the air all that can be desired. Back of Sarnia, extends for three hundred miles east, and one hundred north and south, a fine tract of farming land, all well watered, with spring brooks and running streams, and producing the most valuable life and health-giving products, where stock are free from disease, where horses are raised that endure 25 per cent. more work than those in the south, where men and women are raised that have stamina and endurance, and live and work to a good old age. Surely we, as Canadians, have much to be proud of. Many people think if they have seen Niagara Falls, or the Yosemite Valley, or ran across the Rockies, they have seen America; but, if they have not taken this trip from London to Detroit, along the Southern Railway, thence to Sarnia, and along the Grand Trunk to London, there is much of the beautiful in America that they have not seen.

Canadian Pacific Railway Lands.

Twenty-five million acres, consisting of lands fairly fit for settlement, were granted to this company by the Dominion Government as a part of the subsidy for the construction of the railway. Out of this the company have sold 10,000,000 acres, leaving 15,000,000 now in their hands for sale. The bulk of these lands are located within 25 miles of their main line. These have been all carefully examined and selected, and the information thus obtained is open for inspection at the company's land office in Winnipeg. Purchasers have therefore the advantage of being able to choose the class of land they are in search of without losing valuable time in exploring the country. The regulations governing the sale of land are very simple. There are no conditions of settlement exacted. The land can be secured by the payment of one-tenth of the purchase money, the balance being spread over nine years at 6 per cent. interest.

Round trip land explorer's tickets can be obtained at Winnipeg, the cost of which is credited on the land purchased, thus enabling prospectors to view the land personally, before buying, free of cost.

To show how the demand is constantly increasing for the company's lands, it is sufficient to show the amount of land sold for the last three years: 1887, 60,000 acres for \$204,000; 1888, 162,000 acres for \$554,000; 1889, for the first 6 months of the year, 146,000 acres for \$537,766.

These figures show that the average price of railway lands is now \$3.70 an acre. The prices range from \$2.50 per acre for grazing or hay lands, up to \$7.00 for the highest quality of farming land.

In addition to the lands belonging to the Canadian Pacific Co., they control the valuable lands in the choicest district of Southern Manitoba, being those received for the construction of the Manitoba South-western Colonization Railway. These comprise over a million acres, in a territory well provided with railways, market towns, roads, schools and churches. They are sold at an average price of \$5.00 per acre, a low figure for lands adjoining well-worked farms, and possessing all the advantages of an old settled district.

The company have recently published some valuable maps, etc., showing the lands for sale in the different districts. These and other information, valuable to the intending visitor, can be obtained free of cost by sending your name to L. A. Hamilton, C. P. R. Land Commissioner, Winnipeg.

Some of the Peculiarities of Manitoba and the North-west Explained.

Before continuing the description of the country, evidence of the settlers, etc., we will explain some of the peculiarities, that our readers may better understand future descriptions. The soil in Manitoba is not at all like that in eastern Canada. In what is known as the Red River valley, and in many places in the valley of the Assiniboine, the soil is of the same quality, a rich, black mould, to the depth of from two to six feet, and will probably average, over large tracts, three feet deep. In other sections, this mould is mixed with more or less sand, varying in thickness from four to twenty-four inches. The quality of the subsoil is of great moment. When it is composed of a good rich clay, and has good natural drainage, it is first-class. But there is land with a shallow surface soil overlying sand or gravel, which may produce a good crop for a year or two, especially when wet, but will soon become exhausted, and will always be a failure in a dry year. Though settlers have done and will do well on such land for a time, I think it unwise to settle on it. There are millions of acres possessing a good subsoil to be had for a trifling advance in price. In the Red River valley the land is heavy and has occasionally suffered from excessive moisture, some places being flooded at such times; for this reason, it is not as well settled as one would expect. Still it has one advantage, and a great one, viz., the apparently inexhaustible qualities of the soil. Crops can be grown on the same land year after year, and by occasionally summer-fallowing, the yield seems undiminished. Still, even here there are farms so badly worked and dirty that the products are much lessened; good farming would remedy this, however. On the east side of the Red River, water is generally easily obtained, and flowing wells are frequent; but on the west side, especially toward the south, it is frequently scarce or bad, good water being hard to get. As an instance, we would mention the Lowe farm, west of Morris, the land there is grand, but there is no good water nearer than ten miles, and they have to draw all they use this distance during the summer season. Such cases are occasionally found, but they are not insurmountable barriers, as we eastern men would suppose. Artesian wells will doubtless overcome this difficulty. There is much land west of the Red River valley that will be found most profitable to crop every other year. What is cropped this year should be summer-fallowed next. Not fall-plowed, but plowed after the seeding is done, and harrowed and rolled to make as solid as possible. Some of the most successful farmers roll after each harrowing. Plowing is generally done but once, and enough harrowing only given to keep weeds from growing. When the subsoil is good, land thus treated can be relied on for a crop the next year, and is capable of withstanding severe droughts. Much of this land is benefitted by the application of farm yard manure which has proved useless up to the present time on some of the heavier and damper lands near the Red River. It must not be understood that the only land that can be cropped yearly is in the Red River valley. There are doubtless tracts possessing the same qualities beyond, but much of the western land is most profitable when handled in this way, and it certainly makes farming more easy, less hurried and more certain.

The prairie when once broken is everywhere easily worked, especially in southern and western Manitoba. It is not an infrequent thing to find a farmer who has prepared the soil and put in 100 acres of grain with one team.

The grass question, especially in dry years, seems one of vital importance. The hay and grain land are separate in this country. On grain land the grass is short and much thinner than in Ontario. On the hay, or what eastern men would call semi-marsh lands, grain could not be successfully grown without arterial drainage. When thoroughly drained they would not successfully grow hay. Here the different grades of land are generally in large tracts, hence the difficulty of obtaining hay in some places. Yet it can be procured in great abundance, though in some cases it has to be drawn several miles. This is sometimes overcome by putting up cattle sheds on the hay land and wintering stock there, in other instances by saving their straw and chaff. Neither cultivated grasses nor clovers have been generally successful, though here and there a few good fields of timothy have been grown, especially in damp seasons, but no other cultivated variety has as yet proved of value, and timothy only to a limited extent. Speaking of the country generally, the cultivation of some of the native grasses seems to give the most encouraging results. Still, nothing can be determined definitely by the tests yet made. In a few places a little white clover may be seen and sometimes a few heads of Alsike. These seem to grow best on places where the clay subsoil has become mixed with the surface mould. I have also been told of red clover growing on similar places but did not see any.

Farmers frequently send their cattle, with the exception of a few milch cows, out with a large number of others, which are herded for the summer months on grass land near water, for \$1.00 to \$1.50 per head for the season. The man who takes charge of the herd becomes responsible for the safe return of all animals committed to his charge. Horses are taken for \$1.50 to \$2.00 per head per season. Other men make a business of wintering cattle, and put up large quantities of hay and erect temporary stables. The usual charge is from \$5 to \$7 per head for the winter months. Others again cut and put up hay for farmers, sometimes they receive \$1 per ton, sometimes 25 to 50 cents per ton more. Hundreds of tons are annually put up for \$1.00 per ton. This hay when well saved is very nutritious, especially for cattle. Milk from cows fed on it, whether as hay or grass, is very rich and produces dairy goods of fine color and quality.

The bad water in Manitoba has been the theme of many—it has been made far too much of. In certain sections, and on certain farms, difficulty has been experienced. Boring can be done very rapidly and cheaply; a deep well costs but little money. In fact, a well 100 feet deep is within the reach of the most humble, but very frequently good water in abundance can be obtained at a much less depth. It is only in a limited number of sections where it is as scarce as at the Lowe Farm, even where poor or bad water is plentiful. At Deloraine, south of Regina, at the Crofter settlements, north of Moosomin, and a few other places, difficulty has been experienced, but the boring machine will doubtless overcome this. The alkali lands in Manitoba are not a myth, they exist in reality, here and there, but generally soon work out when cultivated. The settlers do not dread them, as eastern men are led to believe. There is a terrible howl about the fuel question. The hardships undergone in obtaining wood has been enlarged beyond all measure. Novelists have written thrilling stories of this hardship, travellers have vied with them in endeavoring to substantiate their ridiculous falsehoods. It is true there are places where wood is distant, but it can always be bought of fairly good quality and in abundant supply at any of the villages at from \$2.00 to \$5.00 per cord. I would put the average price of soft wood at \$3.00 per cord, oak at \$4.00.

Coal is plentiful. The Galt mine is now being worked and others will be rapidly opened up. But to the farmers and settlers, straw, of which

they nearly all have more than they use, and will have for years to come, affords the cheapest and to my mind the best fuel. Stoves are built for burning it or hay. There are three different patterns offered, two of which are controlled by Mr. McBride, Winnipeg, and one by Mr. Stephenson, of the Lowe Farm, at Morris. Two at least of these need no more attention than a coal or wood stove, and do not require firing any oftener. Their use does not make the litter one would suppose, in fact we would put them ahead of a wood stove in this respect. Mr. Stephenson's is especially good in this particular. Those I saw in operation throw out much heat, during the whole time combustion is going on, and I would consider them very suitable for use as heaters or cookers. They effectually settle the fuel question. There are a good many of them in use in the "Prairie States," also a number in Manitoba. All I saw were giving good satisfaction. Not one pound of wood or coal has been burned on the Lowe Farm for several years. Nor has the manager any desire to change from straw to any other kind of fuel.

The question of climate has been fully dealt with in this issue by the Hon. Thos. Greenway. And after hearing the testimony of a great many farmers scattered over the Province we quite concur with his views.

A great many eastern farmers believe that all the good land is taken up. This is a great mistake, there are millions of acres of grand land to be bought at from \$2.50 to \$10 per acre. There never was a time in the history of the Canadian North-west when as great advantages were offered to settlers as now. Land can be bought near any of the flourishing villages at from \$5 to \$8 per acre, which is infinitely cheaper and better for the settler than getting land for nothing and having to haul his wheat from 20 to 30 miles as many of the pioneers had to do.

The pioneer period of the country is over. Churches and schools are established in all settlements. The railroad facilities are good and constantly increasing in mileage. The main line of the C. P. R. and two branches traverse the country. The Manitoba & Northwestern opens up a splendid section, especially adapted for mixed farming and stock raising. The Northern Pacific & Manitoba R.R. have obtained a foothold and are rapidly building new lines in various directions, all of which will soon be in operation. Hereafter life in Manitoba will be far more pleasant and profitable.

The drought of this year has been fully discussed by the article above alluded to.

Frequently we hear that Mr. So-and-so went to the North-west with so much money and now he is not worth \$1. That is true in some cases, not only in Manitoba but in every other country. Men make mistakes and lose their money; misfortune overtakes some and they lose, here and everywhere; yet I do not believe there is a Province or State in America where the farmers are more prosperous and there are very few places where they are doing as well. They are the most prosperous class in Manitoba. All the members of the Legislature but twelve, the Premier and the Minister of Public Works, are farmers. The social conditions of the country are good. The gopher question at the present time is a serious one, but as settlement advances it will depart and soon become a thing of the past, if the farmers act wisely.

We must again request subscribers sending questions to be answered to write their name and address in full on the paper on which the questions are written. Many fail to receive an answer for this reason.

Those who attend the Provincial Exhibition to be held in London this year, should visit the trial grounds of John S. Pearce & Co., they are situated on Dundas St., just beyond the eastern terminus of the street railway, and close to the fair grounds. About 700 varieties of flowers, garden vegetables, field roots, corn, potatoes, etc., are being tested. These grounds are kept in splendid order, and will well repay a visit. A permit will be given all interested parties who call at the store, 119 Dundas St., or at the stand in the agricultural hall, occupied by the firm during the week of the show.

The Toronto Industrial Exhibition.

We are pleased to note that the Toronto Industrial Exhibition, which opens on the 9th of September, and continues until the 21st of the month, will be of especial interest to all classes. It has been found necessary to make additional accommodation on the grounds, and several new, well-equipped buildings have been erected for the better display of the different classes of stock. There will be many exhibits superior to those of last year in a number of departments, and there will as well be many additions to the lists. By a reference to the official programme, it will be seen that a rare treat is in store for all who visit the exhibition.

British Columbia will exhibit its mineral and agricultural products, lumber, etc., which will occupy an entire court. The Ontario Agricultural College, of Guelph, will exhibit interesting specimens of grain and corn, with statistics of experiments, etc. About 600 head of the best cattle in Ontario will be on view, and 800 head of horses, embracing the finest breeds obtainable, also about 400 head of sheep, 200 head of pigs, and about 3000 poultry, including rare breeds of pigeons and other fowls. Some 500 dogs will be exhibited the second week at the International Dog Show. The horticultural section will be fully up to the mark, with many additions; while the arts and manufactures will, as usual, be largely represented.

Nearly the whole sum offered for prizes will be given for live stock, dairy, agricultural and horticultural products, and ladies' work. Prizes in the horse department have been increased; and a special prize of \$100 for sheep is offered by the American Shropshire Sheep Association for that breed of sheep. The prizes in the poultry department have been increased by the addition of many new varieties, and by making all the sections for single birds instead of for pairs.

Among the novelties will be the dog trotting matches. Master Willie Ketchum, of Brighton, will exhibit his famous trotting dog "Doc," a pure Irish setter, a splendid looking animal, and valued at \$5,000. He is a clipper on the trotting course, and so far has walked away from his antagonists, both dogs and ponies. He has defeated two of the fastest ponies in Canada, and it has been stated, on excellent authority, that there is not a twelve-hands pony on the continent that can down "Doc" at square trotting. His record has been made in straight heats. Those who visit the exhibition will have an opportunity of witnessing "Doc" trot; his owner having issued challenges to owners of the trotting dogs, and of ponies twelve-hands high, for a purse which is offered by the exhibition.

An attraction of great interest will be Pain's historical spectacular production, the "Burning of Moscow." The secretary tells us that anything approaching to it in thrilling effects, grand displays, and magnificent pageantry, has never before been witnessed in Canada. As a finely historical event, nothing has ever approached in heroism the burning of Moscow; and the circumstances that attended it were sufficiently imposing and significant to make its repetition in force a thing of deep interest to all classes of public.

Specially reduced fares will prevail on all railroads during the two weeks of the exhibition. Prize lists and programmes are to be obtained from the Secretary, H. J. Hill, Toronto.

When in Toronto a few days ago we called in at the Steele Bros. Company's handsome new retail seed establishment, 132 King St. east, which we must say, is a credit to the Dominion. We there saw several new varieties of fall wheat, including the "Golden Cross." Their fall circular of wheat, bulbs, and winter-flowering house plants, is now ready; it is both beautiful and instructive. When in the city at exhibition make a point to call there. Opposite St. Lawrence Market.

The Ontario Agricultural College.

This institution deserves the attention of farmers' sons, who intend to make farming their occupation. It is designed to impart a knowledge of agriculture that will enable the student to pursue his calling with intelligence and success. We have, on some occasions, found it necessary to criticise the management of the farm, and even the officials of the institution now admit that there was occasion for it. It is a pleasure to us to note the improved management. A determined effort is being made to clean the farm and put it in good shape. President Mills assures us that the experimental work is being pushed with greater vigor and care than ever before. A great number of varieties of wheat, oats, and barley, from Russia and other countries, are being tested this year. The above gentleman also informs us that some of them will be on exhibition at the Toronto Industrial Fair. Of the students in attendance, a much larger number are Canadian farmers' sons than formerly. In every sense the college is becoming more and more a training school for young farmers. The students are now obliged to work much harder in the outside department, and the danger of forming bad habits through idleness is thus minimized. The tuition fee to Canadian farmers' sons is \$20, to students from other countries \$100 per year. Each county council in Ontario may nominate one farmer's son, and the candidate who gets such nomination is exempt from payment of the tuition fee. In view of the liberal discrimination in favor of Canadian farmers' sons, and the increased and increasing necessity of farmers thoroughly understanding the various branches taught, the college should be filled to its utmost capacity. A postcard, mailed to Prof. Mills, at Guelph, will secure a pamphlet with full information as to course of studies, terms, etc.

To skim off the virgin fertility from large tracts, as rapidly and with as little solid advantage as possible, and to pass on and on, repeating the same process in illiterate and ragged independence, has been a distinguishing mark of American farming, east and west, north and south.

Dr. Hoskins, in Rural New Yorker, says:—I maintain that a man who has no love for a horse could never raise a good colt. His idea of training a colt is, first of all, to let it know what a whip is for, and its second lesson is a continuation of the first, and the third and fourth are repetitions of the others until the colt knows nothing except the whip.

Throwing damp bedding forward under the manger defiles the feed, and the horse is compelled to breathe poisonous fumes. The bedding had better be removed from the stable entirely each morning. At least carefully remove all that is wet, and pile the remainder in the rear, rather than under the nose of the horse. Since the days of close, warm stables, pneumonia and lung troubles are increasing. Extremes of heat and cold tax the system heavily. The office of the lungs and skin is so essential in the work of cleansing the system that it cannot be interrupted without danger.

ERRATUM.—In our last issue, our assistant, then in Manitoba, by an error in condensing manuscript, was made to say: "Unless the drought is broken immediately the crops will prove an almost entire failure." What he did say, was, "the drought is very severe, unless rain falls immediately, the average yield of the acreage sown to wheat will not exceed nine bushels per acre, but the average yield to that cut will be fifteen bushels per acre; oats are even more seriously injured than wheat. Considering the long absence of rain, it is wonderful that the crops are as good as they are. Here and there are fields that will yield from twenty-five to thirty bushels per acre."

Stock.**Macbean.**

The accompanying illustration represents this magnificent young horse. He is a fine brown in color; was foaled May 19th, 1886. He was bred by Mr. James Robertson, Mains of Twyholm, Kincudbright, and imported by his present owners, Messrs. Graham Bros., Claremont, Ont.; sire, McGregor (1487); dam, Darling of Twyholm (2884). Macbean is of full quality, with an abundance of bone and muscle of the closest texture. He has a grand stride and lofty carriage, and spirits that indicate a vigorous constitution. He has a remarkably fine back, is very heavily quartered, and muscled well down

Chatty Letter from the States.

[From our Chicago Correspondent.]

Chicago has received some 260,000 more cattle this year than last; and it seems more than likely that this increase will not be any less at the end of the year. There has not only been a great increase as to numbers, but the cattle, like the hogs, have been of much heavier average weight. Until recently in fact, the heavy cattle have been so abundant that the light and immature cattle have been more readily sold than ripe, heavy stock.

The first of the Western range cattle this season sold at \$3.40 for 1,370-lb. Montana steers, or fully \$1.25 lower than one year ago. Last year, the first cattle sold were the Murphy Montana double-wintered* Texans, at \$4.80 @ \$5.00.

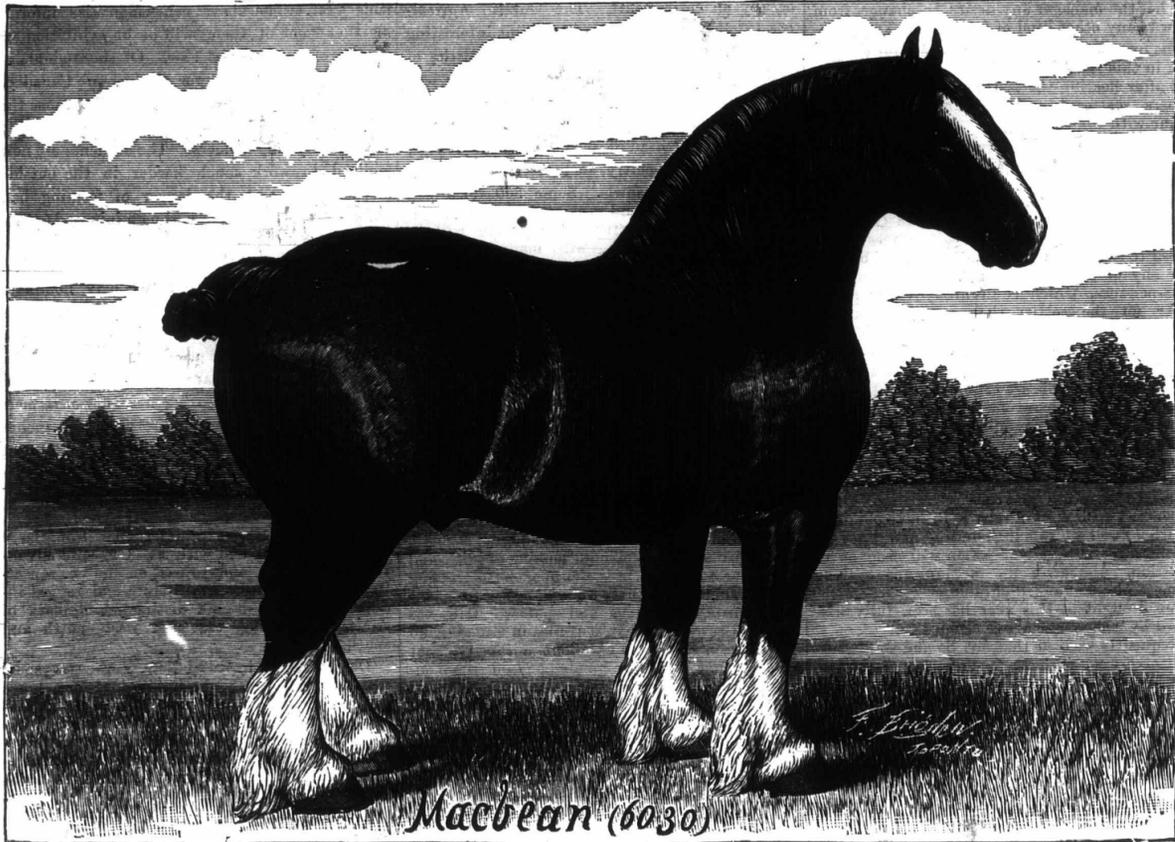
lbs., sold at \$4.30 @ \$4.60. The latter was the highest price of the season for slop-fed cattle.

Some 1,430-lb. slop-fed dehorned stags sold at \$4.30. They cost \$2 as bulls when bought to feed. They were castrated and dehorned, and sold at a large profit to the owners.

The practice of castrating bulls to fatten is growing in favor, and when the horns are smoothly taken off and the beasts are well fattened, they present an appearance not much different from ordinary heaves.

The feeders of distillery cattle have not made large profits this year, but they are filling up the space again. They keep at it year in and year out, and make heavily in the long run.

The desire to reduce stock is moving ranchmen to send in many cows, heifers, yearling steers,



THE PROPERTY OF MESSRS. GRAHAM BROS., CLAREMONT, ONT.

on all his limbs, which are nicely feathered with clean joints and flat bone. He was shown at the Stouffville Agricultural Society's Show last year, where he won first in the two-year-old class. Again, at the spring show of stallions in Toronto last March, he won first for stallion foaled in 1886; and, better still, the sweepstakes for best horse, any age, in the show. His brother, McCall (5189), won first prize at the Royal of England, at Norwich, in 1886. Macbean is probably the finest and most promising young horse in Ontario.

If you have anything worth selling, advertise it; if not, don't.

For the interest of the country and for the wool product in particular, it is a good suggestion that dogs be compelled to wear the bell, instead of the sheep, so that they may be heard, and shot, when out on their murderous raids.

The same brand of cattle sold this year at \$3.25 @ \$3.35, but owing to poorer range were not so good in quality.

An exporter recently bought some good 1,300-lb. Montana grass-range cattle to ship to Liverpool alive. He paid \$3.85 for 145 head, and took out fifty head of the poorest. They were double-wintered Texans, and were of choice quality.

Western ranchmen are better prepared financially to hold over cattle than for some years past; but the shortness of the grass will make it necessary to ship heavily before snow flies.

A lot of 1,241-lb. cattle, fattened on glucose slop, sold at \$4.35. Distillery-fed steers, of good to choice quality, averaging 1,300 @ 1,500

*A term to denote two-winters' keeping in the Northwest.

and even calves. Texas has sent an immense number of young cattle to Northern Wyoming and Montana by rail this year; but the stock ranges are still very heavily supplied in that State, and some of the oldest ranchmen think it will pay better to reduce stock by selling calves and yearlings, even at low prices, than to have too many cattle on the ranges.

Western range sheep are now coming to market freely, and are selling at \$3.60 @ \$4.00, chiefly to country feeders.

Some Kentucky and Indiana men have recently been buying large numbers of far-western ewes to breed. It seems that many farmers and stock-raisers, who have become discouraged at the low prices for cattle, have decided to take up sheep-raising again on a larger scale. There are those who are already predicting that the sheep

business will soon be overdone. There never was a time when so many sheep were being prepared for market, or when there were so many men of means in the business. The fact, however, that mutton consumption has increased on this continent about four fold in the last ten years, may for some time, ward off the threatened danger of over-production. Then, again, there is another point to be considered: There are more sheep than ever before being prepared for market; it is a fact that, the breeding of sheep, during the past two or three years, has been much neglected. The writer knows numerous men, formerly sheep breeders, who are now only sheep feeders, buying their stock in Texas, Utah, Oregon, Wyoming and Montana.

The Canadian cattle exporters, Gould & Morgan, are still here, actively buying and forwarding live cattle in conjunction with Hathaway & Jackson, of Boston.

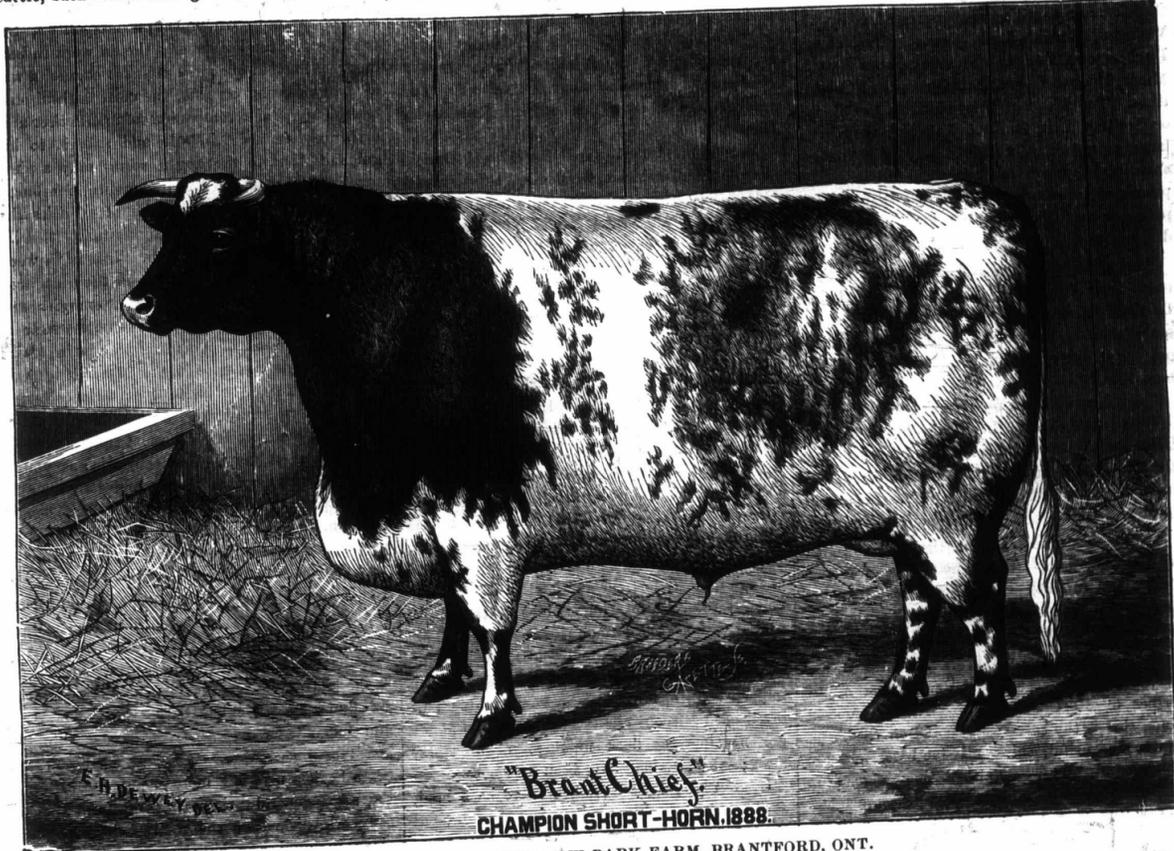
There was recently a gratifying advance in fat cattle, such steers selling at \$4.75 @ \$5.00, as

Brant Chief.

This magnificent steer, owned and exhibited by the Bow Park Farm, Brantford, Ont., won the following prizes at the Chicago Fat Stock Show in 1888: Best two-year-old Shorthorn; special prize for best two-year-old Shorthorn, given by the American Shorthorn Breeders' Association; sweepstakes best Shorthorn any age. Also tied for first for the champion prize, best beast in the show, and also for best two-year-old any breed. His weight at that time was 1950 lbs. He was got by Sir Christopher = 3877 =, the present stock bull of the herd of Mr. Charles M. Simmons, Ivan, Ont., he by Prince of Northumberland (imp.) = 1284 = (46911); dam, Ury Seventh (imp.) = 526 =. Mr. Hope, the able manager of Bow Park,

The New Cattle or Horn Fly.

Many notes have appeared in the papers during the last and present summer concerning a new pest which is worrying cattle in Pennsylvania, New Jersey, Delaware, Maryland and Northern Virginia. It is a small fly, half the size of a house fly, which settles in great numbers around the base of the horns and other portions of the body where it cannot be reached by either the tail or the head of the animal. It sucks a moderate amount of blood, reduces the condition of the cattle and lessens the yield of the milk from one-third to one-half. This new pest has been investigated the present summer by the Department of Agriculture through the Acting Entomologist, Mr. L. O. Howard, who has succeeded in tracing the entire life history of the



THE PROPERTY OF THE BOW PARK FARM, BRANTFORD, ONT.

deserves great credit for the success he has met with in the show rings of Canada and the United States. Hoard's Dairyman says:—"A Holstein writer who, at this late day, don't know any more than to give his breed away, and give away himself as a man of penetration, by saying that his favorite cow gives milk 'rich in caseine,' ought to have a guardian." To which the Holstein Friesian Register replies: "Oh, he had, had he! Thanks, Governor, awfully. We are really glad to learn that we can look to you hereafter for any great dairy truths we may be in need of. If cows milk is not rich in caseine, what is it rich in? If a cow gives a large amount of 'well balanced' milk, is she not just as profitable as one that yields a small amount of milk containing an amount of fat that the cheese-maker is unable to utilize?" Would the Register, just for the sake of information, tell us if there are many vats of Holstein milk that contain more fat than the cheese-maker can make use of.

pest. He finds that the fly lays its eggs, usually at night, in freshly dropped cow-dung, and that for the development from the egg through a maggot stage to the perfect fly again, a space of only twelve days is necessary. This rapidity of reproduction accounts for the wonderful numbers in which these flies appear, and it follows with reasonable certainty that the insect will pass the winter in the quiescent stage at the bottom of dungs dropped late in the fall (the approximate date to be determined later.) The preventive is obviously to lime the dung in the fall in places where the cattle preferably stand at night. At the present time applications may be made to milch cows and valuable animals which will keep the flies away. The applications may be (1) fish-oil and pine tar with a little sulphur added; (2) tobacco dust, when the skin is not broken; (3) tallow and a small amount of carbolic acid. The latter application will also have a healing effect where sores have formed,

sold at \$4 00 @ \$4.25 a month before. Some cattle feeders and breeders are much discouraged, but others again are hopeful. There never was more activity in the store cattle trade at this season, and those who are counting upon short supplies for the near future will have to contend against the fact that there are heavy supplies of young cattle in the country, a large amount of old corn, a fine new corn crop coming, and, at present, an almost unlimited supply of pasture, hay and rough feed. The hog market has lately been \$2.25 per hundred lower than last year, and the crop of young pigs is a large one. Average weight of hogs received at Chicago this summer has been heavier than ever before recorded. The 414,600 hogs received in July averaged 246 lbs., or 17 lbs. per head more than 1888. The very heavy weight of the hogs is accounted for on the ground that corn was plenty and cheap, and would bring more in pork than sold in the crib. The season too has been a most favorable one for fattening hogs.

Thornville Stock Farm.

The foundation of the Thornville herd, now so well known, was laid by Mr. Frank Shore, the senior partner of the present firm of Shore Bros., White Oak, Ont. In 1872-73, when three cows were bought, viz., May, by Rex = 1010 =, and Fan, by Peveril = 920 =, both of the Pomona family, and Countess, by the 6th Duke of York = 581 =. These proved a profitable investment; the first calves dropped were sold for a price equal to the cost of their dams. In 1882 a public sale was held, at which the descendants of these cows, then on hand, realized \$3,000. Immediately after this sale, the herd was re-established by the purchase of animals of the celebrated Aberdeen sort, chiefly from the herd of Cruickshank, Campbell and Marr, and now numbers upwards of sixty head. The Cruickshank families are represented by the Victorias, Brawith Buds, Orange Blossoms and Duchess of Glosters. The Campbells by the Minas, Buchan Lassies, Fair Queens and Clementinas. The Marrs of Upper Mill by the Rachel or Scottish Lass family. As a lot they are a large, even, useful, well bred herd; the younger animals are growthy and strong boned, generally promising to be larger when grown than the imported cows. They are not kept in high condition, but in good breeding flesh.

Among the yearlings is Bucan Lady, a light red; sire, Vermillion (50587); dam, Bucan Lassie, by Golden Crown. She is a deep, thick beast, close to the ground, and nicely finished, not large, but very tidy, a typical Scotch Short-horn.

Lady Languish is a red roan; sire, Vermillion (50587); dam, Laura Languish, by Cambridge Duke 2nd = 395 =; she is more growthy than the above, not quite so blocky or finished, but has a very nice fore end, and a neat and clean cut head and neck.

Mina E. is a red, with a little white; sire, Vermillion; dam, Mina B, by Prince of Northumberland (46911). This is the best heifer of the three, possessing the massiveness of the first, and the size and growthy qualities of the second.

Among the heifers two years old, Mina D. is a deep red; sire, Vermillion; dam, Mina A., by Prince of Northumberland. At the present time, this is the best two-year-old on the farm. She is a beautiful, thick, massive beast, close to the ground, and well finished throughout, even and well developed; her beef qualities are splendid. She is a heifer of more than ordinary promise.

Mary Booth 8th, of the same age and color, also by Vermillion; dam, Mary Booth 3rd, by Statesman 1st (44096); is of the same type as the last, but not quite as massive, or as mature, but is a promising heifer, and is perhaps more growthy.

Mary Booth 9th, of the same color, and by the same sire, is the most growthy beast of this age; she is not quite as thick or as neat as the last two, but will grow to be a good smooth cow of large size, and will doubtless be a good milker and breeder.

Among the breeding cows is the famous show cow Ruby Hill 12th, now five years old, bred by John Isaac, Markham, Ont.; got by Prince of Northumberland; dam, Ruby Hill 11th, by Statesman 1st (44096). In color this cow is a beautiful red roan, and possesses wonderful substance and quality. There are few as good cows

on the continent. Though she has had no feed but grass since May, she is now fit for the show ring. Her flesh is even and firm throughout.

Countess 6th, by Vermillion; dam, Countess 3rd, by Duke of Rutland, is a roan, three years old, a truly magnificent young cow, full of quality, and possessing wonderful substance. She is massive and withal neat; an extra beast in all particulars.

The females of this herd are very prolific; as an instance, the imported cow Whin Blossom may be mentioned, which has produced since 1884 four bulls and two heifers. One of the latter having also given birth to two heifers.

Bucan Lassie 3rd, by imported Golden Crown = 114 =, now ten years old, is a nice, even, red roan cow. Since 1883, \$800 has been received for her produce, all of which were sold when under one-year-old; herself and two of her heifers are still in the herd. One of her calves, by Vermillion, is the stock bull in the herd of Sharman & Sharman, Souris, Man. This bull was the sire of some fine stock before leaving Ontario.

Vermillion (50587), bred by Edward Cruickshank, Aberdeenshire, Scotland, got by Candor (44506), is still at the head of Messrs. Shore's herd, he is of Mr. Cruickshank's Victoria family; a deep red in color, of very large size, with plenty of bone, yet not a rough beast. He is a fine feeder. His owners bought and used him with the express purpose of obtaining more size; considering many of the Scotch cattle too fine, they have recently bought another stock bull, Aberdeen Hero, bred by the same gentlemen. He is of the Orange Blossom family, so well known at Sittyton. This is a neat, stylish, promising youngster, and will doubtless be a good sire. There are many other animals in this herd worthy of mention, but space forbids.

In 1876 twelve Cotswold ewes and a ram were bought, and occasionally, after that date, imported animals, male and female, were added as required. Before the auction sale of 1882, the amount received for the produce of this flock, sold at various times, amounted to \$3,000. Those sold at the auction sale realized \$1,200, making a total of \$4,200. Soon after the sale, fourteen imported Shropshire ewes were bought. This breed has been continually bred since, and at the present time the flock numbers about thirty head; sales all along have been satisfactory.

Grade Clydesdales have heretofore been bred, as yet no imported mares have been bought, but the imported stallion, Marquis of Salisbury 5208, was bought last fall. He is a bright bay, foaled May, 1885; bred by M. J. Stewart, M. P., Ardwell, Scotland, imported by Messrs. Charltons, Duncrief, Ont.; sire, Auld Reekie 1920; 1st dam, Virginia 2nd 5071, by Macgregor 1487; 2nd dam, Virginia 1170, by What-Care-I 912; 4th dam, by Dainty Davie 211. This is a pedigree of the very first order, the blood of many of the finest Clydesdale sires of the past and present flows freely in his veins, and in no way does he disgrace his splendid breeding, he is worthy son of noble sires, large, active, stylish, well coupled and well ribbed, standing on splendid feet and legs, which he handles in fine style. He certainly is an acquisition to Middlesex, and should be liberally patronized. His colts are like himself—very good.

Last year 500,000 persons in the State of New York, about one-twelfth of the entire population, received aid from some benevolent institution.—[N. Y. Tribune.

FIRST PRIZE ESSAY.**How Shall We Best Protect Our Flocks From the Ravages of the Dog?**

BY W. A. HALE.

By no one golden rule can we hope to protect our flocks from the ravages of the dog. Eternal vigilance is now the price of successful sheep raising, and the subject is of far too much importance to the general prosperity of the country to be lightly set aside. The existing laws, from which we might hope for better things, are altogether inadequate and unsatisfactory, and should be altered and amended, and though we can literally "get down behind our wincheters" when an opportunity arises, still the main source of protection must come from a better code of laws, in which the municipalities, the counties and the legislatures should work in harmony. I would not for a moment counsel a war of extermination on this, the most faithful and trusty friend and companion of man; other animals may endure his rule and submit to his guidance, but to the dog it seems only a pleasure, and instead of bearing malice, for blows cruelly and unjustly dealt, he often licks the very hand that, in return for his most friendly services, administered the lash. Just as "a weed is but a flower out of place," so is the untutored sheep killing dog, whose wasted energies and perverted intellect are as much his misfortune as they are the result of a want of system in training him while young. In the city of Montreal, in the year 1888, 1145 dead dogs were collected in the streets; surely now, from a humane point of view, it were better for most of these had they never been, or being, had they died as young and painless a death as blind puppies are usually called upon to endure. Here then seems to be one of the main starting points in curtailing the unnecessarily large number of useless and expensive animals which have to be supported often in sin and idleness. The law in the Province of Quebec for the protection of sheep from vicious dogs is very meagre, and I fancy in the other Provinces of the Dominion it is no better. In many of the United States the farmers have endured this nuisance till exhausted patience has risen and demanded redress. Laws have within the last fifteen years been passed by many of the State Legislatures, all more or less framed upon the same general principles, and from the accounts furnished of the depredations by dogs alone, it would seem that these laws were brought into force none too soon. In 1872, Ohio claimed 183,000 dogs, with \$3,000,000 worth of sheep destroyed, and injuries amounting to \$1,000,000 more. Missouri, in 1875, claimed 400,000 dogs, and sheep killed to the value of \$5,000,000, and estimated the cost of each dog at 25 cents a week, or \$5,000,000 a year, for the dogs of the State. Georgia, in 1876, claimed 99,000 dogs, and 26,000 sheep killed. New York State, in 1878, claimed 500,000 dogs, while in the same year the total number of dogs in the United States was estimated to be 6,000,000, and the number of sheep killed, 5,000,000. With such startling facts as these before them, the various legislatures were not slow in passing laws, not only for the better protection of the sheep industry, but also for restricting the unnecessarily large number of dogs. These laws were more or less similar, and were in substance somewhat as follows: An annual tax of from \$1.00 to \$3.00 on each male

dog and from \$3.00 to \$5.00 on each female dog was levied in advance, with an additional fine of from \$1.00 to \$10.00 for each dog not duly registered. These fines and taxes were collected in some cases by the State authorities, and in others by each town or municipality, and went to form a fund for reimbursing those who had sustained losses by sheep-killing dogs, when the owners of such dogs were not financially solvent. There was also a bounty of from 50 cents to \$1.00 for every dog killed, which had not a proper collar and license label, and immunity from costs was also insured to the parties killing these dogs, while in some cases double the amount of the loss sustained could be collected from the owner. These laws seem to have worked well, and in some of the States, reports of a return to successful sheep raising are recorded. In New York State, after several years trial of these laws, they have been slightly altered and amended, and the same protection extended to horses, cattle, pigs and poultry, which seems to imply that in the main the laws are working well. Until something of this sort is resorted to in Canada, the sheep industry is bound to diminish. On the Island of Montreal sheep are almost extinct, and for a radius of three or more miles, around all the smaller towns and villages, they are rapidly disappearing. Apart from government and municipal co-operation something must be done by each individual for the immediate protection of his own flocks. One great source of danger is from raspberry pickers and others bringing dogs into the pastures. First of all, then, destroy the raspberry bushes, and never sanction any one bringing a dog into any of the outfields of the farm. Keep a sheep dog and train him young, and in the care of your own flock, and in guarding your house and outbuildings from tramps and sneak thieves, he will far more than pay for the time and trouble. Put bells if possible on all the sheep. I have found that with only one bell, dogs have been in a measure deterred from chasing the flock, while others would single out and destroy those not wearing them, and I have good reason for believing that if all the flock wore bells, that the number of deaths by dogs would be very much reduced. With a good breech-loading rifle, and a package of cartridges at hand, and a hard-hitting gun that will throw buckshot close, I have succeeded in bringing down several of the worst depredators. As soon as a death occurs, the rest of the flock should be removed, your own dog chained up, and one or two strong fox traps carefully set and well pegged down beside the carcass, in a day or two the chances are, that the culprit, not finding the flock, will resort to the dead animal for a meal, and if caught should be shot at sight, and the owner of the dog made to pay for all costs. Here comes in a claim for indirect damages, which should be included, viz., the loss in weight and condition of a flock which has been severely chased by dogs, and though hard to estimate accurately, should certainly be recognized. I have found collie dogs and their crosses the most cunning sheep killers of them all; bull dogs, the most irrepressible, in fact no amount of punishment will prevent them if they once begin; spaniels and setters seem to do it in a sporting spirit and can easily be broken, and so in fact could most others if sufficient pains were taken with them, else how is it that in England, where probably 100 sheep are kept in the same farming area, for every one in this country, and their dogs outnumber ours as ten is to one, the losses are in an inverse ratio. Still to the legislature we must now look, if we wish to preserve this most important branch of husbandry, and if some of our farming representatives will only introduce at the next session, such a bill as the Americans have found by experience to work satisfactorily, I believe they will have no trouble in carrying it by a large majority, and thus give to the country the only practical method by which the sheep industry can ever hope to exist.

Canadian Records for Sheep.

BY JOHN JACKSON, ABINGDON, ONT.

The subject of pedigree records for all improved farm stock has attracted the attention of leading breeders of all countries. Careful observance of this matter has done much to bring the leading breeds of live stock to that high and prominent position they now enjoy, and frequently very high and remunerative prices have been obtained for individual animals, more on account of pedigree showing the excellence of their ancestors than for individual merit; hence the necessity of well authenticated and carefully-kept records that breeders can rely upon as authority for the breeding of individual animals. I believe every intelligent and experienced breeder will agree with this; and, to my mind, a breeder that would disregard the importance of pedigree, might be compared to a ship at sea without a rudder, liable at any time to go ashore and become a wreck. There are many instances of successful breeders before the days of, and without the aid of, public records. And a few have succeeded, even without recourse to out crosses, but not without a close observance of the matter of pedigree. Perhaps the most notable instance of the latter at the present day is that of Mr. H. Webb, who made his last purchase of Southdown sheep at his father's dispersion sale over a quarter of a century ago, and since that time has continued to breed entirely within his own flock, without instilling into it any change of blood whatever, and stands at the head of Southdown breeders in England to-day; but this is the exception, not the rule. In this country, where flocks are comparatively small, it is necessary to frequently infuse fresh blood into them; and without the aid of public records we have but little to guide us in making a proper selection of animals not bred akin to our flocks. An animal may be good as an individual, and still not such as we would like to breed from.

In selecting a sire, we not only want individual merit, but that well backed up with a good pedigree. If we have these, we will seldom be disappointed with results. Now, assuming that all will agree as to the necessity of public records to enable us to breed successfully, the question presents itself: Is it advisable to have records for sheep in Canada, or is it enough for us to join in with our cousins across the line, and have only one record for each breed in America? This is a question with room for difference of opinion. America is a large place, and there is probably plenty of room for more than one record. Taking as a very moderate calculation, in Canada alone there are over a quarter of a million of square miles well adapted to sheep-raising; divide this into townships of fifty square miles each, and allowing each township to record five sheep per annum, the annual number recorded would be equal to what the American Southdown Association, at their present rate of entries, will record in fifty years (about a lifetime). So it might seem quite possible, if there were but one association on the continent, that it would soon become too large and cumbersome to be controlled under one management.

Again: Are we in Canada likely to get fair representation in those American associations, with headquarters from four to six hundred miles from the centre of our live-stock interest? Is the controlling element not certain to predominate near their headquarters? To fairly repre-

sent such a very large area of territory as the United States and Canada in one association, would certainly entail a large expense in the way of representatives gathering to one centre. Then, assuming that American associations will be controlled by American breeders, and knowing the tendency of many of those associations has been to control the breeders for the benefit of the association, instead of the breeders controlling the associations for the general interest of the breed they represent. For example, the exorbitant fees imposed for registering imported Hereford and Jersey cattle. Are they placed there in the interest of breeders, or for the direct benefit of the association? Does such a state of things meet the views of breeders in Canada? Are the American sheep-record associations now doing, and likely to do, what they should do for the interest of the respective breeds they represent? We think some of them at least are not. The work of such associations should not only be to guard with jealous care the matter of pedigrees, but to do all that can reasonably be done to encourage the improvement, spread, and popularity of the breed in a way that will be favorably accepted by breeders generally.

By way of illustration, we will notice the American Southdown Association charging a fee of \$5 for registering imported sheep. Whilst the government has thought wise to allow free importation of improved stock for breeding purposes with the object of encouraging the improvement of stock in the country, the association steps in and says they will collect a duty of \$4 on each imported sheep, whether imported into Canada or the United States. Surely, the large expense connected with importing should be sufficient protection against close competition with home-bred animals. Again, charging a double fee of \$2 to record American-bred animals, to non-members of the Association, does not give the encouragement that should be given to beginners and small breeders, the very ones who most need encouragement to ensure the spread and popularity of any breed.

Then, again, take the American Shropshire Record Association. At the present time it is dealing liberally with its patrons, and may be said to be run on principles fairly satisfactory to all concerned. But have we in this country any guarantee, or even good reason to believe, that this state of things will continue for any great length of time? On the contrary, we have reason to believe they will not. Even this association, so model in its management at the present time, contemplates in the near future placing a large entry fee on imported animals.* How will this meet the views of breeders in Canada, who, by the way, are comparatively large importers of this class of sheep? Will the Canadian importers of Shropshires be willing to submit to a tax, of say, \$5 per head, to go into the coffers of the American association? We think a large number of breeders, both in Canada and on the other side of the line, will not take kindly to such a state of things.

Now, in view of the objectionable features that do, and are likely to, exist in the American associations, and this city being not far from the geographical centre of the improved live-stock interest in Canada, is it likely, in the very na-

* This statement has been denied by both Mr. Jno. Dryden, and Mr. Robt. Miller, the President, both of whom are members of the Shropshire Association. We have the best of reasons for believing it a mistake.—ED.

ture of things, with the centre of those associations so far from us, that we can expect to exert much influence in their management?

And if our American neighbors appreciate the excellence of our stock now, on account of individual merit, without records, would they not do so in a still greater degree if we add to them a well-authenticated history of their breeding. Thus having noticed a few of the objectionable features to existing record associations, yet, apart from these, we see no good reason why others, with headquarters in Canada, might not do a good work. Neither do we see why sheep should be less favored than other stock.

Are the breeders of sheep in this country less able to manage the affairs of pedigree than breeders of other stock, or is the class of stock of too little importance? Who that attended our large fairs last fall—the Industrial, for instance—and saw the magnificent display of sheep—Cotswolds, Lincolns and Leicesters, in the long-wools, with Southdowns, Shropshires, Oxfords, Dorsets and Merinos, in medium and fine-wools—would not accord to them a place in our live-stock history, to be handed down to generations yet to be? It is doubtful if another such a collection of sheep could have been found at any other exhibition on the continent. Then, again, the same reasons that brought into existence the Clydesdale, Shorthorn, and other record associations, are equally applicable to the different breeds of sheep. If, because there are certain records for sheep already established in America, there should be no more, then there was no need of a Shorthorn record in Canada.

In conclusion, I would say, it is for the breeders of the different breeds of sheep to say whether there are records already established for them in the United States or not. It is for them to decide as to the expediency of organizing record associations for them in Canada. And, in the event of deciding to move in that direction, allow me to impress upon your minds the great importance of starting right. Take the errors of others for beacon lights to warn you off the rocks, set your standard high enough to ensure purity of breeding, and guard every entry with unremitting care; be economical in management, liberal in regard to fees, especially with beginners and small breeders. This is necessary to ensure success. A small obstacle at the beginning may turn them into some other channel. Large, successful breeders, do not, as a rule, spring up in a night, like mushrooms; they, rather, have to grow into the business, to commence, so to speak, at the bottom round of the ladder, and to rise a step at a time until the top is reached. It is not every one that gets to the very top.

There is still another feature of the question of Records in Canada, worthy of consideration. In the United States, at most of the shows, the managers require exhibitors of sheep to file proper certified pedigrees with each entry of sheep, according to the standard of their records; otherwise, they are barred from competing for a prize (even in "fat sheep," at the Chicago fat-stock show).

Is it because we have no records for sheep in Canada, that our fair managers have ignored the importance of pedigrees for sheep at their exhibitions? Is it not just as necessary that pure-bred sheep should be protected in the show-ring against competing with grades or mongrels, as it is for horses, cattle, and swine? This is an important matter that interests the breeders of all pure-bred sheep.

It is a question that this association might deal with, in getting "fair managers" to place sheep on an equal footing with other stock. The Americans usually say they must be recorded in American records. And if our fair managers should follow their example, as some of them have already done in regard to Shorthorns, and say they must be recorded in a "Dominion Record," then, by all means, let us have the record. But if breeders in Canada are satisfied with American records, I see no reason why fair managers should not accept them as the standard for admission for entry at their exhibitions.

Management of Breeding Ewes from September to June.

BY J. C. SNELL, EDMONTON, ONT.

Presuming that the last crop of lambs has been weaned the latter part of July, or early in August, and that a run of a month or six weeks upon the cleared grain fields after harvest, has considerably improved their condition, the wise flock-master will have so provided, that when this is exhausted, they may have the run of a field of fresh green feed of some sort, so that they may not go back in condition, but rather continue to improve as the season for mating with the ram approaches, as it is well known that the ewes, not only come in season earlier, but are more likely to prove fertile to the first service, and also to produce a larger number of lambs, if in flesh and improving condition when the ram is first allowed with them. For this purpose, in the absence of fresh clover pastures, a field of rape will be found very useful and timely, and if the field can be conveniently divided, it will be better to give them access to only part of it at a time, thus supplying the stimulus of fresh feed from time to time.

I am in favor of early lambs, and would recommend breeding ewes the latter part of September, so as to have the lambs come in the latter part of February. My reason for this preference is that I have found from experience that the earlier lambs are generally the strongest and best. I account for this from the fact that the ewes bred early get a larger amount of outdoor exercise during pregnancy before the winter sets in, and the snow prevents them from getting the amount of exercise which is essential to the healthy development of the fetus, and goes so far to ensure a strong and healthy offspring.

I have read the statement in some paper recently that the earliest and latest lambs—those that come in February and those that come in May—are generally the best; and if this is true, it serves to confirm my theory of the necessity of exercise on the part of the mother, as in the latter case she gets out upon the ground for a month or more in the spring before the birth of her lamb.

I strongly advise the use of a ram that has not been pampered or fitted up for show, and made clumsy with superabundant flesh. There is a vast deal more satisfaction in using a thin ram than a fat one, as you avoid the necessity of collecting and handling your sheep. You feel safe in the knowledge that the ram is in the best possible condition for his work. He is surer and safer, and there is greater certainty of a uniform crop of lambs, both as to date of birth and strength, and vigor of health and constitution.

The treatment of the ewes during the early months of winter, is of the greatest importance. I recommend letting them run out in a pasture field every day till the deep snow comes, except, of course, during cold rain storms; and if they are inclined to stay in the sheds, I would drive them to the field and shut them out for a few hours every day; and even after the snow is too deep to allow of their going to the fields, they may be encouraged to exercise by feeding them in racks or troughs away from the buildings. And let me here say that at this stage, warm, close buildings are not only unnecessary, but rather injurious. As long as their quarters are

dry and furnish protection from inclement weather, it is all that is required. They are all the better for an open, breezy place, where fresh air and ventilation is abundant.

The ewes, in common with the whole flock, should be treated for ticks on some mild day in November or December, by opening the wool at intervals and pouring on some of the preparations for the destruction of ticks and lice, and by dipping the lambs in the spring a few days after the ewes are shorn, the flock can be kept free from these pests.

How shall the ewes be fed during the early months of the winter? If clover-hay is plentiful, I think that alone is sufficient for them up to the first of February, but well-saved, hand-threshed pea-straw makes a very good substitute, and may be profitably disposed of in this way. Say clover once a day, and pea-straw twice. In the absence of clover, I have found that peas in the straw unthreshed, or partly threshed, fill the bill admirably; but care must be observed that too much of this is not fed, else the ewes may become too fat.

I strongly object to feeding turnips to ewes during pregnancy, except in very limited quantities, and to be sure I am safe, I prefer to deny them entirely until after the ewes have lambed. I am fully persuaded that liberal feeding of turnips to pregnant ewes is a fruitful cause of weak, flabby, helpless lambs, which are a source of vexation, dissatisfaction and often of heavy loss to the owner. The presence of heavy loads of cold, watery roots in the stomach of the dam is, I am convinced, highly injurious to the offspring; and I believe it would be better economy to throw them into the lake.

A few roots given for a week or two before lambing, I have no doubt, would be beneficial, but the danger is that the ewes that are to lamb later will be getting roots for too long a term, and will be liable to injury from them, and in view of this, I prefer to withhold the turnips till after they have lambed, then give them an abundance, and keep them separate from those which have not lambed.

It is well to feed a little grain for two or three weeks before lambing, to produce a flow of milk, and after lambing I would feed liberally with oats and bran, as well as roots and hay. But I do not believe in feeding peas or other strong heating grain to ewes while nursing their lambs, as I believe it is liable to cause caked udders, inflammation and sore teats, which are troublesome and vexatious to the shepherd.

I am opposed to pampering or coddling the ewes at any stage, and am confident that much harm is often done by keeping the ewe penned up in a small enclosure with her lamb, when she ought to be at liberty to run with the flock. It is not easy to judge just how much feed a single ewe should have at this period, and there is danger of overfeeding her, and thus causing sickness to herself and her lamb. If her lamb is able to follow her, better turn her out with the rest of the flock, where she will have the stimulus of competition for her rations, and will be encouraged to eat, without the danger of getting too much.

Up to this time, if the ewes have access to the snow, I do not think that a supply of water is a real necessity, and I have often thought it was injurious to the lambs they are carrying; but after lambing they will be better for a warm

drink of bran-tea for a day or two, and from that time a plentiful supply of water at all times.

During the early spring months when warmer weather comes, the ewes and lambs will be better for a run in a large yard, or better, in a small field adjoining their quarters, as they prefer to lie out upon the dry ground and enjoy the sunshine by day; and it is healthier for them than to be shut up in their pens, breathing the close-heated atmosphere of such places. And when they are let out upon the fields for a run on the early grass, they should still be fed at least once a day in their pens for two or three weeks, so that their strength may not fail, and any evil effects of the soft, young grass may be counteracted.

I prefer to shear the ewes unwashed in April, before they go out to the fields for good. They will thrive better, will be safer from the danger of getting cast upon their backs, and will be saved a good deal of discomfort from the heat of the sun.

I disapprove of washing the sheep before shearing, as it is treatment that is contrary to the nature of the sheep, and is often the cause of accidents, disease and loss, and just here let me say this is a question that might well engage the attention of the Wool-growers' Association. Some decided and united action should be taken to secure a fair tariff of prices for unwashed wool, as well as for that which is dipped in cold water, and is called washed.

In conclusion, let me say that in presenting, and stating my views upon the subject, I have been careful to advise a general compliance with natural conditions, and I am persuaded that experience and observation will teach the man who is willing to learn, that to be successful in breeding and handling sheep for breeding purposes, all pampering and artificial treatment will be found to be injurious in its tendencies, while the simpler and more natural methods will be found the most successful and satisfactory in their results.

Meeting of the Dominion Sheep Breeders' Association.

In the August issue of the ADVOCATE we announced a part of the programme for this meeting. As the time approaches, we are assured of a large and interesting meeting. The Mayor has granted the use of the City Hall for Thursday evening, Sept. 12th. The following persons will read papers on the annexed subjects:—

The Proper Classification of Sheep at Fairs.—By J. C. Snell, Edmonton.

The Value of the Silo and Soiling Crops for Sheep.—By John S. Pearce, London.

The Proper Method of Getting up Fleeces for Market.—By Ald. Jno. Hallam, Toronto.

What a Canadian Sheep-raiser Can Learn in England.—By Jno. Campbell, Jr. Woodville.

Protecting the Flocks from the Dogs.—By David Nichol, Cataract, and John Dryden, M. P. P., Brooklyn.

The Sheep for the Farmer.—By Mungo McNab, Cowal.

Mr Mortimore Levering, of La Fayette, Indiana, Secretary of the American Shropshire Association, and a prominent man generally in stock matters in his State, will be present and address the meeting on the advisability of joint American and Canadian records for sheep.

The sweepstake silver plate, given by Jno. S. Pearce, of London, will be presented to the winner at the close of the meeting. Hon. Chas. Drury, Minister of Agriculture, is expected to be present and address the meeting.

Any work, however humble, is better than to be a deadhead and a deadbeat, which is the usual fate of those who feel too good for their business.

Our Draught Horse Prize.

Believing there is no class of horses that pay the farmer as well as heavy draught, and actuated by a desire to encourage their production, and thus advance the best interests of Canadian breeders, the ADVOCATE this year offers a prize of a silver service valued at sixty-five dollars, for the best three draught mares of any age or breed, the property of the exhibitor, two of which must have been bred in the Dominion, to be competed for at the Industrial Fair, Toronto. The prize to be awarded on Tuesday, Sept. 17th. We hope to see a strong competition. Our prizes will be on exhibition in the agricultural hall during the show at Toronto and London.

Our Draught Horse Trade.

One very important branch of our live stock trade is in great danger of being seriously injured, I refer to our trade in draught horses with the United States; by draught horses I meant breeding stock, not geldings for draught purposes.

That there is a large demand for Canadian-bred draught stallions and mares, there is no doubt whatever, but the question naturally arises will this demand continue, or is it likely to cease in a short time? There need be little fear of its stopping as long as Canada continues to produce as good a class of draught horses as she does now, and as long as Canadians endeavor to keep up a name for square dealing and to conduct their business on a fair and legitimate basis, and this, I am sorry to say, is the rock on which our draught horse trade is in danger of striking.

Of late years, in fact since the establishment of the Clydesdale Horse Association, and its acquirement of the control of the Clydesdale Stud Book of Canada, there has been manifested a decided inclination on the part of a number of Canadian breeders and dealers in draught horses to employ any method that they could think of to get rid of their surplus stock, without much regard to the fairness or honesty, of these methods, and this has been demonstrated more clearly, perhaps, in connection with the various stud books for draught horses now published in Ontario than in any other way.

There is no need now to enter into any mention of the rules that govern entry into each of these books, as they are doubtless well-known to most of your readers. It will therefore suffice to say that we have in Ontario four books for registering Shire and Clydesdale horses; two of them contain the pedigrees of pure bred horses of each of these breeds, and a certificate of registration in either of these books is a guarantee that the animal in question is sufficiently well bred to register in the stud books published by the two similar associations in the United States. The other two books are simply lists of what the owners are pleased to call draught horses, and a certificate of registration in either of them is practically of no benefit to a buyer, be he American or Canadian, except that it shows him how many crosses of imported blood the animal in question possesses. Perhaps some of your readers may say that this is a very important thing to know. I do not wish to argue to the contrary, and were this the only purpose for which these stud books are used, there could be no reasonable objection raised against them; but I submit that this is not the object of a stud book, and further, that this is not the use to which in most cases these certificates issued by these draught horse stud books are put; but that they are rather used by unscrupulous dealers for the purpose of palming off horses of mixed breeding, and horses that have not a sufficient number of crosses to be eligible for either the Shire or the Clydesdale book, as pure bred horses of either of these breeds.

In making this statement I am aware that I am making a serious charge against some of our Canadian horsemen, but I have not done so

without having had actual proof that what I say is true, and I should not like your readers to suppose that I am making this charge against all those connected with these two draught horse books, for I am well aware that there are many members of these two associations that are perfectly honest in their intentions, and would scorn to deceive a buyer as to the breeding of a horse they may have for sale. At the same time there is very little doubt that there have been, and will be, numbers of horses registered in these books simply for the purpose of palming them off as pure bred Shire and Clydesdale horses.

In conclusion, let me say that I think it is high time some steps were taken to distinguish between those who have been and are endeavoring to carry on a fair and legitimate business in draught horses, and those whose sole object is to buy a horse cheaply, and then get him off their hands the best way they can, be it fair or foul, a class, commonly called in England, "horse-copers."

We have here in Ontario a country peculiarly adapted to horse-raising, in climate, soil, and water, and we have a stock of draught horses that I do not think can be excelled on this continent. All we need, therefore, to keep up our present reputation for draught stock is a steady determination on the part of all breeders and dealers throughout Canada, to put down as far as lies in their power, all attempts at dishonesty and trickery, and this can best be done by doing away with such a multiplicity of stud books, keeping only those that admit horses of a recognised pure blood, and then guarding as zealously as possible the purity of these.

Unless this determination is manifested I am of opinion that we shall see ere long instead of an increase a decline, in the demand from across the line, for Canadian draught stock, and thus one of our most important sources of revenue will have received a severe blow, not from any fault in the stock we have produced for sale, but simply because our Canadian horsemen and farmers have not had enough backbone to stand up and declare themselves honest men, by discountenancing not only actual dishonesty, but also every appearance of the same.

BLUE BLOOD.

[The Breeders' Gazette, of Chicago, has spoken very clearly on this subject, in a way that is prejudicial to the interests of Ontario, and will doubtless have an effect. Space forbids us treating this subject editorially this issue.]—Ed.

The Glen Stock Farm.

The above is the name of the farm and residence of Messrs. Green Bros, of Innerkip, Ont., which is beautifully situated on the banks of the river Thames, in the picturesque County of Oxford. The proprietors, Messrs. Green, emigrated from Wales to this country some twelve years ago, and first settled in the County of Halton, close to the shore of Lake Ontario, where they engaged in fruit farming; but, subsequently, having determined to enter into stock raising, they purchased their present property and made their first importation of Shorthorns in 1883, from that now far-famed Shorthorn centre, Aberdeenshire. Other importations followed, and the herd, now consisting of twenty-five head, are all Scotch cattle, tracing to the well-known herds of Messrs. Duthie, Marr, Cruickshank, etc. The herd, although not large, is select; quality combined, with a disposition to lay on flesh evenly and easily, being kept well in view. The cattle were in good condition, and we were informed by Messrs. Green, that from the time they are turned out in spring, which is usually about the first week in May, until they are brought in for the winter, no grain or other food is fed.

Among the breeding cows, our attention was at once bespoken by imported Vain Maid, a winner both in Scotland and Canada. She was

bred by Mr. Marr, of Aberdeenshire, and is of the famous Emmas family, which has produced so many noted winners, such as Emma III. and Emma IV., who respectively won first and second at the Highland Society's Show. The Earl of Marr (47815), Messrs. Green's gold medal stock bull, and the remarkable twin heifers of American show fame, which were known as "Pott's Emmas," were also bred by Mr. Marr.

Mr. Marr's Clara family, which, in Aberdeenshire, has long held a character for prolific breeding and thick flesh, is represented by three females with well sprung ribs and great wealth of flesh, and all of the fashionable red color; while imported Countess 5th, with three of her offspring, are of Mr. Duthie's now famous Countess family, the dam of Countess being the dam of the celebrated show bull, Cupbearer, now the property of Bow Park. Princess Royal 23rd, also imported, a neat, mossy-coated roan, has proved a most successful bull breeder, and at the time of our visit was suckling a very promising red heifer calf by the Earl of Marr. Several nice, young heifers were grazing on the flat lands, one a rich roan yearling with plenty of length and grand front, we found was also of the Countess family, while a short-legged, thick, white heifer showed that whites still keep up their reputation as feeders. Several good bulls and heifer calves were in the stables, but space precludes our entering into particulars suffice it to say that they were fine animals and worthy descendants of their sires.

Messrs. Green also import and breed Shire horses, of which they have at present seven head; three of these are imported horses, and a cursory glance enabled us to see that a primary consideration had been made of good feet and flat bone, while above were good bodies and plenty of muscular development. One of the mares, Georgia, a chestnut, sired by Royal George 2nd (2485), and on the dam side of famous old William the Conqueror (2343) descent, was being fitted for the Exhibition. She is already a prizewinner at the London (Eng.) Shire Show, and we shall not be surprised to see her among the chosen three this fall, for she is wide in front and behind, near to the ground, on good flat limbs, with good quarters and well stifled. The other two imported mares are browns, one of them suckling a well put together colt, with plenty of bone; she is a mare which has proved a remarkably successful breeder, having raised a colt every year since she was two years old. Gipsy, a bay, by a son of William the Conqueror, is a big, upstanding filly, and promises to develop into a massive mare. The other, a black, is a blocky, short-legged animal, on feet and legs of the right sort.

A new departure has been made at the Glen in pigs, and improved large White Yorkshires now fill the pens where Berkshires were formerly kept. This is the result of a partnership (extending, however, only to the Yorkshire pigs) which has been entered into between the Messrs. Green and Mr. J. E. Brethout, of Burford, for the purpose of importing and breeding Yorkshire pigs. Their first importation, consisting of two boars and six sows from one of the best herds in England, has recently arrived, and at the time of our visit three of the sows had each a fine and numerous family running around them. The difference between the improved and the old Yorkshire was easily apparent in their shorter noses, deep sides, skins which are remarkably soft and velvety to the touch, and an easy disposition to fatten. The sow "Dodo" took our attention as being an exceedingly good specimen of the breed; she is short in the snout, good shoulders, back and hams, well sprung and deep sides. Her dam is of the famous Lady Derry family, her sire being the grand exhibition boar Madman III. (747), who won first at the Royal Dublin and other shows. The other sows were a fine, even lot, two of them being of the prize-winning Mollington Lady strain. The boar Sultan is also short in the nose, and of great length, with plenty of bone, and should, from his descent, prove a valuable stock boar, his sire being Magistrate 2nd (343) and his dam the celebrated prize sow Miss Hough (416), who won first at the Royal Highland, the Royal Dublin, and many other first prizes. The other boar, although not quite so lengthy, is well haired and of very fine quality.

Judging at Fairs.

We have often been struck with the anomaly of giving the prizes to the largest cows and to the smallest bulls. Take for instance, at Toronto last year the first and second prize cows weighed 2250 pounds each (a decision that no one questioned the justice of), while the first prize aged bull only weighed 2190 pounds. Now, when we take into consideration the relative difference between the sexes, the bull, to correspond with the weight of the first prize cow, should weigh about 2750 pounds.

Those who visit the show ring to learn will go away very much befogged, or take away the opinion that the judges have stultified themselves.

R. & L. NICHOLSON,
Sylvan P. O., Aug. 16th, 1889.

Veterinary.

Barren Cattle.

BY C. H. SWEETAPPLE, V. S., LONDON, ONT.

There are few occurrences that are more annoying and discouraging to the owner and breeder of pure bred cattle than to find, as he not infrequently does, that some one or more of perhaps his most cherished and favorite heifers or cows, proves to be barren. And the question is often asked, How is this to be prevented? In the treatment of all diseases and derangements of the animal economy, the first matter to be considered is, What is the cause of the trouble? Unless we know the cause, how can we hope to prevent it? Unless we know its actual location, how can we hope to remove it?

The anatomy and physiology of the organs of reproduction are now pretty well understood, and we are aware that there are various diseased conditions of these or other organs, as well as general derangements of the system at large that may render an animal sterile. Sterility may also depend on organic or physical causes, and may be permanent, more especially if congenital, and located in the generative organs. Some of these conditions might be difficult to discover even by a careful post-mortem examination. Animals in which one or more important organs of the sexual apparatus are absent, and hermaphrodites, are usually permanently sterile. Also to preserve and keep distinct for all time the different species of animals in nature's realm, "nature's laws immutable and just" have decreed that hybrids shall be incapable of reproducing their kind. Although authenticated instances of exceptions to this rule have occurred, I believe there is no instance recorded of the young having ever lived to maturity. Our breeds of cattle that have been improved almost solely with the view of producing suitable stock for beefing purposes, are especially prone to barrenness. This can readily be accounted for when we recollect that breeders have been devoting all their efforts for a long time back to produce animals with an especial predisposition to lay on flesh and fat. Excessive obesity is very detrimental to breeding animals, and accumulations of fat about the ovaries, fallopian tubes and other parts of the generative organs are often the direct causes of sterility. In cases of this nature with the object of restoring the system to breeding health, purgatives, lower diet, barer pasturage, and plenty of exercise would be the line of treatment to adopt. There may also be disease or alterations of the vagina,

uterus, fallopian tubes, or ovaries, tubercular deposits, tumours of various kinds, &c. In all these conditions a careful examination should be made, as removal of the cause may possibly be within the resources of medical or surgical science.

"Occlusion of the os uteri," that is, closure of the short canal leading into the uterus, is a very common cause of barrenness in the cow. This may be due to a spasmodic condition, or rigidity of its muscular tissue. Or there may be disorganization, deposit of false membranes, enlargement and hardening, with the canal on manipulation feeling as hard and firm as cartilage. This latter condition has been, I believe, often produced by injury to the parts during a previous parturition.

If on examination the closure is found to be merely due to muscular rigidity of the "os uteri," the oiled hand should be gently introduced into the vagina. The "os" anointed with the extract of belladonna, which will have a tendency to relax the muscular contraction, and then in a few minutes the points of the fingers inserted and gradually pushed forward until dilation is accomplished.

But in cases where disorganization, hypertrophy, and hardening of the part have taken place, the dilatation will not be so readily accomplished. Still, the point of the finger is the safest to use, or sometimes a round ended probe not too small may be an assistance.

Perseverance and perhaps some little force may be necessary. But, of course, the less force applied the better. Cases occasionally occur that require the aid of a pointed or cutting instrument, but this should never be adopted unless safer means are ineffectual.

Cancerous tumours in various parts of the organs and tubercular deposits as before mentioned are not unusual causes of barrenness, and in those cases in which the cow or heifer appears to be continually or almost all the time in season, but does not become pregnant, something of that nature may be suspected. Pampering, high feeding, and insufficient exercise are also well marked causes producing a congestive and irritable condition of the parts, that the best care and treatment may fail to remove. In some instances the period of "vestrum," the coming in season, does not occur at all, in which event, should the animal appear in a thriving condition, and in perfect health, sufficient time being given, turning at pasture, and the company of other cattle, etc., we may then suspect, congenital malformation, such as absence of the ovaries, or other organs, or probably fatty degeneration. Neither must we forget that as a rule bulls get far too little healthful exercise; that fatty degeneration in the male animals may occur as well as in the female.

Enquiries are frequently addressed to us as to whether it is advisable in the event of cows or heifers not experiencing the usual and natural season of "heat" to administer Spanish flies, or other medicines, with the view of exciting the generative organs. In reply, I may here remark that it is not as a rule in accordance with sound physiological knowledge to administer medicines with this object in view. The state of the patient should be carefully looked into, and the cause of the trouble discovered if possible. Measures of general management should be adopted, such as pasturage, exercise, companionship with other animals, together with lower or higher feeding as the case may require. Spanish flies are dangerous, and should certainly never be administered internally to any animal, unless by the advice and under the direct supervision of a reliable veterinary practitioner. Before closing this article it may be well to mention that while "in-and-in" breeding, that has heretofore been adopted by some of the most noted and successful breeders and improvers of celebrated families of cattle, has certainly its marked advantages, as it enables the breeder to concentrate and perpetuate superlative excellencies, that by the same rule it will also intensify any hereditary or latent tendency to disease, and there can be little doubt that by this means many diseases have been perpetuated.

The Dairy.

Our Dairy Prize.

During the last two years the dairy breeds have attracted more attention in Ontario than formerly. War now wages bitterly, especially between the Jerseys and Holsteins, the breeders of each claiming superior merit for their favorites. Competition between different animals and different breeds and their grades have been held in connection with our best fairs, but in no instance has a test been made in Canada in which the value of the food consumed was taken into consideration. Alive to the importance of this factor in determining the value of a cow, the ADVOCATE has offered the prize announced in the prize list of the Provincial Fair, and which will, we believe, be of great benefit in throwing light on this disputed subject. We hope to see a strong competition between the various breeds. Prof. Robertson, who will have charge of the tests, is well known to be fully qualified for the undertaking, and we believe enjoys the full confidence of the breeders of Canada. The breeders of each of the various breeds are invited to appoint a deputation to look after their interests.

Adulteration of Milk.

Bulletin No. 2, from the department of Inland Revenue, Ottawa, contains interesting matter to residents in cities and towns who buy their milk from dealers. Out of twelve samples from Halifax, N. S., analysed by the department, four were partly skimmed and three were watered, and the best sample contained but 13.42 per cent. of total solids. From Picton, N. S., six samples were analysed, all of which were good, one being even part cream. From St. John, N. B., nine samples, four of which were watered, the total solids ranging from 10.16 to 10.92, the other five samples were fair, ranging from 12.69 to 13.48 total solids. Of eighteen samples from Quebec, P. Q., one was partly cream, eleven were average, one below average, three skimmed and two watered. Of nineteen from Montreal, P. Q., five were partly cream, one containing 16.40 per cent. of total solids, ten were fair, two below average and two watered. Of six samples from Sherbrooke, one was partly cream containing 16 per cent. of total solids, the lowest of these samples contained 12.10 per cent. total solids. Of six samples from Ottawa, one was below the average, the remainder contained from 12.87 to 13.71 of solids. Of six samples from Kingston, one was partly skimmed, three below the average, the other two containing 12.75 and 12.26 of solids respectively. Six samples from Belleville, contained from 13.71 to 12.02 of solids. Of five samples from Toronto, one was watered, three below average, and the remaining one contained 13.02 per cent. of solids. Six samples from Port Hope, one was below the average, four 12.12 to 12.87, and one partly cream containing 15.52 of solids. Of six samples from Peterborough, one was skimmed containing only 9.55 of solids, two below the average containing 11.60 and 11.82 respectively, the remaining three containing from 12.90 to 13.15 of solids. No samples were analysed from London, but the analysis by the Medical Health Officer, Dr. J. V. Hutchinson, of ninety-three samples, gave an average of 15.28 per cent. of solids, of these eight fell below the standard adopted by the board of health, viz., 3.25 per cent. butter fat, which represents 13 per cent. total solids.

Sweet and Sour Cream.

Ripening the cream does not increase the butter fat in the least, but the acidity developed cuts the viscous element of the cream that coats every little globule of fat and enables them to adhere during the process of churning. Cream usually contains about five per cent. of this viscous matter, which is made up of sugar, albumen and fibrin. In churning sweet cream it is well to add a little warm water. This reduces the adhesiveness and allows the particles of butter fat to unite.

Where Jerseys Come From.

Jersey Island, the place from which we obtain the favorite Jersey cow, is a small spot of land. If squared, it is six and three-quarter miles each way, about the size of a township in Manitoba. Yet this little island has a population of 60,000 human beings, and has over 12,000 cattle, and has had that number for the last twenty years, for the census of 1861 gives 12,037. And yet they export on an average annually 2,000 head. Roughly speaking, on this island they manage to support one head of kine to every two acres, while in England there is only one head to every ten acres; therefore, in proportion to its size, Jersey exports two-thirds as many cattle every year as England contains. If England were to export cattle at the same rate, her whole stock would be swept away in a single year.

Cows and Calves.

A writer in the N. Y. Tribune says:—I speak from many years' experience in raising cows when I recommend that they be bred to come in at two years old. It is barely possible that the animal may not attain quite as great a weight in maturity as if bred to come in at three years old, but even this I am inclined to doubt, for I believe it simply makes them a little longer in getting their growth; but even if the size should be reduced a little what does it matter? Bigness is not what we want in a cow, but a developing of the milk and butter qualities, and it is wise to begin this early. A good heifer that comes in at two years old has more than half paid the cost of raising at three, while the animal kept till then without a calf has cost double. Another reason for breeding young is that you may test the cow early and if you find she has a bad disposition, or milks hard, or that her milk is of a poor quality, you may turn her into beef and get rid of her a year sooner.

Contaminating Flavors.

The aroma and flavor of butter are often affected by causes so subtle in their action as to render their discovery possible only after the closest investigation. A very careful and successful butter-maker related to us an experience the other day which very nicely illustrated this point. His butter in some way acquired a very objectionable flavor for which he was for some time wholly unable to account. He investigated the food of his cows, changed his salt, and did some other things, all to no purpose. He had a driven well some fifteen feet from his milk house, carefully cased and cemented against filth of all kinds, and the floor of his milk room is cemented. At one point, however, the floor was somewhat broken, and in the frequent scrubbing given the floor more or less of milky substance was washed into the earth. The water of the well possessed no apparent flavor of sour milk, but suspecting that there might be something wrong here he raised some of this water to a high temperature, when the disagreeable flavor was at once revealed. The butter was washed in this water—hence the flavor. The damaged floor was at once torn up, revealing a horrible stench, the place thoroughly cleansed, and a new cement floor laid. The difficulty disappeared speedily and the butter is sweet as of yore.

Co-operative Dairying.

There is little doubt that co-operative dairying has benefitted Ontario during the past fifteen years more than any other branch of farming. Some have made money by other means, and some have lost money in dairying, but taken as a class, the men who have persistently patronized the cheese factory year after year, and made a good article of butter when the factories were not running, are, all things considered, in the best position. There has been, and still is, however, one great objection to co-operative dairying, viz., pooling the milk. For instance, the farmer who feeds his cows well, and brings them through in good, healthy, thrifty condition, will get milk containing from 3½ to 4 per cent. butter fat, while that from cows poorly fed during winter, and as a consequence thin in the spring, will contain probably 2½ to 3½ per cent. This would make a difference in their respective values of 20 to 25 per cent. This prevents many from patronizing co-operative dairies, and many who do patronize them are robbed by men who send poor milk, although probably in total ignorance of the fact.

Now the time has arrived when this evil may be readily overcome. Until quite recently, there has been no cheap and accurate method of testing milk. Now, however, the lactoscope and Professor Short's method are available, both of which may be relied on. The lactoscope is the shortest, and is equally reliable with the Short's method, with the exception that a thorough expert might so "doctor" his milk as to mislead the operator with the lactoscope, but it would require an expert indeed, but with Short's method, it would be absolutely impossible. A capable man with a lactoscope, would test milk as fast as his assistant would weigh it in from the wagon, and by having the Short's method to use in cases where there was a doubt, it would be perfectly just to allow every patron the value of the butter fat in the milk, and nothing more. It is a lamentable fact, that the pooling system has encouraged the production of a very undesirable class of cows, such as yield a large flow of inferior milk. Now milk is valuable only for the solids it contains, and one hundred pounds of milk containing three per cent. of butter fat, is not as valuable as fifty pounds containing six per cent. There is no practical method of obtaining all the fat in milk, and if say one-half of one per cent. is left in the skim milk, this will leave twice as much in the one hundred pounds as remains in the fifty pounds of richer milk, as the per centage is the same, and the amount is twice as great. But in reality, the difference is still greater in favor of the richer milk, as the fat globules being larger, separate more readily from the milk, consequently the per centage left is smaller. It was formerly claimed by some, that milk had a cheese value outside of the butter fat, but the best practical men of to-day are aware that unless the whole vat of milk exceeds five per cent. of fat, that there is none of it wasted, and where it does not reach that, there is room for improvement in the quality of cheese, and it is extremely doubtful if ever a vat of milk was set for cheese in a co-operative factory, where that percentage was reached. This system will doubtless be adopted in the near future; in the interest of right and justice it must be so. And while, as a leading cheese manufacturer recently remarked, it will cause the dishonest man to "kick," it will be in the interest of the honest man and good feeder.

The Elaboration of Milk and Butter-making.

BY PROF. JAMES W. ROBERTSON, GUELPH, ONT.

All milk, like some butter, is fearfully and wonderfully made. With reference to the elaboration of milk, I mean all that that sentence expresses.

Milk Elaboration.—Milk is secreted by and in two longitudinal glands, commonly called the udder. These two are separated by a fibrous partition, which is attached to connective tissue under the skin. That tissue also spreads through the udder, apparently for its support in position. The udder is spoken of as having four quarters. That is popularly correct, although the division between the two quarters on each side is not definite or distinct. The gland stripped of its covering, is a reddish-grey substance. In dry cows the deposit of fat in the connective tissue gives it a yellowish appearance. The internal canal of the teat opens into a milk cistern. The total quantity of milk held in the four cisterns or reservoirs at the top of the teats will seldom exceed one quart. Numerous ducts rise from these and branch into all parts of the udder. The ducts and their branches become smaller as they spread, until each one ends in a vesicle, or "ultimate follicle," about $\frac{3}{8}$ of an inch in diameter. Into these cavities, the serum of the milk, its water, casein, sugar, albumen, etc., seems to pass from the arterial blood through capillary tissue. A change in the cell albumen of the blood is believed to take place during that transition. The inside of each vesicle is studded with innumerable cells. Through these the fat is produced, supposedly by budding. There are ordinarily about 1,000,000,000 of these globules in a cubic inch of milk. They have no organic pellicles or so-called skins. The activity of secretion depends largely upon the vigor of the blood circulation. The production of fat depends mainly upon the temperament of the cow, gentle handling, and feed rich in protein. Violent disturbance of her nervous system has a disastrous effect upon the cell action and capillary activity in most cases. Arteries, veins and nerves together pervade the whole of the udder structure. New ducts, such as those referred to above, are formed by branching or sprouting out from others. Rubbing of the udder, rapid and clean milking will promote their growth and development until the sixth year. A pressure of fat in the connective tissue on the gland, interferes with and hinders the secretion of milk.

Feed.—The milk of cows being a direct elaboration from their blood, whatever interferes with a healthy condition of that fluid, will equally affect the quality and quantity of the milk secreted by the udder. Too much care cannot be exercised in providing feed suitable, succulent, easily digestible, wholesome, and nutritious. Fodder corn sown broadcast does not fill that bill. Such a fodder is mainly a device of a thoughtless farmer, to fool his cows into believing that they have been fed when they have been only filled up. The same plant, when grown under conditions favorable to its attaining mature size and quality, gives a fodder by means of which cows are enabled to produce the largest amount of milk, butter, and cheese per acre of the area of the land required for their support. This fodder corn is not a complete ration

for the best production of the best milk. When supplemented by food rich in albuminoids, such as cotton seed meal, oil-cake, bran, or pease and oats, better returns for the food consumed are realized. Last summer, one of our Canadian dairymen, feeding 18 cows upon fodder corn as food supplementary to scant pasture, furnished milk to a cheese factory. In course of time he provided a supply of bran, and by the end of the first week after the feeding of bran was commenced, he found by examination of the factory books that he was credited with enough extra milk to pay for the bran consumed (two-and-a-half pounds per cow per day), and to leave him a balance of \$2.43 of extra profit for that week. The grass of early summer is also too watery and weak in nutrients for its bulk to be fed alone to the greatest advantage. A judicious allowance of bran or grain, similar to those already mentioned, will increase the milk supply and fortify the cow's system for the large production of milk during midsummer, fall and winter.

Water.—Water is nature's vehicle for the carrying of most of the matter which she requires to move from place to place. The great boulders were quietly clasped in her arms and without apparent effort brought from the northern ridges to the southern parts of your State. The tiniest specks of nourishing matter required to replace worn-out tissues to the body, are also carried to their proper place for deposition in this wonderful omnibus. The same water taken by a cow, to serve as a carrying medium in her blood for the equable distribution of the elements of nutrition throughout her whole body, is in part made to serve a similar function in the milk she yields. If that water be impure in the first place, it is liable to continue so throughout its whole mission from the drinking by the cow until after its consumption by the creature consuming the cow's product. Water contaminated by decaying animal matter, is specially likely to retain its impurities. The milk from cows drinking such water is a menace and danger to the public health, and interferes greatly with the commercial value of all dairy products. There should be an abundant supply of pure water easily accessible by the cows during hot weather. It should be furnished to the cows at a comfortable temperature during the cold weather of winter. I have not found that cows which are denied access to water, will give as much milk or of as good quality, as when abundance of water is provided with plenty of wholesome, satisfying food.

Salt.—Dairy cattle should have access to salt every day; and salt should be added to all their stable feed. A series of experiments has convinced me, that when cows are denied salt for a period of even one week, they will yield from 14 and a-half to 17 and a-half per cent. less milk, and that of an inferior quality. Such milk will on an average turn sour in 24 hours less time than milk drawn from the same or similar cows receiving salt, all other conditions of treatment being equal.

Shelter.—Comfortable quarters are indispensable to the health and comfort of cows. Stables during the winter should have a temperature constantly within the range of from 40 to 55 degrees. In summer, shade should be provided in the pasture fields, to protect against the bristle-making influence of July and August suns. In all the management of cows, such conditions should be provided and care given as will insure excellent health and apparent contentment. Feed should be supplied regularly; and, when practicable, milking should be done by the same person and with regularity as to time.

[TO BE CONTINUED.]

The Farm.

Saving Seed Corn.

The first requisite for a good crop is good seed, and probably no other crop is more dependent on the vitality of the seed than corn. Not all corn that will germinate should be used for seed. The difference between a weak, delicate plant, and a strong healthy one, is often attributable to difference in the vitality of the parent germ. In this country, owing to the short seasons, it is advisable to use the varieties that mature earliest, unless some other shortcoming forbids it. Professor Roberts, of Cornell University, speaking in this city last winter, said:—"Plant the largest variety that will mature in your own locality," which statement we endorse. Much may be done by selection, and those who purpose raising corn for grain or ensilage will be profited by following the course here recommended. When two-thirds of the corn is glazed, cut and shock, putting twenty-five hills to the shock. This will allow the corn to dry through more quickly than if the shocks are large. As soon as dry enough, husk at once, rejecting all inferior ears and leaving a few husks on the good ones. Plait these together and hang them up in a dry warm place immediately, and if the room is heated artificially all the better, as the sooner the moisture is out of the ears the better. Allow it to hang in a dry place all winter, and until required for planting. Corn thus dried at the time of harvesting seldom fails to grow rapidly. Making the shock too large at time of cutting, allowing the ears to lie long on the ground, and storing in large quantities are all fruitful sources of mould, and consequently of feeble vitality.

Badly Drained Soil.

Probably no better illustration can be given of the effects of water on growing plants than what we see in the case of plants growing in pots. Every pot is provided with a hole in the bottom to allow the water to drain out when the soil becomes saturated, and, with the exception of water or bog plants, this drainage is a necessity. If we see a plant whose foliage turns yellow, or drops off, or which fails to grow, and whose whole appearance is unthrifty, we are almost sure to find the trouble to be at the roots, and not unfrequently we find the drainage is clogged and the roots are inactive. Turning the plant out of the pot, placing some bits of broken crock at the bottom, and then some coarse material, the plant is returned to its place, and filled in with fresh soil, and in a short time it starts into new growth and shows that it can grow if the conditions are suitable. Without healthy roots there can be no vigorous growth. A supply of water is necessary for the roots to take from the soil what they want, but the water must pass off and not remain stagnant, or disease and death will follow. The case is exactly the same with plants growing in the fields where there is an excess of moisture below the surface.

Pot-grown plants may still further serve to show a bad effect of a surcharge of water in the soil. All plant-growers are very careful in cold weather about watering their plants at night, knowing by experience that the increased evaporation will too greatly reduce the temperature and thus check and stunt the plants. The case is the same in effect over large areas where the water is held in the soil below the surface. The temperature is kept many degrees below what it would be if good drainage existed. Vegetation commences later in the spring, arrives at maturity later, and is coarser in texture on such soils. The market gardener, the fruit-grower and the farmer cannot afford to raise crops on any but well drained lands.—[Vick's Magazine.]

Manitoba As It Is.

BY THE HON. THOS. GREENWAY.

The Province of Manitoba has for some time past been the subject of a great many reports and comments, and no doubt will be in the future. There can be no complaint that so much attention has been and is likely to be directed to her, but the disposition, if indeed it may not be termed the habit, of exaggerating nearly every statement that is made regarding her, might be corrected with profit. Reports are valuable only as they are correct, any variance from the facts is likely to be discovered and work harm. The short history of Manitoba affords indisputable testimony on this point, much harm has been wrought in this way. When the country was first brought prominently before the public it was described in the most rosy style. People seemed to get the impression that a veritable Eldorado had been discovered, and some of them came here to meet a serious disappointment, and returned to denounce the country as a fraud. If it had been stated that the resources of the country were of an extraordinary character, and that honest effort would meet with an ample reward, there would have been no occasion for disappointment or defamatory reports. The fact is that nature has bestowed her favors on this country with a lavish hand, but the original edict, "In the sweat of thy face shall thou eat bread," has never been repealed even in part.

In the spring of 1882 the rivers were swollen, and in places the banks of the rivers were overflowed. At some points considerable inconvenience was experienced, and there was doubtless some loss of property. Forthwith reports of a most startling character were sent abroad. Eastern papers teemed with accounts that were enough to appall. As is not unusual in such matters each one who last repeated or reported the alleged facts assumed the right to add a little to all that he had heard. The impression created was of the most erroneous character, and is perhaps scarcely removed yet. There may be a lingering idea yet in the minds of those who know little or nothing of the country, that a large proportion of it is liable to be inundated any spring. The fact is that the cities and towns of Manitoba are less liable to suffer loss or injury from spring freshets than the towns and cities in Eastern Canada, and other parts where these are at all likely to occur. The cold of Manitoba constantly presents an attractive topic to the narrator of heroic adventures, the funny newspaper correspondent, and the veracious rival emigration Agent. To hear and read what is frequently said of the cold here would give the idea that suffering from the rigors of the climate was in the last degree intolerable. It is not denied that the thermometer often registers much lower here than in Eastern Canada, or on the Pacific Coast. There are, however, conditions in the atmosphere that mitigate in a very marked degree the lower temperature. Thousands who have been in the country for years unhesitatingly express a decided preference for the winters of Manitoba as compared with those of Eastern Canada or Europe, and it is extremely rare to hear one prefer Ontario winters to those of Manitoba. The frosts that have been experienced have been made do duty in almost every conceivable shape by the detractors of the country. Had no unfair report of these occurrences been made,

the country would have sustained little or no damage. In the general excitement created by the statement of what purported to be facts, surrounding circumstances and results were altogether ignored. Frost has been a not uncommon visitor at unseasonable dates in new countries. As the country opened up these unwelcome visits become less frequent. Residents in the Eastern Provinces should not require to be reminded of this, and as if to afford a rather sharp reminder the unwelcome guest put in an appearance down there very unexpectedly last season and this. If Manitoba had escaped the experience, other countries have had in this matter, it would have been strange. But in all justice, before condemning the country as unfit for agriculture, and undesirable, enquiry should have been made as to the results attained by our farmers. It is believed that the farmers in the Province of Manitoba during the past few years, where they suffered most, have been better rewarded for their labor, and have more to show for it than those of any other Territory, State or Province, on the continent. If they have suffered from frost they have not suffered from a host of natural enemies, and frost too, as other parts have unfortunately had to do. A plain statement of the facts would frustrate the possibility of the very incorrect and misleading impressions that have been created about the frost.

This year it has gone forth that the drought has destroyed the crops, and that the Manitoba farmers are financially ruined. The climax of this exaggeration was reached in an American press dispatch carefully distributed about the world, to the effect that the people of Manitoba were on the verge of starvation, and were eating gophers and field mice. If it had been stated that the country had been subject to a crucial test by reason of the continued dryness and absence of rain year after year, and that it had nevertheless passed through the ordeal as perhaps no other country ever had done, a regard for truth would have been observed, but an opportunity would have been lost to injure a rival. There is the best of ground for believing that this year's crop will be the largest ever reaped in Manitoba, excepting that of 1887. It is a matter for profound regret, that this constant inclination to overstate and exaggerate, should form so conspicuous a feature in almost everything that is said about the country. Far too much encouragement has been given to this kind of representation, or rather misrepresentation. Manitoba in her climate, in her soil, in her natural resources and advantages, in her people, and in her prospects, has an undoubted right to claim very great advantages. These are not enjoyed without some disabilities.

Every one who has any interest in the country present or prospective should content himself with a plain statement of facts, and leave all exaggeration to those who do not enjoy equal advantages, and are compelled to adopt means to supply the deficiency.

SELECTION OF A HOME.

At a time when so many are selecting homes for themselves in our Province, a word or two upon the subject may not be out of place. In choosing a farm for settlement in Manitoba, at the present time, it cannot be too strongly urged upon the new arrival, the desirability of securing a piece of land in a settled district in preference to locating in the more remote

sections of the country, where free lands can still be obtained. Of course, a great desire naturally exists on the part of intending settlers, and especially those with limited means, to secure free lands. This is frequently a false economy. Lands in most desirable localities, and at very reasonable prices, upon easy terms of payment, can readily be secured, or failing to be suited at once, it would be better to rent for a time, which can easily be done at a moderate rate; taking further time to make a suitable selection, and always taking care to have the advantages of convenient markets, schools, churches, &c., &c., rather than being subjected, perhaps for years, to the very great disadvantages of a pioneer life, such as many of the early settlers had to endure. The great advantage of being convenient to market in the county where labor usually commands a high price, and where such large quantities of grain are produced, can scarcely be overestimated. Not to dwell upon, the very many social and other benefits accruing from residence in a well settled neighborhood, the writer, after a residence of nearly eleven years in the Province, does not hesitate to say that the settler who now obtains land in a settlement, having the conveniences referred to, at a fair price, is better off, and much more likely to succeed than the early pioneers, who got their lands simply upon the performance of the homestead conditions.

Evidence of Settlers on the Manitoba & Northwestern Railway.

James R. Cook came from Hamilton, Ont., to Birtle in 1879. He now has 320 acres; thirty acres of which are in crop. He makes horse breeding a specialty, and has sold a good many at an average price of \$150. His average grain yield per acre has been: Wheat, 25, highest yield 42, lowest 18; average price obtained sixty cents. Oats yield from 20 to 75 bushels. He has had frozen wheat on two occasions, but it was always marketable at forty-two cents per bushel. He says the reason so many farmers lose their crops by frost is, "They do not properly put their crops in, nor get them in early enough."

Robert Patterson came from Shakespeare and settled near Fox Warren in 1882, and has had his wheat frozen twice in seven years. During the seven years his grain has given the following average yield per acre:—Wheat, 26 bushels; average price received, 50 cents per bushel. Barley, 38 bushels; this is a very sure crop. His evidence regarding live stock, native and cultivated grasses, corresponds with that already given. He considers the outlook good, and the country a very suitable home for the agriculturist if he is willing to work. His stock remains in the field until well into the month of November, and are again turned out in April. All stock does well on the dried prairie grass. He had, when we were there, several young cattle and dry cows, which had fattened on it.

C. H. Siples came from Oxford, Ont., to Wattsoien, Man., in 1882; has now 480 acres, 44 cattle, 23 horses, and a small flock of sheep. His crop comprises 62 acres of wheat, 40 of oats, and 2 of barley. His average grain yield for five years has been—wheat, 28½ bushels; oats, 45 bushels. This grain was slightly frozen in 1884 and 1885, and badly in 1888. In the first two years it was not injured for market. Oats when sown early were never injured until 1888, when they yielded 40 bushels per acre. His stock pastures out until the 14th of November, and is again turned out about the 14th of April. All stock will winter out well if provided with an open shed and fed prairie hay, which he considers better in every respect than tame hay. He, like all other practical farmers, says he would not return to the east again, the land does not require half the cultivation here to produce a crop; can make more money with less labor. He also prefers the climate, both man and beast enjoy better health here.

What Exhausts the Soil.

A report issued from the Wisconsin Institute says:—"We do not exhaust land by selling the fat of animals, but we exhaust when we sell their muscle, their bones, their hair, their skin and horns. We exhaust land when we sell milk, cheese or eggs, but not when we sell butter. If we sell \$200 worth of wheat, we sell \$48 worth of plant food from the soil. If we sell a horse worth \$200, we sell \$7 worth of fertility, while if we sell \$200 worth of butter, we sell less than \$1 worth of plant food. These figures are well worthy of the attention of the agriculturist in determining what he shall grow for market.

Farming Affairs in Great Britain.

(From our English Agricultural Correspondent.)
London, Eng., Aug. 1st, 1889.

THE HARVEST.

A long period of dry weather having ended in the first week of July, rain came to save the crops on light soils from something like destruction. Unfortunately when it came, it "came to stay," and after it had done good, it did a great deal of harm. Heavy downpours day after day laid all the best of the crops throughout the whole of England and Scotland, leaving only the comparatively light ones standing. Fortunately the grain was nearly mature when this occurred, and the damage would have been small if fine dry weather had followed; but for three weeks we had more or less rain nearly every day, and the quality of wheat and barley has been injured seriously, although less damage has been done than would have been the case if the grain had been more backward. This week a delightful change has taken place; hot, sunny weather having set in on Sunday, giving rise to hopes of a dry August. As harvest became general in the northern half of England on Monday last, this change is most opportune. If the hot sunshine lasts, wheat cutting will be begun in most parts of the rest of this country and in the early districts of Scotland and Ireland next week. In spite of the laying of the best of the crops, I am of opinion that wheat, barley, oats and peas will all be a little above average in yield. Wheat will probably be about two bushels above, or thirty bushels an acre for the United Kingdom; and if the area is a little more than it was last year, as it probably is, we shall have about 80,000,000 bushels as the total crop. Barley will be only slightly above average, oats about the same, and peas about a bushel an acre above, while beans will be four bushels below the normal standard, I should say. These are merely rough estimates, though they are based upon an examination of the crops in many parts of England and Scotland, and upon the study of a great number of reports from other districts. Hops now promise to be a great crop, but cannot be estimated at present. The rains have insured us a magnificent root crop, mangolds and turnips being alike luxuriant in growth. Potatoes also will produce heavily, but may be a good deal diseased after so much rain. The first cut of hay was one of the greatest crops ever gathered, and the greater part of it was secured in splendid condition, before the rain came. Now there is a bulky second-crop in sight, a good deal of which will be preserved by ensilage, mostly by the stack system. There will be a great store of winter keep for live stock, and this will help to keep up prices.

The great sheep sales are now in progress, and capital prices have been realized hitherto. Sheep breeding has paid well during the last two seasons.

PRESENT AND PROSPECTIVE PRICES.

A rise in the price of wheat, a shilling during the last fortnight, has been obtained in consequence of the unsettled weather of the beginning of harvest in this and several continental countries, and of the unfavorable reports of the crop in Russia, Roumania, Austria, Hungary and Italy. In 1887 and 1888 Russia had great crops, that of the latter year being probably the biggest ever grown. This season, on the other hand, the wheat crop of that great empire will be one of the smallest, and as the yield in Roumania and Hungary, the two other principal wheat exporting countries of Europe, will also be small, there will be a good demand for extra European supplies. The crop of the United States, although a good one, is smaller than at one time expected, and although the Canadian crop is likely to be above average, the surplus in India and in South America will be much less than usual. On the whole, the world's supply of wheat must be smaller than it was last year, and as reserve stocks are low prices ought to go up considerably. Probably, however, there will not be much of an advance so long as supplies are sufficient without trenching upon reserve stocks, and the great Californian surplus will tell against any improvement during the autumn.

Good malting samples of barley are likely to be scarce, and should sell well, and oats will not be superabundant. Store cattle and sheep are pretty certain to keep up in value, and there is no reason why meat should be cheap. For cheese the prospect is not so good, as the quantity made here this year can scarcely fail to be extra large, so plentiful has feed been all through the season, so far. In wool there is no sign of a decline at present. Apples must be dear, as they appear to be a short crop nearly everywhere. Potatoes will be cheap.

AGRICULTURE IN PARLIAMENT.

The Board of Agriculture bill has passed through both Houses of Parliament, and will now become law. It will effect a great improvement in our Agricultural Department, and will bring under the charge of a single office various branches of agriculture and administration at present separately managed. It may also help to improve our defective system of agricultural education, and even aid in agricultural experiments and research. The only other measure specially affecting agriculture which has attracted much attention is the Tithe Rent-charge Recovery Bill, designed to checkmate the rebellious farmers of Wales and a few English districts, who refuse to pay tithes except on compulsion. It is a most unfair and one-sided measure, as it is entirely on the side of tithe-owners. It purposes to make the tithe rent-charge a personal debt due from the occupier of land, recoverable by county court judgment, while it leaves the tithe-owner's existing powers untouched, so that he will be able to distrain if the amount is not paid in accordance with a county court judgment and costs, while he can seize and hold the land till he has paid himself out of its produce if he cannot find enough property to distrain upon. The bill also retains the tithe-owner's priority of claim, although it

makes the tithe a personal debt. Hitherto tithe has been a charge on the land, and the Tithe Commutation Act intended that it should be paid by the owner of the land. It is not yet certain that the bill will be passed, but the Government are most unwisely persistent in their attempt to pass it.*

SELLING CATTLE BY LIVE WEIGHT.

Although, under an act passed last year, weighing machines for live stock have been erected in most markets, but little progress has been made in the practice of selling cattle by live weight. The dealers and butchers stood out against the new system, and farmers generally seem indifferent. Unless those in favor of the plan combine against the rings of dealers and butchers, it is to be feared that their movement will come to nothing. There is no doubt that farmers lose a large sum of money yearly through selling by guesswork, as dealers and butchers have much more experience in estimating the weights of live stock than any farmer can have, and they get the best of nearly every bargain.

THE "SILVER LINING."

At last it may be fairly said that a "silver lining" is showing on the dark cloud of depression which has so long hung over the farmers of this country, and I hope that the worst of the bad times will soon be past for farmers everywhere. Prices for grain may continue to be low, but live stock and meat sell well, and all the expenses of farming have been greatly reduced in recent years. By hard necessity farmers have been driven to be economical in farming and household expenditure, and nearly everything they buy has been greatly lowered in price, while many of them have obtained a substantial reduction in rent.

FARM LIVE STOCK.

This is the title of a useful book just published by Oliver & Boyd, of Edinburgh, for the author, Robert Wallace, Professor of Agriculture at Edinburgh University. It is chiefly valuable to students and others not well acquainted with the several breeds of horses, cattle, sheep and pigs, and for the large number of portraits (from photographs) of distinguished animals which it contains. In the very concise histories of the various breeds there are not a few mistakes, and that is a serious drawback to the value of the book.

A GREAT MILK YIELD.

A wonderful milking performance is recorded on behalf of the Guernsey cow, Pretty Dairymaid, the property of Mr. D. O. LeFaturol, of Guernsey, and the winner of the champion cup at the recent Royal Show at Windsor, given for the best female of her breed. A three days test was carried out by the Royal Guernsey Association, the cow being milked four times daily—at 5 a. m., 11 a. m., 4 p. m., and 10 p. m. She gave 61 lbs. 2 oz. on the first day, 62 lbs. on the second, and 52 lbs. 9 oz. on the third; when she was a little out of health. The milk of the last two days was churned, and yielded 5 lbs. of butter, which is at the rate of 17½ lbs. a week. There was no special feeding.

If a farm is running down and the owner getting poor, there is no rotation which will turn the tide in his favor more promptly than rye, clover, sheep: rotation. The land is plowed in August, and rye, at the rate of five pecks to the acre, is sown. In September we sow timothy seed, and in March sow a liberal supply of clover, which germinates very early and by August is in the height of its glory. Then the sheep are turned in and that plot of ground will not "run down" unless overstocked. When this sheep pasture is plowed up and planted to corn, a wonderful change will be noticed. Two crops of corn, one of oats, then back to rye, clover, and sheep again, completes the rotation. —[Am. Agriculturist.]

*This bill has since been withdrawn.

Shall We Sow Wheat?

This is a question that is at present agitating the minds of many farmers. This crop has not been as profitable of late years as formerly for two reasons: First, the product is not as great per acre, and second, the prices realized are lower than formerly. But why are these things so? The answer to the first is not far to seek. With a virgin soil, such as our fathers and grandfathers tilled, wheat grew to great perfection, but with a soil such as we have to-day it is a different matter. We hear farmers boast that they don't sell any straw, and some who sell neither straw nor hay, flatter themselves they are treating their farms very liberally. But the cold stern fact remains that to maintain the fertility of the soil all the hay, straw and coarse grain must be fed on the farm, and if there is not considerable clover grown, even then it is doubtful whether the fertility will increase or not. We find a few who do this, and they seldom or never fail to raise a good crop of wheat. Most wide-awake men realize that there must be a revolution in the system of farming; in fact, with the advent of the silo, a revolution seems now upon us. More stock of some kind must be kept and more manure made, and that more carefully and intelligently handled. Probably four-fifths of the manure made in Canada lies until after harvest in the barn yard, and much of it exposed to sun and rain, which removes half of its strength. As to prices there is little doubt that low prices will prevail for many years to come, unless something unforeseen occurs, such as the devastation by war, or other means, of some of the great wheat producing countries of the Old World. There is little doubt that the present low price of wheat is a recoil of the blow struck by the Americans at foreign manufactures about the year 1866. Nations buy their imports chiefly from the countries that receive their exports. Had trade relations continued between the United States and other nations, as before that date, other wheat regions would not have been developed to the extent they since have, and consequently would not have been as powerful rivals to this continent in the wheat market.

Competing for Poverty—Reflections on Failure to Feed the Farm.

"I understand you are selling a portion of your farm?" "You have been misinformed; I never had even a thought of doing so." This question and answer passed between neighbors. The former then told the latter that in selling 250 bushels of wheat he had parted with \$45 to \$50 worth of plant-food which was a part of the soil, and that he had let another part go by permitting liquid manure to run into a ravine. The latter then replied: "That is so; but I never viewed it in that light before." The articles which exhaust the soil most are the grains, hay, milk, cheese, muscles, bones, hair and skins of animals, while butter, the fats and vegetables exhaust the least. One cannot make constant drafts upon his soil and return nothing without impoverishing it. The worn-out farms of New England speak loudly in confirmation, and other sections are falling into the same bad practice. On hosts of farms in Central New York which used to grow excellent wheat it is difficult now to get half a crop; the soil is nearly exhausted of the wheat elements. Year by year the fertility has been sold, and not much returned.

"But what shall I do?" Feed on the farm most of the hay and grain you grow; and, if you sell any, buy its manure-making equivalent in

other fodder and feed it out. But the trouble doesn't cease here; there is a great waste of the little manure that is made. During the heavy rains of April liquid manure could be seen running out of nine-tenths of the barn-yards in all its blackness and richness. It is unnecessary to suggest how to make and save manure, for all know that now, but few do it; in fact, I do not know of one person who makes and economizes manure as he might. Unless this saving of plant-food is systematized and conducted intelligently and persistently, worn-out New York farms will soon compete for poverty prizes with those of New England. Some of them do now. Let every farmer bear in mind that unless he returns to the soil as much as he takes from it he is impoverishing his farm.

Maritime Correspondence.

The season "Down by the Sea," so far, is considered the best for agriculture that has been experienced for some years. The hay crop, which is mostly secured in good condition, is probably taking the three Provinces together the largest ever harvested. Roots promise a good yield. The staple grain, oats, however, in large districts seems to be affected with a kind of rust or blight. The stalk does not seem to be much hurt yet, but the leaves are almost entirely changed in some fields. It is not known yet how serious it may prove.

There has been some changes going on in the beef trade of the Maritime Provinces the last two or three months that will be interesting to some of your readers. Early in the spring, beef was a little scarce in the St. John market, and a car load of Chicago beef was imported as a venture, this sold so well that soon a regular trade was opened with the western city, and a number of towns both in Nova Scotia and New Brunswick have been getting a part of their beef supply from the west ever since. More recently Ontario has been sending a supply of the same article to the St. John market, and those who are handling it claim they can successfully compete with Chicago. In the meantime the beef producers there are looking in not very good humor, and wondering what will be the ultimatum. Another cent or two per lb. duty would keep Chicago beef out, but Ontario is a part of our own country and cannot be dealt with in that way. One cause, however, of the change is this: There was and is a scarcity of home beef here. Some of the largest beef producing districts in the Provinces having turned their attention to other lines of farming, so that the supply has not been equal to the demand for a choice article, and so the trade has looked in other directions for its supply.

The shipment of horses from Prince Edward Island is larger this season than ever, and the other Provinces are making a determined effort to help supply the constantly increasing demand for that animal, turning their attention equally to both light and heavy breeds.

The Association formed in St. John a few months ago for the purpose of holding an annual Industrial Exhibition in that city have just decided to hold the first in the fall of 1890. It was expected at the time the Association was formed that an exhibition would be held in October of this year but such has not been decided. Moncton, however, is out with a prize list for a Maritime Exhibition to be held there in September, and as Moncton is a kind of hub in railway matters it is probable that excursion rates from points in the west will be secured.

The marine railway to carry vessels across the isthmus that connects New Brunswick and Nova Scotia is being pushed forward with a great deal of vigor, and it is hoped to have it opened by September in next year. The promoters of this scheme propose to have a regular line of steamers there running between the island ports and St. John. If this is carried out it will be a great boon to the island farmers and help to make up in part for their isolated condition in the winter.

Water as a Fertilizer.

BY DR. E. L. STURTEVANT.

The escape through the leaves of aqueous vapor that has accumulated in the cellular spaces of plants varies in amount with the relations which find expression in the term "climate." Many experiments and investigations in this country and abroad as to the amount of water given off by plants have resulted in the conclusion that for every ton of dry substance of the plant, a depth of three inches of rain would be evaporated through the vegetation; in other words, a corn crop of fifty bushels would have a total yield of four to five tons; the plants containing from 1600 to 2100 pounds of dry matter, represent an exhalation of at least from 240 to 315 tons of soil water per acre, or an equivalent of from two or three inches of rain. The amount of water contained in a corn crop of fifty bushels would amount to from 6300 to 8000 pounds.

1. The variation of crops as between different years is far greater than occurs the same year between different fields differently fertilized, under conditions of fairly good farming, thus proving the importance to farming of the conditions generally included under the concrete term season and climate.

2. The variation in crop between different fields of similar treatment is manifestly dependent on the soil relations to moisture, as may be readily verified by careful and intelligent observations and trial.

3. The conditions of climate (or season) which principally affect the crop, as recognized yearly by farmers, are the greater or less amount of rainfall, as the farmer construes his observation; or, as the more observant man construes it, the distribution of the rainfall, and the extent of evaporation. (August, on the average, is the month of greatest rainfall, and, usually, of the greatest drought.)

4. In regions where there is less available water for the growing crop (not necessarily a small rainfall), there is found to exist the practice of more distant planting, and fewer plants to the hill, than where the conditions of water supply are more favorable. This may be illustrated practically by the 5x5 feet intervals and single plants to the hill, practiced in the sea-board South, and the 3½x3½ feet intervals and 4 plants to the hill of New England practice, or experimentally by the following record of trial at the New York Agricultural Experiment Station, 1882 being a dry and 1883 a moist season:

Corn	Yield per acre.
Method of planting.	1882. 1883.
Hills 2x2 feet, 4 kernels to a hill.	7 bus. 28¼ bus.
Hills 3½x3½ ft., 4 kernels to a hill.	49¼ bus. 49½ bus.

The corollary from this table, which experience confirms, is that in Massachusetts, with a rainfall of 45 inches a year, it is as easy to grow 100 bushels of shelled corn per acre as at Geneva, N. Y., with its 25 inches of annual rainfall it is to grow 75 bushels, and this irrespective of the fertility of the soil.

5. Weeds are great evaporators of water. By trial I have found that a weed crop may be absolutely incompatible with a corn crop, the corn crop showing in its curled leaf, stunted growth and yellow color indications of suffering from drought, and not bearing any merchantable ears. In the experience of farmers such evidence becomes graded, and can serve as a less intensified illustration than the one quoted.

The summary of this practical data is that

crops, under circumstances of intelligent farming, are more dependent upon the water supply for their maximum increase than upon any other single agency; not only is water a component of plants, but it is a conveyor for plants, bringing to them matter in solution, which goes towards building up structure, and it acts as a conveyor within the plant, so that we may say that it is the life in the sense that we say the blood is the life. That deserts are usually such, not from lack of elements of plant food, but through aridity. That all arable soil contains the fertility requisite for multitudes of crops, and that under artificial conditions under which water relations can be controlled, crops can be raised indefinitely, as in China, Japan, India, Palestine, etc. Where irrigation is practiced the average crop seems to have held its own for hundreds, even perhaps thousands of years of continuous culture.

As a general rule the water content of the soil increases as we go downward, the under soil furnishing a grand reservoir of moisture available for the return of water to the surface through the action of capillarity. Capillarity as measured by soil in tubes has been traced vertically 44 inches. In natural soil on bluffs along a shore the effect of capillarity in raising water has been noticed a dozen feet or more. Capillarity brings an immense body of water to the surface to be removed as aqueous vapor by evaporation, and during some months the amount of evaporation exceeds the rain fall for the month. Evaporation is practically a surface phenomena, and may be checked in great degree by any device that will prevent capillary water from reaching the surface. Experiments at Geneva, N. Y., with sod land, bare soil, and soil frequently stirred, showed that frequent stirring of the surface, retarding the flow of capillary moisture to the surface, had very much to do in conserving the moisture of the soil. In August 1887, with a rain fall of 3.03 inches, the saving in favor of cultivated area amounted to the equivalent of 9775 gallons of water; in 1886, the conserving effect of cultivation was shown to be 111,637 gallons per acre, the rain fall being 2.86 inches; in 1885, cultivating the surface saved 5648 gallons per acre. The practical conclusion is that frequent stirring of the upper layers of the soil breaks the connection with the evaporating surface and conserves moisture to a very large extent. When the soil, as is the case when water stagnates in the earth, becomes hard or puddled, the water moves very rapidly towards the surface and disappears as aqueous vapor. This explains in part why undrained clay soil suffers from wetness in spring and drought in summer, and also explains in part the apparent paradox that drained soil often contains more water in a drought than does soil that is undrained.

In plowing, the turned soil does not rest in close contact with the under soil until consolidation is effected by rain, etc., and the disturbed section gives off its own moisture to the atmosphere, and regains but little from the stored water below. In the spring, when water is abundant, no ill effects are perceived. In the summer, however, with shallow plowing, it is often difficult to secure germination of grass seed, or the continued life of the weak seedling. The turning under of raw manure is injurious to capillary action for a long period, and thus during the dry season injures the soil for the reception of crops. A small amount of plaster,

common salt, sulphate of soda or nitrate of soda, incorporated with the soil, tends to reduce the quantity of water evaporated by the plant, in some cases more than fifty per cent. A free alkali like potash has the same result. This shows that certain modifications upon the water relation of the soil, are produced by fertilizers. Reference was also made to the property that clay has of swelling when wet and shrinking as it dries, by which it so clogs the pores as to obstruct the capillary passage of water. The application of lime, salt or alum it is believed often improves the drainage and capillary powers by opening the pores when clogged to the passage of the water.

[TO BE CONTINUED.]

How to Build a Silo.

(Continued from page 240.)

In case the silo is 18 feet deep, it would be advisable to put in two rows of bridging. By thus spiking planks between the studs, it makes it just as impossible for the studs in the centre of the wall to spring out as it is for those nearest the corners. We are now ready, to commence lining the silo. Each one can follow his choice as to the outside covering, since it plays an unimportant part in the preservation of the ensilage; some will prefer to use drop siding or ship-lap, others common lumber, and in some parts it is possible to put on a covering of low grade shingles cheaper than any other way. It is not necessary, for the preservation of the ensilage, that paper be used on the outside of studding, but to keep out frost it is advisable to use it, since it makes the silo much warmer. Since a good deal of moisture rises from the ensilage, it is well to provide for ventilation at the roof. This can be done by openings in the gable ends of the building, or by a dormer window. It is much better to carry off the moist air by ventilation than to have it congeal on the rafters during cold weather and drop back again when mild days come.

We now come to, perhaps, the most important part in the construction of a silo, viz., lining. In this, great care should be exercised. Any common, cheap lumber, if sound, will answer; but must be free from knot-holes, and is better if dressed one side; this is not essential, but the boards should be edged so that the joints will be reasonably tight. The lumber need not be of uniform width; but boards eight to ten inches wide are the best.

The inside of the studding is first covered with boards laid horizontally, ten-penny nails being used; building paper is then tacked over the whole surface. Upon the paper nail a second layer of boards. Care should be taken to break joints, which can be indicated by chalk marks on the paper. This double lining, with paper between, must reach from the top of the silo to the bottom of the sill.

The floor of the silo need be nothing but the earth; as already mentioned, it is a good plan to fill in the silo until the floor is on a level with the top of the stone wall; a layer of straw spread on the bottom before commencing to fill with corn will prevent the loss of any ensilage.

The silo should be tied across the top at two or three places with joists, or a cheap cable; this latter may be made by twisting three strands of galvanized wire, which costs about three cents per pound; five pounds will make a cable sufficiently long to reach across an ordinary silo.

If the silo is more than 15 to 20 feet long, the sills should be secured at two or three places with a cable of this kind, which, as it will rest on the ground, is out of the way, and will add much to the security of the walls.

Silos are now built without any partitions of any kind. They are useless. But, it is important that the four corners should be cut off to some extent. The easiest and simplest plan is to bevel the two edges of a foot wide plank and then nail it securely in a vertical position in the corners. This three-cornered space should be filled in with sawdust, or some material to prevent the air from working down from the top.

The doorway should be made sufficiently wide to permit the entrance of a cart, or at least a wheel-barrow to facilitate the moving of the ensilage from the silo to the cattle. There is no need of the doorway running to the top of the plate, as the ensilage always settles considerably, and even should it fill the silo above the top of the doorway, there is little trouble in digging down just at that point to make an opening. Of the numerous doorways described the simplest form is probably the best. Tack cleats on each of the studs which form the sides of the doorway, so that boards six inches wide running across the doorway come just flush with the inner lining of the silo. If the doorway is wide set a stud in the middle to prevent the boards springing. During filling, as the ensilage accumulates, place a layer of paper across from cleat to cleat and tack on six-inch boards until the doorway is closed; or it may be closed up at once when filling commences, and the silo entered by a ladder reaching a doorway on top of the plate. In opening the silo the boards can be knocked off as the ensilage is fed down.

Close up the outside of the doorway as has just been described for the inside. This gives you the dead air space at the door as well as elsewhere. Too much caution cannot be used to prevent any displacement of any of the parts, as the success of the silo depends upon getting it air tight, and this cannot be accomplished if this occurs.

Now that the silo is built, the question naturally arises, what is the best and cheapest preservative that can be applied to the parts that come in direct contact with the ensilage. The wooden silo must have a cheap waterproof paint to prevent decay. So far, coal tar, applied boiling hot, and reinforced with some resin, to give solidity to the tar after application, is probably as cheap and durable as any substance, although pitch, and other roofing paints that harden well, are each and all good.

The cost of a silo is impossible to tell without all the incidentals and conditions of building, but it may be safely said that it varies from about 50 cents per ton for the cheapest, to \$1.50 for the most expensive. Its cheapness, however, is apparent for the outlay for storage for 2½ tons of ensilage is reckoned as against the storage for hay. The former occupies less than 125 cubic feet, and the ton of hay over 500. So silos cost far less than hay barns.

There is one very important point in the construction, that if attended to will add much to the desirability of the wooden silo, and that is ventilation while empty. This can be arranged for by leaving a space of say two inches just above the sill. Before filling, a strip of tarred paper is folded lengthways and doubled, so that one-half will lie against the wall, and the other half on the floor, and can be held in place by a strip of board. This will make an air tight joint when the pit is filled. When the ensilage is fed out remove this board and tar paper, and you will have a fine circulation of air all around the sides between the wall and lining, which will keep the wood-work dry and add greatly to its desirability.

[TO BE CONTINUED.]

The surest way of teaching an animal to pull well is not to overload him. Commence gradually, giving a light load at first, and then gradually increasing as circumstances may seem necessary. Get the confidence of your team and it will only be a load that they can not pull, that will cause them to refuse. But a young horse that you are training to pull, if overloaded at the start, and then beaten and abused because he is not able to do what he is required, is often ruined so that no dependence can be placed in his willingness to pull when necessary, even but a small exertion may be necessary to pull through.

The Apiary.

A Professor Mistaken.

Extract from a letter by Julius Gerard in the American Bee Journal:—

Mr. Chas. Morris, of the Philadelphia Academy of Science, writes concerning glucose, in Vol. III. of American Supplement to the Encyclopedia Britannica, page 537, in the left-hand column, 21st line from the top, as follows:—"Glucose is used chiefly in the manufacture of table syrups and confectionery, in the brewing of ale and beer, and to some extent as food for bees, and in the making of artificial honey. No reliable statistics can be had as to the quantity used in brewing, since brewers seek to conceal the fact of its employment. When it is fed to the bees, the honey yielded by the bees is almost pure glucose. In artificial-honey making, the comb is made of paraffine, and filled with pure glucose by machinery. For whiteness and beauty it rivals the best white-clover honey, and it can be sold for less than half the price. Its one defect is, that it is not honey."

Now, sir, this falsehood is given by a professor of science, and published as a fact in the Encyclopedia Britannica—a work to which thousands of people refer as authority.

If the author of the article on glucose will take the trouble to come out to the Mariposa apiary,

I will convince him that his education as a bee-keeper has been sadly neglected, and that what he wrote about artificial honey being made of glucose and then put in artificial comb by machinery is false; and if he has taken no more pains in writing the other parts of his work than he did in this, I would not give a nickel for all the volumes of the Encyclopedia Britannica.

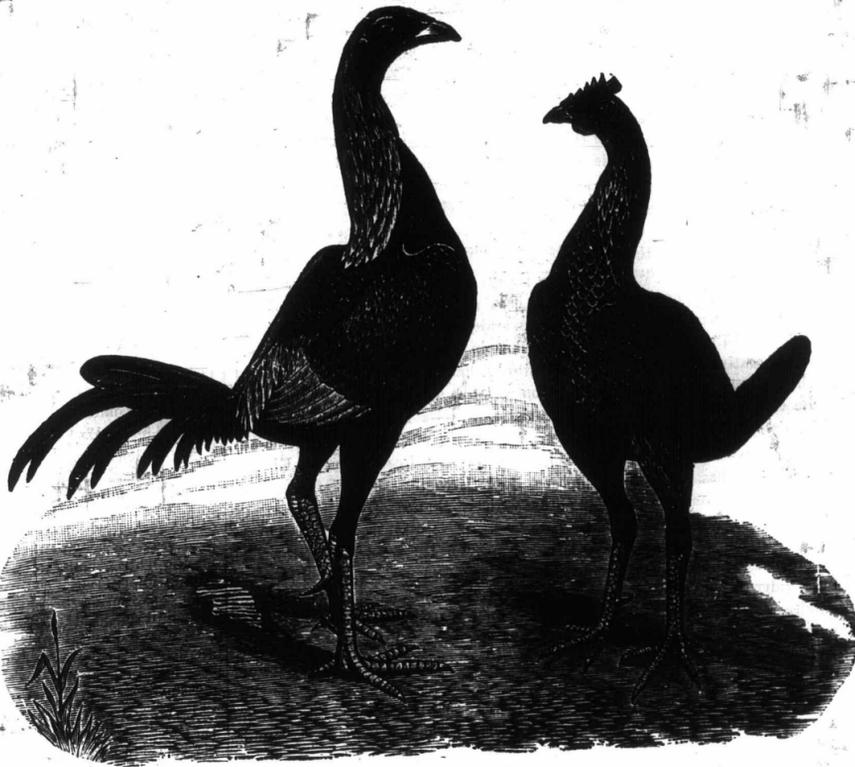
Mr. A. I. Root, of Medina, Ohio, offers a reward of \$1,000 to any one who will show or tell him where artificial honey is made; this offer was made because so many false reports have been cast abroad about honey. Mr. Root has not yet found anybody who claimed the reward.

If Prof. Morris, the glucose gent, tells us that the distance to a certain star is 400,000 and one-eighth of a mile, I for one am willing to swallow it, even to a fraction of a mile. But when he wants to tell me or any other progressive bee-keeper any thing connected with our industry, he should be a little more careful, as we never go by hearsay, but by facts. That man is doing a hard-working class of men a great injury. I can assure you, dear sir, that there is no artificial comb honey made by machinery, and that there never was any made.

Poultry.

Black Red Games.

The accompanying spirited illustration represents a pair of these magnificent birds, and while all the different breeds of fowls have their admirers, it is doubtful if any have as many as the Black Red Game. For the farmer who has unlimited range, and does not mind their flying proclivities there are few better varieties. They are usually very hardy, and stand the rigours of our northern winters readily. Their flesh is equalled by few varieties and excelled by none. The eggs as well have a finer flavor than those of most, if not all other varieties, and very few lay more of them in a year. Many people are not aware of the difference between Standard and



BLACK RED GAMES.

Pit Games, and mentally associate the breeder of Game fowls with the cock-pit. This is a serious mistake. The Standard Game is bred to form and feather, while the pit bird is bred for his combativeness and staying qualities alone, dollars in utility and beauty being willingly sacrificed for cents in fighting qualities. The Ontario Poultry Association, in their wisdom, (!) saw fit to give a prize on Pit Games at their last show, held at St. Catharines last January, and such a lot of birds as those exhibited in that class should cause them to amend the prize list before another show is held. It is difficult to see the wisdom of giving prizes to specimens that are not worth the amount of the prize itself. During the last five years very many B. R. Games have been imported from England, some of them Crystal Palace winners. England seems to produce at present the best birds of this variety of any country in the world. The B. R. Game is said to be the nearest approach to the jungle fowl of India of any known variety known.

Killing by Kindness.

Over the grave of hundreds of high-bred chickens can annually be written, with a strict regard for truth, the epitaph—*killed by kindness*. They were hatched, and coddled, fed and crammed, peppered and salted and mustarded, until their little bodies were too highly seasoned for this world. They were good and died young. While they were drooping, the old mongrel hen in the next yard was turned loose with her motley brood, whose plumage, like Joseph's coat, was of many colors, and had to rough it for a living, and many of them in the fall crowded over the graves of their better-bred relations.

And, then, we hear the complaint, thorough-bred chickens are so delicate. Delicate! Great Scott! If a human being was pampered as they were, he would have died as easily as they did. They were not born delicate, but the treatment which they suffered made them so. If more sound common sense was mixed with the chicken dough, there would be less delicacy among the chickens.—[Am. Poultry Yard.

He who will purchase a trio of fine fowls will soon become so much attached to them that he would not take for them ten times the money they cost.

No better use can be made of the small potatoes than to cook them for the hens, and if fed alone they will require no other handling; it is only necessary to mash them when something else is to be fed with them.

When the hens appear droopy, and yet show no indication of disease or injury, remove the rooster, especially if the hens are fat. Eggs from hens not in company with roosters will keep three times as long as will those that are fertile.

Wood ashes when scattered over the poultry yard, cause sore feet, due to the alkaline properties of the ashes. The best mode of disposing of them is to first leach them, allow them to dry, and place them in a box for the fowls to pick over.

A danger to be avoided in keeping fowls is over-crowding. Too many, after building a house of proper dimensions for the first lot, enlarge the flock. Where an extensive business is carried on the fowls should be separated in small flocks; they will not do their best until this is done.

Dry and store rowen for fowls with as much care as for new milch cows, taking care that it be kept perfectly bright and sweet, and unless it be quite short, running it through a hay-cutter will be an improvement; then soak it an hour or two in hot water, drain off and sprinkle with meal and bran.

Garden and Orchard.

A Few Suggestions.

Summer apples should be picked from the tree early if intended for market—almost as soon as the skin begins to change color. When left too long the fruit becomes mealy. Summer pears also should be gathered one week at least before they ripen. Some of them rot at the core and all are better when ripened in the house. There are a few signs which indicate to the experienced orchardist the proper time to pick pears; change of color in the fruit and the parting of the stem readily from the branch are pretty sure indications.

A judicious thinning of fruit on the tree will be found a profitable operation, especially with the pear, and should not be overlooked.

Hardy Fruits for Northern Districts.

BY C. G. CASTON.

In the northern districts of our province the growing of fruit has been attended with considerable disappointment and failure; but I believe the time is coming when we will be able to grow many varieties of fruit successfully, in those districts where we have hitherto failed, or only partially succeeded. But in order to succeed, we must have something hardy enough to stand the severity of the climate. Some may say: We know that well enough, but how are we going to get it? Well, I propose two plans, viz.: Selections from the very hardiest of the Russian varieties, and the propagation of native seedlings, upon which to top-graft the varieties we wish to grow. Among the Russian varieties or those of Russian origin, I don't know that any has as yet been found to excel the Duchess in hardiness. The following list is given by Mr. Chas. Gibb, of Abbotsford, Que., as the most promising and hardiest of the Russian apples yet tested: Yellow Transparent, Charlottenthaler, Raspberry, Titooka, Golden White, Longfield and Arabka. We might add to these the older tested varieties, such as Duchess, Alexander and Tetofsky, and the Valdimer cherry might be well worthy of trial, as it is likely to succeed where other varieties fail. But experiments are now being made with several hundred varieties, and we may expect to obtain some among these that will stand the climate of almost any county in the Province of Ontario.

Mr. Gibb, speaking at the winter meeting of the Fruit Growers' Association upon the subject of hardy apples, said:—In the District of Kayan, in Russia, which averages eight degrees colder in winter than the city of Ottawa, orcharding is the great business of the community. Speaking of his own experience, he says: With me the Russians are models of hardiness. But the trouble with them is they are nearly all fall varieties, and not long keepers. But there is this gratifying fact about northern districts, viz., the farther north an apple can be grown, the better the quality, and the longer it will keep. For instance, the Wealthy grown in the south is a fall apple, while here it is a winter variety, and the Alexander, usually classed as a fall apple, keeps here till February. But I would strongly advise using the seed of some of our hardiest kinds, or better, seeds from native seedlings, or if there are none in the locality get some of the nearest obtainable, and plant them in the fall. They will come up the next spring.

Plant them in rows so they can be cultivated and kept clean, and when large enough plant out in the orchard. Give them the same care as to pruning and cultivation as you would a nursery tree till they are four or five years old, then top graft them with the varieties you wish to grow. At this age three or four grafts will be sufficient to form a new top. But they must not all be put in at one time, or there is danger of killing the tree. Put in half first year, and when the grafts have made sufficient growth to take a good share of the sap, then put in the other half. It is not well to cut the limbs off too short, as, if any of the scions fail to grow, the end of the limb, being covered with wax, will keep alive and sound, and send out shoots. Then the next spring cut a few inches farther back and graft again. In this way orchards may be raised, and many varieties grown, in localities where the nursery trees have been a total failure.

The usual system of cleft grafting is a very simple process, and is easily learned. The main object is to see that the inner cambium layer of the bark in the scion comes in contact with that of the stock, and that your wax is good. This is made by melting half a pound of tallow, a pound of bees wax and two pounds white resin together, stirring well, not allowing it to boil, and when melted pour into cold water and pull till it becomes white.

I have always found that it is the trunks of trees that fail, sometimes by bursting of the bark, or sun scald, in tender varieties, and often the rot strikes in at the crotches. But if you can get a sturdy, hardy trunk that is a native of the soil on which it grows, and graft the more tender varieties into its top, I believe it is the surest way to succeed where the climate is unfavorable. In this way I can grow the King of Tompkins, R. I. Greening, Grimes' Golden and many other varieties that utterly fail as nursery trees here. T. H. Hoskins, M. D., of Vermont, in a paper on the hardy apples of Vermont, says: In order to get long lived trees of some of the varieties named, iron-clad stocks, like Duchess and Tetofsky, should be planted and grafted in the limbs when five or six years old. He goes on to say: Those who are now planting orchards would do well to act on this hint in all future plantings, but judging from my own experience I would prefer a good, sound, native seedling to anything else for a foundation to graft on. And there is this additional advantage with this system: They will come into bearing much sooner and produce larger crops, larger specimens, and of better quality, than when grown on their own stocks. The same system succeeds well with plums. I bought a great many plum trees of different varieties from nursery agents, and they generally lived till about ready to bear, and then a severe winter would kill them. I then began to top graft them on native seedlings, and I not only got them to stand the winter, but got them to bear early and abundantly. But care must be taken to nip off the ends of the young shoots in August the first year, to make the wood ripen and harden before winter sets in. As plums make a very rapid growth when treated in this way, and if not pinched back are apt to kill back in the tips, and sometimes get killed entirely.

Mr. D. W. Beadle said, when in Barrie a few years ago, that he thought peaches might eventually be grown as far north as this. His plan

was to plant the seeds of the hardiest peach we could get, and give these protection till large enough to fruit. Then plant the seeds obtained from these again, and so on for two or three generations of trees till we got one that would stand the climate without protection. But when I can grow most of the finest varieties of plums by top grafting on our hardy natives, I do not regret so much that we cannot grow peaches. I am trying pears on crab apple stocks, but my experiments in that line are too recent to be of any value as yet.

With regard to small fruits, they can be grown in sections where it is almost impossible to grow apples. As the conditions they require are winter mulching and a good covering of snow, and the latter they are almost sure to get, and it serves as a very effectual protection.

I wish farmers sons would take more interest in those things, and experiment themselves. In fact, every farm should be to a certain extent an experimental station and nature opens before them a wide field for research and useful labor, not only in the line of fruits, but in cereals as well. It is an old saying, "That he who causes two blades of grass to grow where only one grew before, is a public benefactor." How much more so then is he, who causes fruit to grow where none grew before, or by persevering experiments in hybridization, produces a new and superior kind of grain or vegetable. Verily such a man leaves behind him footprints on the sands of time.

It is now tolerably well settled that ensilage is a very suitable food for all kinds of sheep. Since that fact has been established, it is certain that all intelligent farmers will shortly set about putting ensilage into its proper position as one of the common and indispensable products of the farm. It is truly astonishing how slow some people are to adopt any new practice, even after it has been proved to be of the highest value. But the law of progress is eternal, and ensilage will yet become the mainstay, in preference to roots and hay, of the flocks of Great Britain.

Mr. Galen Wilson's highly interesting account of the marked enrichment and improvement of a farm by keeping sheep and pigs and growing roots as a large item as the food supply is an example of the system which originated in Norfolk a hundred years or so ago and which did such wonders for English agriculture, which soon became the admiration of all countries. The suggested means of adapting the system to our winter climate are admirable. Many would imitate this praiseworthy and profitable plan but for fear of prowling dogs. While sheep raising is one of the most beneficial of cultures, dog keeping is one of the most utterly the reverse.

A GOOD YIELD.—The Holstein-Friesian cow, De Kol 2d, 784, H. F. H. B., 412, A. R., dropped her last calf January 16 1889, at the age of four years, nine months and twenty seven days. From March 16 to 22, both included, she gave 420 pounds 1 ounce of milk which churned 33 pounds 6 ounces of unsalted butter; 12.58 pounds of milk making one pound of butter, and on March 20 she gave 59 pounds 8 ounces of milk which churned 6 pounds 6 3/4 ounces of unsalted butter; 9.29 pounds of milk making one pound of butter. The feed given her daily during this test consisted of 18 pounds of hominy chop, 7 1/2 pounds of wheat bran, 3 1/2 pounds of cottensed meal, and all the hay she would eat.—[N. E. Farmer.]

Milk cows, as milk cows, are valuable only in proportion to the quantity and quality of milk they produce, and in the class for cows in milk that, and that alone, should be the point on which the prizes should be decided. There are any number of other classes in which good bodies, vessels, heads, etc., can all be showed off to full advantage, whereas in the milking classes it is milk and milking capabilities that are wanted. Let these, therefore, alone decide who are the prize-winners in this class. The above indicates that English dairymen are coming to their senses. The beefy Shorthorn shape and outline has been as much a consideration in their dairy judgments heretofore as performance at the pail and churn. It is time that a good many dairymen in Canada had an attack of the same kind of good sense.

Family Circle.

"NOT AFRAID TO WORK."

BY RYE JOHNSON.

PART I.

"Four girls!" The unutterable dismay in Harry Stone's voice was mirth provoking. His mother, a fine looking woman of fifty, smiled as she raised her eyes from the open letter in her hand.

"Yes, four girls," she repeated. "But I cannot understand how they come to be left penniless. Your uncle was reputed wealthy, and at the time of your father's death, certainly had plenty of money; leaving me a generous sum to enable us to remove to this place. He was always very kind to me, any way. He paid my expenses at school, when father and mother thought my desire for a better education than the village school afforded, all nonsense. Now, I shall have an opportunity to repay in part the debt I owe him, for of course the children must come."

"Of course," assented her son, lugubriously. "But, think of it, four girls! Four noisy, romping, mischievous girls. Good by to our quiet, happy home life. I only wish we could have lifted the rest of that mortgage ere assuming any extra expenses," and Harry arose from the door step on which he had carelessly flung himself, when called by his mother to listen to the contents of the letter over which she had been weeping. He stood silently, looking away off over the blue, sparkling waters of the lake on whose immediate shore their home was situated.

His mother eyed him wistfully, sighing heavily. At that he turned, and coming to her side kissed her tenderly.

"Dear mothers," he said lovingly, "just write to those forlorn little things at once. Make them feel how welcome they will be, poor children. Tell them to come at once. By the way, are they old enough to travel alone? If not, I must go for them." "I haven't an idea how old they are, but they must be all small but this one, Honor, she signs herself, and she writes a very nice letter. Well, I will write at once, for this letter has been long in coming and they must be waiting ere this for the reply. So saying she arose to enter the house, and with another caress Harry started off to his work, whistling merrily.

"God bless my good boy," fervently uttered Mrs. Stone, as she heard the cheery evidence of Harry's light-heartedness. He was the only son of his mother, and she a widow.

Five years before our story opens, his father had died, after a long and painful illness. Their home had been in Chicago at that time; but upon settling up business affairs, there was found to be absolutely nothing for the widow and her son save a small farm lying on the border of one of the beautiful Waukesha lakes in southern Wisconsin.

Harry visited the spot and found it one of the most beautiful locations imaginable. A large, roomy old farm house, situated on a rolling point, and surrounded by a grove of fine old trees, made it possible for a home, and thither they at once removed, glad to leave the noisy city behind them.

Scarcely were they settled in their new home, however, when they found there was a mortgage against the farm for fully two-thirds its value. Completely disheartened, Mrs. Stone entreated Harry to give up the place at once. He, however, saw how valuable it might be made, and what a lovely home it would be in the future, and utterly refused to do so.

The man who held the mortgage was an old, and valued friend; and, pleased at Harry's determination to keep the farm and pay off the burden upon it by hard work, he re-wrote the note for fifteen years at a nominal rate of interest.

The land was but three miles from a fashionable summer resort. A market garden, and the raising of small fruit seemed the best mode of money making under the circumstances, so Harry went to work in dead earnest. The result was far better than he had dared anticipate, and during the five years past the mortgage had been so far reduced that he fondly hoped to see the end of it this season. His earnings had not all gone on the debt, however. The house was tastefully and comfortably furnished, and new books and magazines were frequent visitors at "Never Fail," as the place had come to be called.

A party of city people, visiting the farm for picnic supplies, had called for first one thing and then another, and found every want supplied almost as soon as uttered. A vivacious young lady had dubbed the place "Never Fail," and being so appropriate, the name had clung to it, especially among the boarding-house keepers, who, lacking any thing, were sure to send to "Never Fail."

Harry, while working manfully in field and garden, had not failed to keep himself well posted on all current topics, and was a decidedly companionable fellow. His mother thought him too quiet and sedate for a man of twenty-five, and many times regretted he had not given up the farm and sought some other means of earning a living, which would not have so isolated him from companionship of his own age and ability. He, however, had no vain regrets, and was as contented, happy a man as you could find in a dozen counties.

Of her brother's family Mrs. Stone knew very little, as she never visited him in his far away home in Maine. His wife had been a partial invalid and seldom accompanied him on his visits west, and they had never brought the children. While she is writ-

ing that letter, destined to bring such comfort to the lonely orphans, let us precede it to its destination.

A handsome house on a fashionable avenue in the city of Augusta, Maine. We enter unbidden, a cosy morning room which has already four black-robed, sad-faced occupants. Yes, these are the four girls which whose future our story has to do. It is three months since a terrible railroad disaster orphaned them in one fearful moment. The sad burial services were scarcely over, before an avalanche of creditors came down upon the dead man's property, and in spite of an honest lawyer's best efforts, stripped the girls of every thing save their own immediate belongings and their parent's personal effects. They were no children, as their aunt imagined, but ranged in years from fourteen to twenty.

Honor, the eldest, was keenly alive to the seriousness of their situation, and when she found they must leave their beautiful home, penniless, she immediately cast about for some means of keeping together, and earning their living. She made up her mind at once to leave the city, where living was so ruinously dear, and friends held so coldly aloof.

Accordingly she wrote in turn to each of her mother's brothers, and her only sister, asking if they might come to them until such a time as they could secure work. The following letter was first received in reply to her pitiful little note.

"SHELTON, MASS., March 1st, 18--.

DEAR NIECES:—Your duly received, and contents noted. Mrs. Gorman and self regret exceedingly that it will be inconvenient to receive you as you request. Enclose find ten dollars which may help you out.

Your uncle,

GEO. GORMAN."

To say the girls were thunderstricken by this cruel letter would be to put it mildly. Honor rallied and sent her letter to the second uncle. After some time this reply was received:

"GORMAN CENTER, ME., March 8th, 18--.

DEAR GIRLS:—Let me suggest that you waste no time coming here, but apply directly to the mills at Lowell for work. You will also thus save much expense. Mrs. G. and the girls send love. Truly your uncle,

ROBT GORMAN."

Many tears were shed over this cold-blooded effusion, and the letter was sent to Aunt Nettie with little confidence in the result, as favoring them. After some delay the answer came, too long and rambling to produce here, but containing even less comfort than the others had.

"The hateful, horrid old thing," cried Hetty, the youngest. "After all papa has done for her, giving Clarice two winters in society, and—oh dear—I just hate her. It would ruin my daughter's chances," mocked the girl, "so have I known their Augusta relations were seeking situations. Come, Honor, let's go begging among strangers, rather than do any more of it among relatives."

Honor smiled sadly at her sister's impulsive words. She realized fully how helpless they would be if some kind friend did not assist them. They could remain where they were until the first of June, she anxiously remembered, but how had she felt when she thought of the uncertain future. Strange that their friends were all "fair weather" ones.

After a long consultation, another sad, appealing little letter was sent to the Aunt Mille in far off Wisconsin, whom they had never seen, but whose excellencies their father had never wearied in relating. I have told of its reception, but the answer lingered long upon the way, and the girls were half sick with "hope deferred" ere it at last arrived.

They were sitting together, gloomily discussing the future, which seemed so terribly uncertain, when they heard the postman's knock. Hetty bounded away, returning almost immediately with a letter. It was addressed to Honor, and she broke the seal with trembling fingers.

"Dear Orphan Nieces: (it began.) Your dear letter was long in coming to hand, and I fear you are troubled by the delay. Dear children, why did you not come on at once, instead of stopping to write. Will I have you for a little time? How could you ask, or for a moment be fearful of your welcome? If you can be content with the quiet life of a farm, where there is much work and little play, you will be more than welcome, for your dear father's sake, and I hope when I come to know you, for your own."

Then followed minute directions for the journey, which she regretted they must make alone. A generous bank bill was enclosed for expenses.

When Honor had read the last word, she dropped the letter in her lap and covering her face with her hands, cried softly. The loving kindness traceable through every line completely unnerved her after the cruel hardness of the others.

"Hurrah for Aunt Mille!" cried Hetty excitedly, "she's the stuff."

"Hetty!" in displeased surprise, from Honor, who, however, was forced to smile at the girl's exuberant delight. "I tell you, Honor, there are times when a slang phrase seems the only thing expressive enough. Aunt Mille is a—a brick, but I won't say it again," and the look of mock contrition on Hetty's face made them all laugh through their tears.

How gratefully happy the four were as they went about their packing. Honor in particular, upon whose elder shoulders all the responsibility had rested, felt like a new being. In fact, although it was their life long home they were leaving, and their parents' graves, always cheerful and satisfied. The prospect of life on a farm seemed delightful to them, for they had only spent an occasional week outside the city during their lives.

So as soon as their preparations could be completed, they were under way and in due time a conveyance hired at Oconomowoc, set them down, bag and baggage, at "Never Fail."

It was in the edge of the evening, and a young moon was valorously contending with the shadows. Harry was resting on the piazza after a hard day's work, and at the instant the wagon drove up to the house, was speaking to his mother of the expected arrival of the girls on the morrow. So when the four black robed forms alighted, he instantly divined their identity, and turning a bewildered, panic-stricken face upon his mother gasped, "They are four young ladies!"

(To be continued.)

Minnie May's Dep't.

MY DEAR NIECES:—

September, with its soft, hazy mornings and cool evenings, with sunsets gorgeous with golden glory, feels to the busy woman a very restful month, perhaps the most so of any in the year. The hurry of harvest with its attendant overwork is past, and it seems as if we could live and breathe, and think again. A bountiful harvest has blessed our labors, and we rest in the assurance that comfort and plenty will reign in this fair land of ours. We have had our taste of summer pleasures too. Our frolicsome boys have their camping, fishing and shooting, and the mother or sister will not readily forget the bread, cake and pies, not to mention the bacon, eggs and butter, she packed for these expeditions, nor the condition in which they returned to her—hampers empty, clothes torn, faces sunburnt, and tired bodies.

Our girls have taken their fun too—excursions by rail or boat, picnics, and any number of pleasant drives. How cool and inviting their own well-ordered, tidy home looked to them after a trip on a dusty crowded car, or the broiling deck of an excursion steamboat; and how tempting their own dainty appetizing tea after the scramble called "tea" at the picnic, with its attendant discomforts, such as ants, grasshoppers and greasy newspapers. After all, the homecoming is sweet, no matter how pleasant the day has been. These little pleasure parties are enjoyable enough in their way, but they help to give us a fresh stock of contentment for quiet home life.

To the dear mother, a retrospection of the summer months just past must be full of quiet satisfaction. The duties regularly performed for the comfort and pleasure of all her loved ones; the responsive affection and appreciation of those she has so conscientiously labored for; the gratifying returns of the labors of the summer on the farm, and her own profits from eggs, butter, fruit, flowers and poultry; all the members of her household happy and healthy,—must tend to fill the measure of her happiness to overflowing. The home of the Canadian farmer under such circumstances should be the happiest on earth. Within easy access of markets for all his produce, either by rail or river, post-offices everywhere convenient, churches available to all, good roads, good schools, perfect laws justly and fearlessly administered, peace and plenty—where is there another land so blessed?

Emerson says: "Good manners are the shadows of great virtues." And our homes should be brightened by cultivation and refinement. To our bright, clever girls we must look to do this. Set the example in this important feature in our social life in country homes. No cast iron rules can be laid down for guidance. All must be trusted to your good taste and tact; and I need not try to tell you, my dear girls, what is refined, and good, and kind-hearted.

Do you know, I often think we are improvident and reckless in regard to every-day love to which we have grown accustomed. Some day it may be taken from us very suddenly; then, with a heartache, we shall realize what we have lost. So let us weave bright sunshine into the dull warp of every-day life. But methinks I hear you say I have preached enough; so we will finish this lovely afternoon out in the sunshine. We can almost envy that tall group of sunflowers their warm corner by the garden wall; disc after disc of their sunny faces has been raised to brighten that spot. Now they hang, heads bent, as if ashamed that all their pretty yellow petals had gone. Moore has taken the sunflower as an emblem of constancy in the lines:—

"The heart that has truly loved never forgets,
But as truly loves on to the close.
As the sunflower turns on her god when he sets.

"The same look that she turned when he rose."
The fields are bare of grain, but a soft, green undergrowth makes them look fresh again, and seems to furnish luxurious food for the sleek, lazy, soft-eyed cows.

The golden rod, with its soft feathery bloom, is flaunting its beauties along every fence, and as it is the last bloom of wild flowers it makes us feel sad when we think they are over. Growth seems to have ceased, the berries of the mountain ash have taken on a faint yellow tinge, and the burrs of the chestnuts are already turning brown. There is a drowsiness over the whole face of nature, as if its work was finished and there was no more need of energy. The work of maturity is being rapidly pushed forward.

Hark! through the dim woods dying,
With a moan,
Faintly the winds are sighing
Summer's gone.

MINNIE MAY.

Fashion Notes.

The wraps, in preparation for the first cool days of autumn, are capes made chiefly of light cloth or coarse woollens, usually with velvet in combination. A mouse grey cloth has a collar cape of black velvet. Mantelets with short tabs have a yoke and girdle of velvet, or a velvet point in the back and some equivalent for it in front. Just as in the case of autumn dresses, light tints will be much used for wraps also, to distinguish them from darker winter garments. A cream wool wrap with dark green velvet will be extremely elegant for October. Long cloaks will be worn for mornings and short wraps for calling, except when a long cloak is worn for extra protection, and is removed before entering the drawing room. Toques will constitute the principal head-gear for autumn, particularly tulle toques of all colors. Some are of the round turban shape, adorned with a crescent in front. An aigrette, or butterfly, or a wing, is sufficient for this small piece of head-gear. Autumn toilettes, it is said, contain the germs of winter fashions. If that is the case, some of the indications are significant. None of the skirts are quite plain. On the front, at the sides, or at the back, somewhere there are gentle curves or fluctuations of the folds; it is raised here or draped a trifle there, but never quite straight. As to the winter colors, there is not likely to be any change this winter; the shades will remain just about the same, and any shade that looks best on the fair wearer will be fashionable. Woollen dresses with borders are still in favor, and will be worn for winter, making a stylish and becoming dress. Velvet ribbon will be much used for trimming bonnets and dresses. Dark purple and red shades, such as dahlia and rosewood, are seen in silks, ribbons and velvets for bonnets and dresses. The pure white handkerchief will always

be ladylike, and in good taste. Some are seen with an elaborate border of drawn-work above the broad hem, while others have insertions above it, but all must be white. Many young ladies can decorate their own handkerchiefs in drawn work, and at a far less cost



than they could purchase them. Tan shoes and stockings never found much favor in the eyes of well dressed women. They had a tendency to make the feet look large, and were a startling contrast to almost every toilette, and none but very wealthy ladies could afford to keep them just for the sake of the few dresses they would harmonize with.

Uncle Tom's Department.

MY DEAR NIECES AND NEPHEWS:—While my nieces are busy washing the dinner dishes, or making breakfast, baking, sweeping or ironing, do you, my dear boys, just take up the ADVOCATE and read your letter from Uncle Tom.

While "the waves of shadow" passed over the ripening, waving grain, my thoughts were with you; and as the self-binder—that prince of farm implements—came with lordly mien, and seemed to say as it went: "More power; take me faster, and I'll show you how I can work;" my thoughts travelled with you as it circled that field. We have seen the standing grain, gracefully bowing ere it lay low, sheaf by sheaf, as if in obedience to the stately tread of power. Neither was I far away as you gathered them up, one by one, and made your nice even lines of gathered tens, pretty close together this year. Like some haunting tune came the words, read long ago, to mind, of another scene: "White to the harvest," and "truly" it is "great."

Then the hauling in and heavy pitching, tired arms and hot mows, came with it, till the full barns could take no more. Then came the threshing time, when steam-power seemed to say, "I scorn the strength of your puny hands, as the tempest scorns a chain." But the whistling died away in the distance, and the lumbering of the heavy wheels in the darkening night told us all was over till the barn is refilled. In the lull, which comes as calm after a storm, my boys have time to breathe. Up early and late at work, short noon spells and busy, busy days have been the rule; but thoughts return to the familiar haunts and the half-read book resumed, and the newspaper once more gets a hearing or a reading.

How quickly the time is passing. It's a way time has. How shortly ago this grain, now gathered, was sown. Yet in that time, moonlight and dew, storm and wind, sunshine and shower, have performed their part, and have brought the little seed grains through all the process, blade and ear, to the full grain again. The thoughts which I would express, Alice Cary seems to put in my mouth:—

"We must not hope to be mowers,
And to gather the ripe gold ears,
Until we have first been sowers,
And watered the furrows with tears.

"Is it not just as we take it,
This mystical world of ours?
Life's field will yield as we make it
A harvest of thorns or flowers."

In the shadowy past, when Britain's fertile lands were traversed by the rude savage, even through the darkness shadows of heathen rites, there was kept a harvest home in thankfulness to the giver of their good things. What have we to offer in our enlightened age, centuries later—what thank-offering do we lay on God's altar?

One night in February, 1886, a white-haired man stood as he had done over seven thousand times before, on a platform, thrilling his audience. He came to the words "young man, make your record clean." He uttered no more—those were his dying words. A sainted request to you all, and John B. Gough passed into the "Border-land" with them on his lips. Gather

NEW ADVERTISEMENTS.

SPECIAL NOTICE.

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

All Advertisements, to insure insertion, must be in this office by the twentieth of each month.



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Especially people with large Scrotal Hernia disappointed by frauds, try a man of 20 years' experience. Without any patent Treat your LIFE IS A BURDEN. IT IS INVALUABLE TO YOU. Send 5c. stamp for Illustrated Book. Surgical Machinist, 118 King St. West, Toronto, Ont. Club feet made natural in 5 months without cutting. Patented.

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I propose selling about the middle of OCTOBER, by Public Auction, at Guelph, Ont., a large selection of pure-bred stock, consisting of

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DETROIT'S INTERNATIONAL FAIR.

The Coming Attraction of the City of the Straits.

A Complete Exposition of the Growth of the Central North-west—Art, Stock, Mechanics, Husbandry, Racing—Every Taste Catered to, and the Event One that will Attract All.

The approaching International Fair and Exposition to be held in Detroit September 17th to 27th inclusive, will be a great success. This is already assured so far as the attractions are concerned, and the population of the territory tributary to that location can be safely relied on to avail themselves of the advantages and opportunities offered.

The situation of Detroit is such as to give to the inhabitants of that great territory, stretching from Buffalo on the east to Lake Michigan on the west, and including the entire States of Michigan, Ohio, Indiana and Ontario, ease of access to her borders. And the city itself is becoming each year more and more the goal of excursionists from all contiguous points, who find in the historical lore of this, one of the earliest settled portions of the West, as well as in the natural beauties of her surroundings, much of interest and attraction. The broad banks of the beautiful river; the river itself, one of the most charming bodies of water in the world, its bosom carrying the greatest commercial fleet man has ever known; Belle Isle Park lying in the midst of this green, lake-fed current, a gem of emerald beauty; Old Fort Wayne, with its real live "Regulars" soldiers; the Canadian shore on the opposite side. All these are full of interest, and make Detroit a charming place for pleasure.

BUT THE FAIR ITSELF

will be the attraction. The grounds include 70 acres, and, lying on the banks of the river, will be reached either by boat, steam cars, horse cars, or by electric street road.

The buildings will cover fourteen solid acres, and are artistic in outline and in detail, comprising the largest strictly Exposition building in the world, erected exclusively for Exposition purposes. In these buildings will be held the great Exposition. It is not to be an agricultural fair alone; it is not to be merely an industrial fair; nor is it simply an exposition; but it is a grand combination of all these features, which makes it the greatest institution of its kind in the world.

ONE HUNDRED THOUSAND DOLLARS

is the aggregate of prizes offered, a sum which cannot fail to attract the widest interest among exhibitors, and which already is being responded to by large numbers. So large a list of prizes is uncommon, and, covering as the sum does, the several departments included in the premium list,

cannot fail to bring a liberal and exhaustive response from all classes, and thus realize the purpose of the projectors to have an Exposition which shall be more than a State affair, but, as its name indicates, be in fact an International Exposition.

That the Fair will include a large display of stock and agricultural products is manifest when the rich tributary country is considered and its resources remembered.

But it is not in agricultural and horticultural display alone that the Detroit International Fair and Exposition will afford attractions. While this may not be neglected, and while the development of good stock is of paramount importance to a section where a majority of the people are engaged in agriculture, the spirit of the times demands that the gentler side of humanity be catered to, and as a consequence there will be

AN ART EXHIBITION,

of no mean proportions which will be a feature of the fair. Here will be shown the American Prize Fund Collection, numbering 350 paintings by 200 of America's leading artists. These too will be supplemented with additional selections in the line of oil paintings which will be a matter of general interest and an education in themselves. Here will also be shown the famous "Russian Wedding Feast" and "The Last Days of Mozart" each in themselves rare attractions and paintings of world-wide celebrity and which alone would be objects of note in any exhibition.

It will be remembered that in 1883 Detroit conducted what was known as the Art Loan Exhibition, one of the most successful affairs of the kind ever gotten up and which drew thousands of interested and delighted visitors to her gates. Somewhat after this plan, but of course in not so extensive a manner it is proposed to make of the Art Exhibition of the International Fair a feature which shall be at once an object of attraction to those interested in art but an education as well, and which shall make this department one long to be remembered by the delighted thousands who will visit the great Fair.

"MUSIC HATH CHARMS."

In keeping with the aim to make the International Exposition one that shall surpass anything of the kind ever known in the West, Cappa's world famous Seventh Regiment Military Band has been engaged to supply music during the entire Exposition, and thus visitors will enjoy the most finished production of military music that this country affords.

THE RACING EVENTS.

Not the least of the features of the Fair will be the speed contests, and these will be of a nature that can not fail to be of interest to every one interested in speed and fine stock. Among these may be mentioned the Four-in-Hand Races, the Coaching Races, the Steeple Chasing, the Hurdle Jumping; all of exciting interest and supplementing the set races which will be of no mean order.

Thus may be briefly mentioned the many attractions of the Detroit International Fair and Exposition. But these do not embrace all that will be found of interest; the Machinery Hall; the Floral Palace, where will be the display of the Michigan Horticultural Society in its nineteenth annual exhibit; the Palm Garden; the Industrial Halls; the Apiary; the magnificent display of blooded horses, cattle, swine and sheep; the beautiful river flowing by; the myriad objects of interest that Detroit affords, will make the First Annual Exposition of the Detroit International Fair and Exposition one of great interest and an education to all attending.

Arrangements have been made with all roads centering there for one-half rate, and coming at a season when Indian summer will largely enhance the pleasure of attending; the success of the enterprise is already assured. 285a

HEREFORD CATTLE

A few choice Heifers and two imported Cows, for sale cheap, or exchange for good horses.

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These ready-mixed Paints are no chemical combination of benzine or soap mixture, but are simply old-fashioned paints ground to a degree of fineness not attainable in hand-made paint. They are guaranteed to cover more, last longer, and give better results than any other paint. Decorate your homes!!!! 285

ERTEL'S VICTOR



HAY PRESS
Most rapid, durable and economical. So warranted or no sale. Capacity one to two ton per hour. Descriptive circulars free. GEO. ERTEL & CO., Man'g. Quincy, Ill., or London, Ont.

Threshing Machines.

THE NEW MODEL

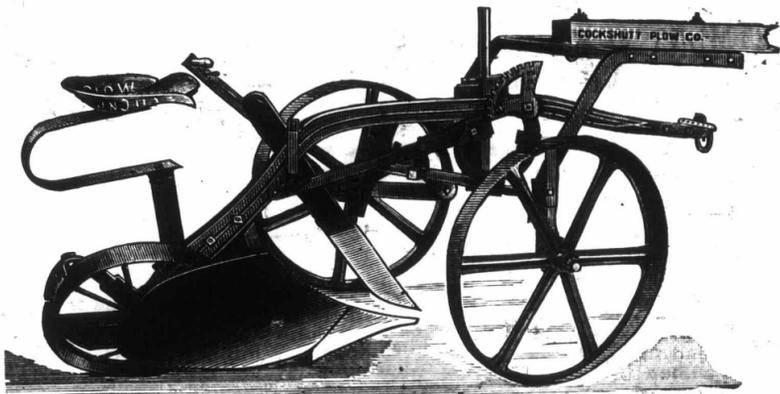
As built at Canton, Ohio, and by Joseph Hall Machine Works.

The Best--Better Than Ever Now.

The Cleanest Thresher in America. Moderate in Price. Superior in Workmanship.

Buyers, consider what you save in price, in what you save in grain, and in the cleanness of the grain threshed. Insist upon getting THE NEW MODEL. Take no other. Write to JOHN LIVINGSTONE, Toronto. 284-b

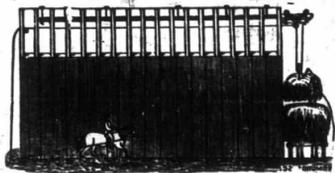
COCKSHUTT'S "J.G.C." RIDING PLOW
THE BEST IN THE WORLD.



Descriptive Catalogue Mailed Free on Application. 285
COCKSHUTT PLOW CO., (Ltd.) - BRANTFORD, CANADA.

BUCHANAN'S
Malleable Improved Pitching Machine

For unloading hay and all kinds of loose grain.



Will unload on either side of barn floor without changing car. No climbing necessary in order to change from one mow to another. Will unload a load of hay in four fork fulls. All cars made of malleable iron. All forks made of steel. Machines guaranteed to give satisfaction or no sale. The purchaser to be the judge. Responsible agents wanted in all unoccupied territory. None but responsible men need apply. Send for circulars and terms.



THE COMMON-SENSE SHEAF LIFTER

Works in connection with the hay carrier, and is the most complete apparatus ever offered to the public for unloading sheaves. Leaves the sheaves in the mow just as they come from the load. Satisfaction guaranteed. Price, \$5.00.

M. T. BUCHANAN, INGERSOLL. 285-a

COMBINATION PICKET AND WIRE FENCE.

The Fence best suited for farms, gardens, orchards, town or city lots. No other fence can compete with this for general utility. Prices from 45c per rod (16 1/2 feet). Send for our price list. Address all communications to Toronto Picket Wire Fence Co. Office and Factory--151 River St., Toronto, Ont. Fence Machines for sale. 280-f

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THE FOUR HARDEST AND LARGEST YIELDING WINTER WHEATS IN CULTIVATION.

VOLUNTEER

A square-headed bearded variety, with a red berry; very hardy and prolific. Per bush. (imp.) \$3.00; home-grown, \$2.50. Bags included.

MANCHESTER

A bald, red chaff wheat, with a fine red berry, of hardy texture. Price, \$1.50 per bush. Bags included.

EARLY RED CLAWSON
(NOVELTY)

A very productive brown chaff, bald sort, with very large, dark-red kernels; very early. Price: Peck, \$2.25; 1 bush., \$7.50; 2 bush., \$14.00. Bags included.

JONES' WINTER FYFE
(NOVELTY)

White chaff, and free from beards; very early; grain of medium size, hard and dark. Two oz. packet, \$1, post-paid.

Send for descriptive Catalogue. Address--

J. S. Pearce & Co.,
SEED MERCHANTS,
LONDON, - - ONT. 285-a



Manchester Wheat.

CANADA'S GREAT
INDUSTRIAL FAIR
—AND—
AGRICULTURAL EXPOSITION
1889
TORONTO
SEPTEMBER 9th TO 21st.

Increased Prizes, Greater Attractions and Lower Railway Fares than ever before.
Newest & Best Special Features that money can procure.
Over 250,000 visitors attended this exhibition last year. Entries close August 17th. For Prize Lists and Forms drop a post card to H. J. HILL, J. J. WITHROW, Pres. Man. and Sec., Toronto 282-c

THE GREAT CENTRAL FAIR
—WILL BE HELD IN THE—
CITY OF HAMILTON
—ON—

MONDAY, TUESDAY, WEDNESDAY, THURSDAY & FRIDAY
Sept. 23, 24, 25, 26 and 27, 1889.

When prizes will be offered for Stock, Agricultural, Horticultural and Dairy Products, Poultry, Implements, Manufactures, Fine Arts, Ladies' Work, etc.

COMPETITION OPEN TO THE WORLD.
In addition to the usual features incidental to a great fair, attractions of a popular character will be secured for the entertainment of visitors, a programme of which will be issued later. Evening concerts and illuminations.

F. C. BRUCE, 284-b President. C. R. SMITH, Secretary.

BOYS FOR FARM HELP!

The managers of DR. BARNARDO'S HOMES desire to obtain good situations with farmers throughout the country for the boys they are sending out from time to time from their London Homes. There are at present nearly 3,000 children in these Homes, receiving an industrial training and education to fit them for positions of usefulness in life; and those who are sent to Canada will be selected with the utmost care, with a view to their moral and physical suitability for Canadian farm life. Farmers requiring such help are invited to apply to

MR. ALFRED B. OWEN,
AGENT, DR. BARNARDO'S HOMES,
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COMFORT AT LAST.**PATTERSON'S TICK & VERMIN DESTROYER**

Sure death to ticks, vermin on cattle, horses and poultry. A powder easily applied and perfectly harmless. Wm. Linton, Stock-breeder, Aurora, says of it:—"The best article in the market." Endorsed by the leading farmers.

G. D. PATTERSON, Chemist Aurora.
Trial package sent by mail. Price, 50c. 280-y

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100 Grey Nun St., Montreal,

MANUFACTURERS OF

SOFA, CHAIR AND BED SPRINGS.

A LARGE STOCK ALWAYS ON HAND.

IMPORTERS OF

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DOUGLAS H. GRAND, AUCTIONEER.

Pedigreed Live Stock a specialty.
Sales held any part of the country.
Terms reasonable. 150 Dundas St., London.
278-tf



This LEAD is known from Halifax to British Columbia as the BEST, FINEST and PUREST in Canada. 285

TO THE DEAF.—A Person cured of Deafness and noises in the head of 23 years' standing by a simple remedy. Will send a description of it FREE to any person who applies to NICHOLSON, 30 John Street, Montreal, P.Q. 277-y

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The Prairie Province Offers Great Advantages to Those Who Contemplate Removing from Ontario,

Especially to those who purpose following AGRICULTURAL PURSUITS. The present season has demonstrated more than ever the very great PRODUCTIVENESS OF MANITOBA'S SOIL. The Province has produced this year under most unfavorable conditions a crop that would be called an EXCELLENT ONE IN ANY OTHER COUNTRY.

FERTILITY OF SOIL UNSURPASSED.

THE VERY BEST LANDS Can be Easily Obtained in Settled Districts.

INCREASING RAILWAY FACILITIES.

Full information at DEPARTMENT AGRICULTURE AND IMMIGRATION, WINNIPEG, or MANITOBA GOVERNMENT EMIGRATION OFFICE, TORONTO. 285-a

MANITOBA LANDS FOR SALE

BY D. A. ROSS & CO.

ESTABLISHED 1877.

We have over 1,000,000 acres for sale in the best districts in the Province. 200 improved farms for sale. We are sole agents for the sale of lands of four loan companies, and consequently can give you some cheap farms and easy terms of payment. We have been inspecting lands for loan companies and private individuals for the past twelve years and know every farm within a radius of 50 miles around Winnipeg. Parties buying from us get the benefit of our experience. Send for list of land or any other information. Large blocks of land a specialty. References—British-Canadian Loan Co., Canada Landed Credit Co., Freehold Loan & Savings Co. (Ltd.), Manitoba & North-west Loan Co.

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D. A. ROSS & CO., 2 William St., Winnipeg.

WHEAT.

Rennie's Autumn Catalogue

FALL WHEAT

now ready and will be mailed free to all applicants. We are offering two new varieties this season. Full description furnished upon application. Fine samples of **GARFIELD, BONNELL** and other Winter Wheats, also a complete stock of re-cleaned

CLOVER AND GRASS SEEDS

at lowest market prices. Address

WM. RENNIE, Toronto.
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—IN—
Manitoba and the Northwest

FOR SALE.

Apply to: 288-tf

JOHN WELD, London, Ont.

FREE SEND 20c. TO PAY FOR PACKING AND POSTAGE for a sample colored Rug Pattern, stamped on the cloth itself. Also, our colored plates of fifty different designs of rugs free. Agents wanted to sell the Jewel Rug Machine, Colored Rug Patterns, and other goods. **W. & F. BUSH, St. Thomas, Ont.**
283-f

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WILL BE OPEN ON THE 1ST OCTOBER.

Lectures on Agriculture, Live Stock, Dairying, Veterinary Science and other subjects required by farmers. For circular giving information as to terms of admission, cost, etc., apply to

JAMES MILLS, M. A.,
Guelph, Aug. 3, 1889. 285-a
President.



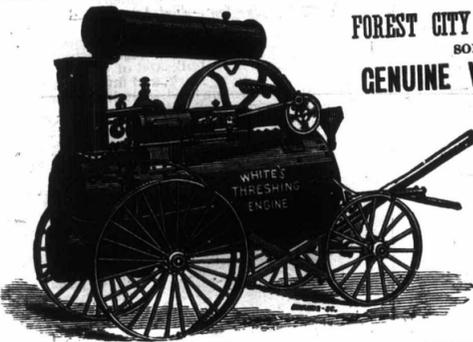
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STALLIONS AND MARES

Constantly on hand, and For Sale at Reasonable Terms.

Our last importations comprise a large number of one, two, three and four-year-old registered stallions and mares, the gets of such sires as Macgregor (1487), Darnley (222), and Prince of Wales (673). Also a few choice **SHETLAND PONIES**. Correspondence solicited, and visitors always welcome.

GRAHAM BROTHERS,
Twenty-five miles east of Toronto, on the C. P. R. 278-y **CLAREMONT, ONT.**



"THE FITTEST SURVIVES."
FOREST CITY MACHINE WORKS, LONDON, ONT
SOLE MANUFACTURERS OF THE
GENUINE WHITE THRESHING ENGINE,

Special 20-horse power Portable Saw Mill Engine, (same pattern and style), Light and Heavy Traction Engine, and is licensed by all Insurance Co's, and has proved itself to be the most durable. The Engine for the Northwest is made to burn either coal, wood or straw. A thorough warranty given with all Machines and Engines. Call and examine our Machinery, or correspond with us before purchasing elsewhere.

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SOUTH-WEST CORNER

YONGE AND QUEEN.

TREMENDOUS

—SUMMER—

CLOSING-OUT SALE

Nearly Half a Million Dollars Worth (\$500,000) of Staple and Fancy Dry Goods to be cleared before the 1st of October.

Every department in the house has been thoroughly overhauled and sweeping reductions made in our already low prices. Our buyers are now in Europe scouring the European markets, and carrying out our great system of paying cash for all purchases, and thereby getting the lowest quotations and the best discounts obtainable. There is no bargain, however great, or fabric, however scarce, that is not within our reach or readily put in our way. To make room for our fall purchases a Great Summer Closing-Out Sale is now being held, and we are determined to make a grand clearing at any cost, and if our loss is great, greater than will be our customers' gain. Visitors to the city during exhibition week should give us a call.

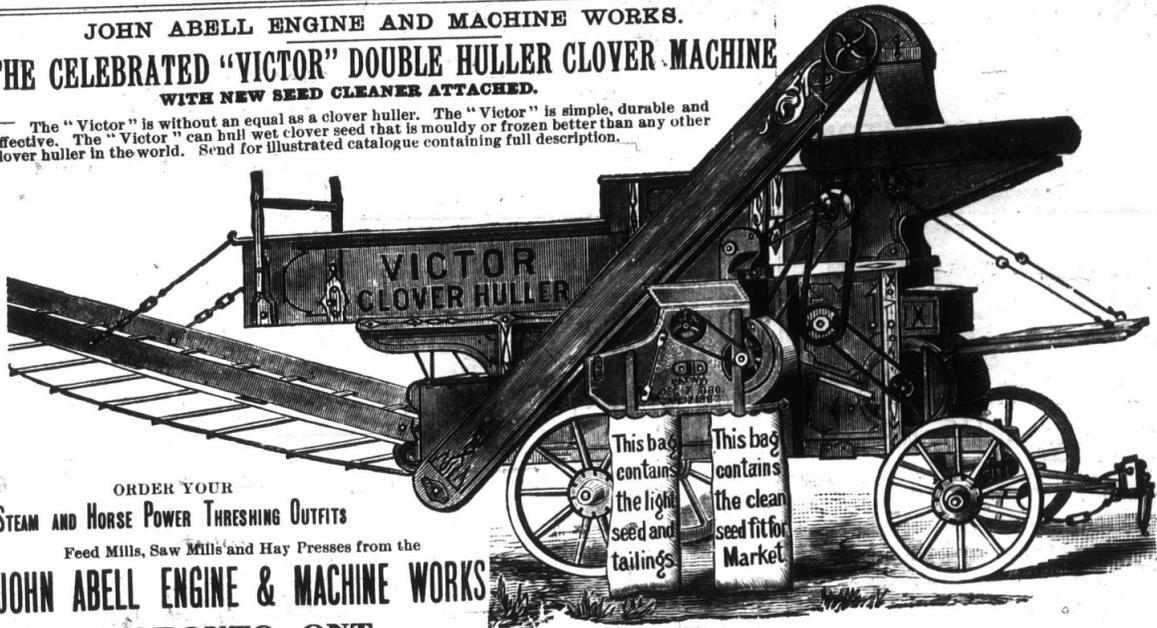
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South-West Corner Yonge and Queen,
TORONTO, ONTARIO.
290-1

JOHN ABELL ENGINE AND MACHINE WORKS.

THE CELEBRATED "VICTOR" DOUBLE HULLER CLOVER MACHINE
WITH NEW SEED CLEANER ATTACHED.

The "Victor" is without an equal as a clover huller. The "Victor" is simple, durable and effective. The "Victor" can hull wet clover seed that is mouldy or frozen better than any other clover huller in the world. Send for illustrated catalogue containing full description.



ORDER YOUR
STEAM AND HORSE POWER THRESHING OUTFITS

Feed Mills, Saw Mills and Hay Presses from the

JOHN ABELL ENGINE & MACHINE WORKS

285

TORONTO, ONT.

STOCK FOR SALE.

H. GEORGE & SONS
CRAMPTON, ONTARIO,

Importers and Breeders of

OHIO IMPROVED CHESTER WHITE SWINE,

also Berkshire and Suffolk Swine. Orders booked for spring pigs in pairs, and trios not akin. All breeding stock recorded. Correspondence solicited. 280-f



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Importer and Breeder of
Ohio-Improved Chester White Swine

My herd consists of 12 choice registered sows, bred to Middlesex 377 (Free Trade 4359) (Crown Prince 4563), Uncle Sam 4361, National C. W. Record. Expect some good ones for fall trade. 282-y



R. D. FOLEY,
Rosedale Stock Farm
MANITOU, MAN.

BREEDER AND IMPORTER OF
CLYDESDALES AND SHORTHORNS.

Young animals, male and female, imported and Canadian bred, always on hand for sale. Visitors welcome. Satisfaction guaranteed as to price and quality. 284-y

SHIRE HORSES.

We have a choice selection of Imported Stallions and Mares always on hand. Having a partner resident in England our expenses are very light, and we are able to sell at figures 25 per cent. lower than any other importers.

Also Pure-bred Shropshires, Imported and Canadian-bred; all registered.—**ORMSBY & CHAPMAN,** The Grange Farm, Springfield-on-the-Credit, Ont. Stations—Streetsville, on the C.P.R., and Pt. Credit, on G.W.R. 285-y

Improved Yorkshire Pigs.

We were the first importers of pedigreed Yorkshires in Canada. All our stock is registered, and our motto is, "A good pig with a straight pedigree at a fair price." Our terms are, "Satisfaction guaranteed or money refunded."

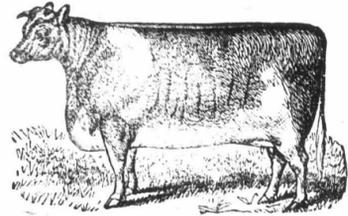
NEW IMPORTATIONS
—OF—
SHROPSHIRE SHEEP
IN JULY.

Show Ewes, Rams and Lambs

Offered at reasonable rates; also a limited number of store ewes of the choicest breeding. First come, first served. Call or address

JOHN DRYDEN, Brooklin, Ont. 277-f

ARTHUR JOHNSTON,
Greenwood, Ontario.

A LARGE SELECTION OF HOME-BRED
SHORTHORN BULLS FOR SALE.

All by imported sires, and mostly out of imported dams, besides imported and home-bred cows and heifers. I have also a number of exceedingly good imports.

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New Catalogue for 1889, will be ready about the 20th January, 1889. Send for one.

Claremont Station, C.P.R., or Pickering Station, G.T.R. Parties met at either station on shortest notice. Come and see them. 285-f

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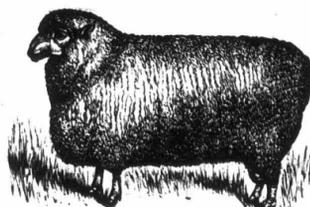
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PURE-BRED SHORTHORNS.

Have at all times a number of both sexes for sale. Catalogue of young bulls recently issued. Address:

JOHN HOPE, Manager,
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COTSWOLDS AND SHORTHORNS FOR SALE



For many years my flock has been the largest and best in Ontario County. A number of sheep and cattle always on hand for sale. Come and see me, or write for particulars.

JOSEPH WARD,
MARSH HILL, ONTARIO. 279-y

Prize Winning Ayrshires for Sale.



Mine is one of the largest and most successful show herds in Canada. They are finely bred and of great individual merit. Bulls, heifers and cows always on hand for sale; also a few good Leicester sheep. Correspondence solicited. Visitors welcome. Address

THOS. GUY,
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—AND—

COTSWOLDS.



J. G. SNELL & BRO.
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For forty years we have led all others in these lines, both in the show yards and breeding pens. We now have a choice lot of young pigs varying in age, from six weeks to six months, all are descended from fashionably bred prize winning English stock. We also have a grand lot of Cotswolds; a large number of which are yearlings. Good stock always for sale. Visitors welcome. Write for particulars. 279-y

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COTSWOLDS

FOR SALE.



My Shorthorns are well bred, good colors, and have been fine milkers for generations. I have over 100 females and a large number of bulls, from which buyers may select. Prices to suit the times. Satisfaction guaranteed. Correspondence promptly answered. Visitors welcome.

JAMES GRAHAM,
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HILLHURST HERDS

ABERDEEN, ANGUS, HEREFORD,

—AND—

A. J. C. C. JERSEY CATTLE.

Choice Young Bulls and Heifers of the above breeds for sale at moderate prices at all times. A few fine, young Hereford Bulls, by Cassio, at low prices if taken at once.

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275-y HILLHURST P. O., Compton Co., Q.

FRANK R. SHORE & BROS.

White Oak, Ont.,

Breeders of

SCOTCH SHORTHORNS

—AND—

SHROPSHIRE.



Young bulls and heifers for sale from imported Cruickshank sires and from dams of the most approved Scotch breeding. 285-y



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Ontario.

My Shorthorn herd now consists chiefly of Imp. Lady Violet Lustre and seven of her daughters, and two daughters of Imp. Beauty 15th, almost all sired by one bull, and of one character, thick, and fine quality. Can furnish a splendid young herd, including an imported bull. Trains twice daily. Station one mile. 282-y

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The Largest and Oldest Pure St. Lambert Herd in the World.

75 HEAD OF THE WORLD-RENOWN
VICTOR HUGO & STOKE POGIS
(VICTOR HUGO STRAINS.)

HOME OF THE CHAMPION MILCH-COWS
Jolie of St. Lambert 5126, and Jolie of St. Lambert 3rd, Winners of the Silver Medals and Diploma Sweep-stake Prizes at Toronto, 1885; Quebec, 1887, and Kingston, 1888, securing the highest number of points (13.28) ever made by any breed in a public test.

Victor Hugo 197
Has now seventy descendants that have tested 14 to 36 lbs. of butter in seven days. His best daughter, Lady Fawn of St. Anne's, with her wonderful record of 16 lbs., 12 1/2 ozs. of butter in seven days; 34 lbs., 8 ozs. in twenty-eight days, and 40 lbs. milk per day. All, when fifteen years old, is in this herd.

JERSEY BREEDERS, FARMERS AND DAIRYMEN,
Do you want a pure St. Lambert Bull to head your herd—bulls having from 21 1/2 to 31 1/4 per cent. Victor, and 18 1/4 to 25 1/2 per cent. Stoke Pogis 3rd, combined with as high as 90 per cent. of Mary Anne of St. Lambert's blood? For sale from \$100 to \$250. We don't keep bulls to sell for less than \$100, nor will it pay you to buy a poor one. A bull is half the herd; therefore, buy a good one.

W. A. REBURN,
282-c St. Anne de Bellevue, P. Q., Can

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OF SHORTHORN CATTLE.

Animals of both sexes for sale.

R. & S. NICHOLSON,
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HIGHLY BRED JERSEY COWS AND HEIFERS,
Registered in the A.J.C.C. Most of the stock is St. Lambert blood, sired by Canada's John Bull, No. 8388, and due to calve in August and September. Also a four-year-old bull sired by Canada's John Bull; very handsome; sold to prevent in-breeding, and a six months' old bull calf, sired by above and from an imported cow.
284-b **JOHN FENNEL, Berlin, Ont**

BREEZE LAWN STOCK FARM.

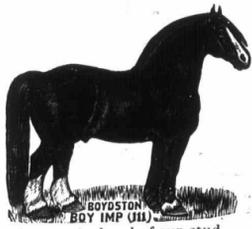
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Souris (Plum Creek),
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Breeders & Importers of
Shorthorn Cattle,
Southdown Sheep
and Berkshire Hogs.
Send for prices 284-y



D. & O. SORBY, GUELPH, ONT.,
Breeders and Importers of

FASHIONABLY BRED CLYDESDALES



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COLDSTREAM STOCK FARM,
WHITBY, ONTARIO.



few choice Shetlands. Prices to suit the times.
Address, **JEFFREY BROS., Whitby, Ont.**
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We invite the attention of farmers desirous of securing fresh blood to our new importation of young Berkshire Boars and Sows, and also to our pigs of home-bred, which we offer at very reasonable prices. All our stock is eligible to record in the Canadian and American registers. We invite correspondence and inspection. We ship to order and guarantee satisfaction, but prefer that purchasers make their own selection. Address—
JOHN SNELL'S SONS,
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Telegrams and R. R. Station Brampton, G. T. R.

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Pure-bred Ewes and Ewe Lambs from an 'X' 1 flock. Prices to suit purchasers.
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THE PORK PACKER'S FAVORITE.

Improved large white Yorkshire pigs; Irish importation just arrived; specially selected from the celebrated herd of F. Walker-Jones, England, whose herd has won upwards of \$10,000 in prizes in three years. Registered young boars and sows for sale. Apply to **GREEN BROS., Inverkip, Ont.,** or **285-a J. E. BRETHER, Burford, Ont.**

JOHN S. ROBSON,
Thorndale Stock Farm,
MANITOU, MAN.
Breeder and Importer of Clydesdales
and Shorthorns.

Young animals for sale. Satisfaction guaranteed.
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Every Young Man and Young Woman

in the Dominion who contemplates taking a commercial course this fall is requested to send to the
ST. CATHARINE'S

Business College

for the **NEW CATALOGUE** which will be sent free to any address.

W. H. ANGER, B. A.,

274-y

PRINCIPAL.



RE-OPENS SEPTEMBER 3rd, 1889.
For circular, etc., address **C. O'DEA, Secretary**
284-y

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Manufacturers of the following brands of high grade Fertilizers:

Lasting in Their Results,



Quick in Their Action.

Sure Growth, Grape Food, Pure Bone Meal, Pure Animal Fertilizer and Farmers' Pride.

Also Granulated Bone for Poultry Food.

DOMINION FERTILIZER & CASING WORKS,
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\$1,500.00

—WORTH OF—

STOCK, IMPLEMENTS, ETC

GIVEN AWAY!

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One PAIR CLYDESDALE MARES, aged four and five.
JAMES BAWTINHIMER,
Drumbo P. O., Ont.
285-a

Agricultural & Arts Association.

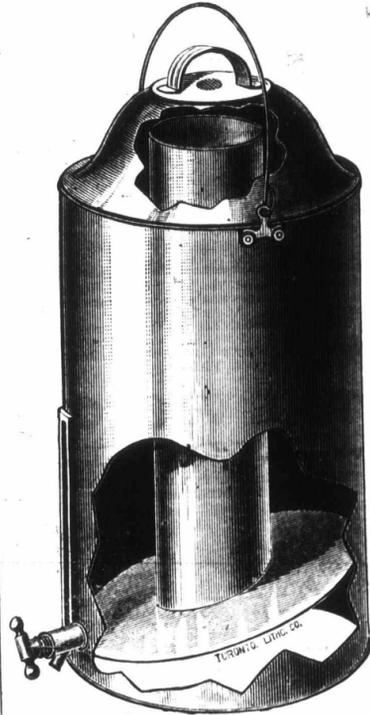
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—WILL BE HELD IN THE—
CITY OF LONDON

—FROM—
SEPT. 9TH TO 14TH, 1889.

See cheap excursion rates from Maritime Provinces. Excursionists will be able to procure cheap rates from Toronto.
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This Can works at every farmer's well, with or without ice, by changing the water once after the heat of the milk is off. It will be perceived that in this Can there is a central tube that admits the water to ascend until it reaches the head of the exterior body of water, and thus we avail ourselves of the cooling and purifying influence of water on the inside and outside of the can. With this Can we guarantee one-sixth cream during hot or cold weather, and better results generally than with any other process. We build these double creamers to suit all sizes of dairies. Send for price list. Agents wanted.

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 Manufacturers of all kinds of
HAY TOOLS



Foust's Patent Hay Loader, Anderson's Patent Rake Attachment, Grand Rapids Hay Tedder, Wisconsin Dead Lock Hay Carrier and Fork. The above mentioned implements are the most popular Haying Tools in the market. Send for descriptions and prices. Good, responsible agents wanted.

"RIVERSIDE," Woodburn, Oct. 28th, 1888
 MESSRS. M. WILSON & CO., Hamilton.

Dear Sirs:—We used your Hay Loader during the entire season while haying lasted, and were well pleased with it—so much so that the work hands were unwilling to draw in hay without using it, even in limited quantities. There is no surer evidence that an implement does its work well than to find the work hands anxious to use it. We consider it a great saving in time and work when hay is loaded in this way. By cutting but a limited portion at once, and using the Tedder and Hay Loader judiciously, hay can be fairly well saved almost any season. We would not think of doing without either of those implements in future.

Yours, etc.,
 THOMAS SHAW, 280-g
 Prof. of Agriculture, Agricultural College, Guelph.

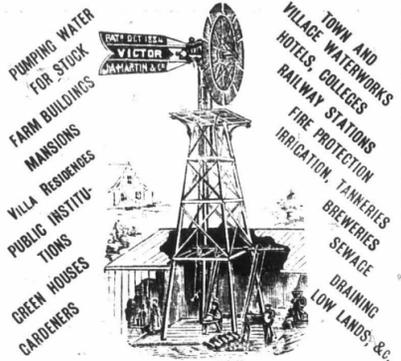
THRESHING MACHINES & HORSE-POWERS
 (ONE, TWO AND THREE-HORSE)



Guaranteed to be "the best" Tread Horse-power Threshing Machines made, and takes the lead wherever introduced. Agents wanted.
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 E. G. PRIOR, Agent, Victoria, B. C. 281-f

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WIND MILL

For supplying water, pure and fresh, for the following purposes:—



We make these Wind Mills for all the different purposes named; also, Geared Wind Mills, for Cutting Straw, Hay, Sawing Wood, Grinding Mills, &c. Catalogues can be had by addressing the
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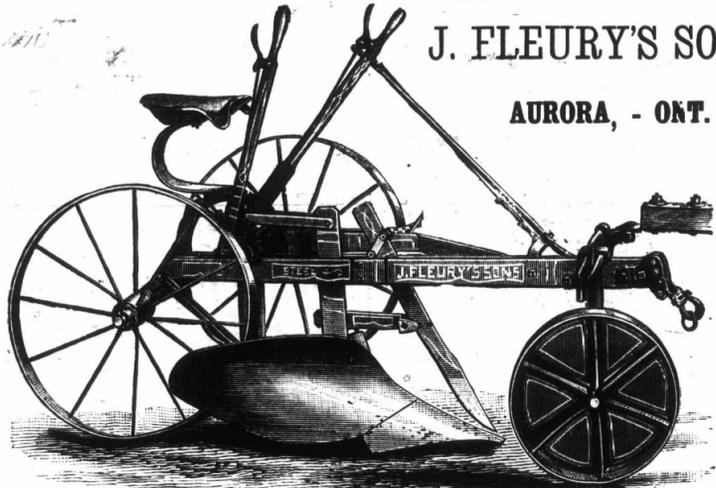
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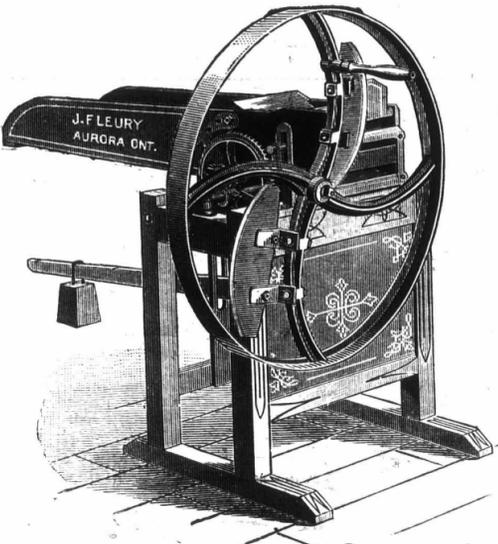
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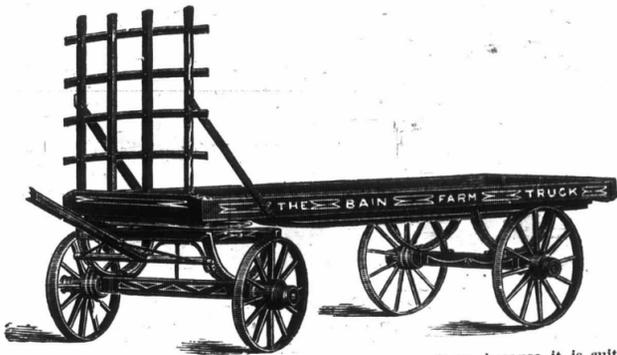
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STOCK GOSSIP.

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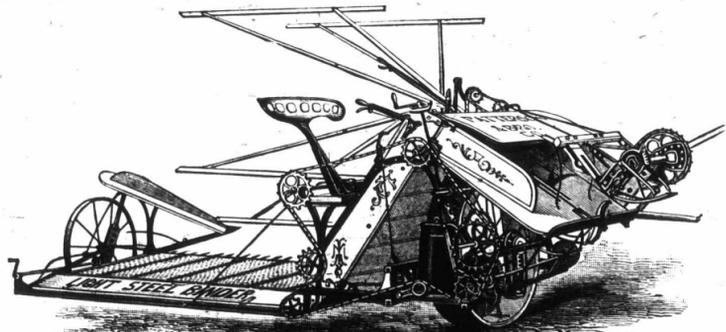
CLYDESDALES FOR CANADA.—From the North British Agriculturist.—We learn that Mr. Peter Crawford has just sold to Mr. Sorby, of Guelph, Canada, a grand lot of Clydesdales, numbering thirteen in all, and including some of the very best specimens of the breed. One of these is the M'Camon yearling filly Sunrise, which gained the first prize for Mr. Lumsden at Inverurie and Aberdeen last week. Another is the two-year-old filly Soudie, which also gained first honors for Mr. Lumsden at Aberdeen on Thursday. Mr. Crawford bought both these grand fillies at the Aberdeen Show, and passed them on to Mr. Sorby. Among the other animals sold to Mr. Sorby is Lalla Rookh, a five-year-old, bred by Mr. Marr, Cairnbrogie. This horse was sold as a yearling at Glasgow, where, by the way, he defeated the champion horse Cairnbrogie Stamp. He has the Upper Nithsdale premium of this year, and has given great satisfaction there. The consignment also includes a two-year-old colt, bred by Mr. Sinclair Scott, and got by Newtonaids, out of a Roseberry mare; and a two-year-old, bred by Mr. Hood, Balgredan, and got by Macpherson, a son of McGregor, while his dam is the dam of Oliver Twist. Amongst the others is a splendid yearling colt, bred by Mr. Hislop, got by Mr. Wm. Kenwick's stud horse, Knight of Lothian, out of a Lord Lyon mare. This is one of the most promising animals in the whole consignment. Among others are three yearling M'Camon colts, bred by Mr. Garland, Ardlethen; one by Darnley King, two by Lord Erskine, and one by Granite City. The consignment also includes Mr. Stevenson's prize-winning mare which was first as a three-year-old at Bishopbriggs. The consignment is a very valuable one, and Mr. Sorby is to be congratulated on having secured such an excellent lot.

Mr. Robt. Miller, jr., Brougham, Ont., shipped four well-bred horses at the same time. Two of these—Pride of Troon, 723, and Forest Monarch, 573—were purchased from Mr. Snodgrass, Portmadoc, Inchnan, and are well bred blocky horses. Glenconnell, a thick, strong colt, got by Lord Glasgow, 4180, was purchased from Mr. James Andrew, Bushes Farm, Paisley, but the pick of the lot was the two-year-old colt Sir Edward, purchased from Mr. Armstrong, Thornhill, Ayr, and got by Mr. Kilpatrick's prize horse St. Blaise, out of a mare by Old Times. This beautiful colt has inherited much of the style and quality of the Prince of Wales' tribe, and was greatly admired by the throng of horsemen who lined the quays on Monday week. He has fine clean, flat bone and good feet and pasterns, and with depth of rib and substance to correspond, he must be regarded as one of the best two-year-olds shipped this season. He was commended in a good class at Ayr in April.

By the same vessel Mr. James Hunter, Alma, Ont., shipped a choice colt got by Lord Lynedoch, and purchased from Mr. James Wolf, Sandlands, Lanark. This colt had first-rate feet and legs and promises to make a horse equal to his sire. To Mr. Wm. Jeffrey, Whitby, Ont., Mr. Ferguson, Renfrew, shipped a thick, low-set horse named Scottish Leader, 7243, got by the prize horse Strongbow, 4045, and, like him, a typical Canadian horse.

MR. ROBERT BEITH'S HORSES.—The tenth annual shipment of Clydesdale horses made by Mr. Robert Beith, Bowmanville, Ont., sailed per the Corean on Friday last. It numbered seventeen head, all of which were purchased from Mr. Peter Crawford, Eastfield House, Dumfries. What sort of material this shipment was composed of may be inferred from what follows. Amongst aged stallions were Sir Maurice, 4721, winner of fourth prize at the Glasgow Spring Show in February, the Brechin premium this season, the Duke of Hamilton's premium last year, and the Clackmannan premium in 1887, when he stood far forward in the short list at the Glasgow Stallion Show. He was second at Dalbeattie when a yearling, and second at Glasgow when a two-year-old, being only beaten by Cairnbrogie Stamp. The advantage to the breed of the importation of such a horse into Canada cannot be over estimated. Another notable aged horse is Paragon, 7096, one of the short leet horses at the spring show, and the Mill-Calder premium horse this season. Amongst three-year-olds Sir Walter, the Buehan premium horse of this season, and the beautiful colt Crosby Challenger, 5678, which had many admirers at the spring show in 1888, are especially worthy of mention. The two-year-olds are a first-rate lot. Chief amongst them we notice the finely-bred horse Eastfield Chief, 6713, a son of Prince Lawrence, which gained second prize at Ayr, first at Edinburgh, and third at Glasgow this season. Eastfield Laddie, 6719, a son of Old Times, and last year winner of a prominent prize at Wigtown Show. MacCalman, 6965, by Master of Blantyre, winner of prizes at Lanark, as well as being out of a Lanark first prize mare, and Lord Gray, 6866, a colt by King of the Forest, which Mr. Crawford purchased from Mr. Houston, Overlaw, in whose possession he gained fifth prize at Kirkeubright. Mr. Beith also shipped a few superior mares, of which a Saquhar mare, bred by Mr. McGibbon, Campbelltown, and at one time owned by Mr. Robert Kenwick, Dalmuir, merits more than passing notice. She is a finely-modelled specimen of the breed, and gained prizes in Dumbarthshire. There is also in the lot a beautiful yearling filly, got by Master of Blantyre, for which a still price was paid, as she is expected to make a first-rate mare.

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Are deservedly popular with Canadian farmers. They are light, simple, durable, and always work satisfactorily in the field. No experts required. No vexatious delays in harvest.

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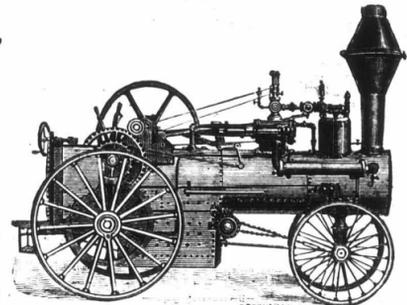
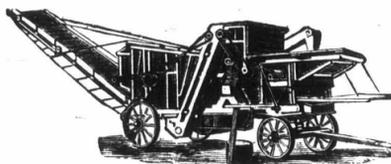
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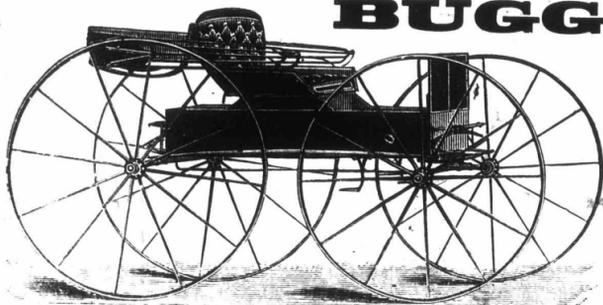
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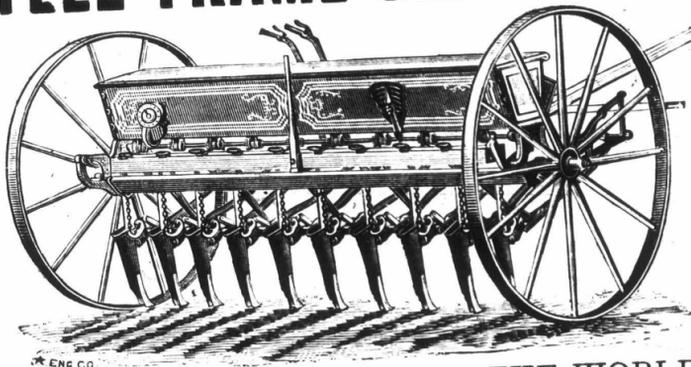
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Absolutely fire proof. Cool in summer and warm in winter. It insures freedom from rats, mice and other vermin. One-half the weight of ordinary bricks. Mortar can be applied direct without lath or furring. Applicable for old and new work. Farm Drain Tile of any size. Write for prices and further information. 280-f

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No Other Drill made can be instantly regulated to run at any desired depth without stopping the team. No Other Drill will sow all kinds of grain thoroughly, even and properly covered at a uniform depth in all kinds of soil. No Other Drill commences to sow the instant the horses commence to move, and misses no ground when starting in after turning. No Other Drill equals the Hoosier when used as a cultivator, and no single cultivator surpasses it, thus combining two implements in one.

If no agent convenient to you, drop us a post card for catalogue and prices.

NOXON BROS. MFG. CO

INGERSOLL, ONT.

284-b

STOCK GOSSIP.

MESSRS. GRAHAM BROTHERS' CLYDESDALES.—Another valuable lot of horses, carried by the Corean, was fifteen head owned by Messrs. Graham Bros., Claremont, Ont., and purchased from the Messrs. Montgomery. Chief of these, and looking very fresh and vigorous like, was the noted prize horse the Macneilage, 2902, winner of first prize at Dunfries Union Show in 1883, first at the 'Royal' both in 1884 and 1885, and third at the Highland and Agricultural Show at Aberdeen in the latter year. This grand specimen of a draught horse has never been in better shape than during this season when he was the premium horse for the Lockerbie district. Another outstanding horse was the yearling colt Arbitrator, winner of third prize at the Royal Northern Show at Aberdeen, and a horse of excellent quality, and having good action. The two-year-old colt Chairman, 6536, which Mr. A. Montgomery purchased at the Orchardmains sale, has, as was expected, grown into a massive, big horse, and other four two-year-olds give promise of making superior breeding horses. A capital yearling colt, named Ravenswood, was purchased from the Marquis of Londonderry, and was got by Castlereagh, out of a St. Lawrence mare, a line of breeding to which he bears credit. The whole shipment, composed of one aged stallion, five two-year-old stallions, six yearling colts, one three-year-old mare and two yearling fillies, is of the character so long associated with the firm of Graham Bros., and likely to furnish as many prize winners as their shipments of the past.

A representative of the ADVOCATE called on Mr. Andrew Routledge of Lambeth, Ont., a few evenings ago for the purpose of testing the milk of one of his Shorthorn cows, Minnie, 2nd 4635. Said cow having a habit of pouring down forty-six to fifty pounds of milk per day, a low percentage of butter fat was anticipated, but instead a percentage of 3.75 per cent. was shown, fully 50 or half of one percent above the average.

Messrs. R. & S. Nicholson write us in re their herd as follows:—By the first of last June we had sold all our bulls that were fit for service. Our herd will again be on exhibition at the leading shows this fall, it was never in such fine trim before. Warrior, (5517) now weighs 2,625 pounds, just the same weight as the first prize aged bull at the Royal show year. He is just the sort to show in an English show ring, being not only large but very thick and smooth, and carrying a wealth of flesh of the first quality.

The annual report of the Dairy and Creamery Associations of Ontario, for 1888, is a pamphlet of one hundred and sixty pages, and contains a report of the Dairymen's Association for Western Ontario, do. for Eastern Ontario, and the Creameries Association of Ontario, and contains much more practical information for dairymen and farmers than most reports of its class, in fact many of the books sold for two or three dollars contain much less information. It can be obtained free of charge by applying to the Department of Agriculture, Toronto, Ont. Get it and read it carefully, it will pay you well.

Recent sales from the herd of Charles M. Simmon, Ivan, Ont.:—One Strathallan bull to D. Stewart, Leno, Ont.; one to D. & G. McDonald, of Appin, Ont.; a Strathallan; one to D. R. McCrae, of Strathburn, Ont.; one to Henry Smyth, of Chatham, Ont.; one to John Sharp Jr., of Delaware, Ont.; Berkshires—One heifer to Mr. Robson, Brampton, Ont.; one to Mr. Deacon, Belgrave, Ont.; one to C. Pranzley, Dresden, Ont.; one sow to H. Smyth, Chatham. Have sold about 30 head of Berkshires to Canadians in the last few months. Have a number of Shorthorn bull calves, got by the silver medal bull, Sir Christopher, and young Berkshires of both sexes for sale.

The Bollert Bros., of Cassel, Ont., write under date of Aug. 15th, that their herd of Holstein-Friesians are doing very nicely this summer, the calves, both male and female, are developing exceedingly fine and give great promise for the future. Sales have been very satisfactory this summer, among others we sold two very choice heifers (one three and the other two years old) to Mr. W. Mulshier, of Port Robinson (which, by the way, is his third purchase from us); one heifer, one heifer calf and one bull calf to Mr. D. Lindsay, Hagersville. These are from the very best strains of Mr. N. L. Roth got a very choice bull calf to head his herd. The demand for highly bred animals is continually increasing. Messrs. Bollert aim at 12,000 pounds of milk per annum, and inform us that some of their cows even exceed that.

The American Southdown Association offers as a special prize at the American Fat Stock Show, Chicago, November 12-21, a solid silver cup, costing \$50.00, for the best Southdown wether, on the following conditions: 1st. All competing animals to be one and under two years old, to be pure bred, the progeny of recorded sires and dams, and to have been bred by, and at the time of the exhibition to be the property of the exhibitor. 2nd. The exhibitor to furnish at the time of entry, a written statement, verified by affidavit, giving the pedigree, age, weight, date and manner of feeding, and other important facts connected with the management of each animal during the year. 3rd. Competition shall be open to all, but no award shall be made except there be two more competitors. 4th. The party securing the prize may hold it in trust until the opening day of the first succeeding Fat Stock Show, when it shall be placed in the hands of the American Southdown Association to be again competed for. When taken the second time by the same exhibitor, the prize shall then become his actual property.

STOCK GOSSIP.

A large amount of interesting stock gossip is unavoidably crowded out of this issue, we regret this very much, but it is absolutely unavoidable.

Mr. R. Gibson, Bellevue Farm, Delaware, has a large importation of choice Shropshire sheep on the way from England. They are expected to arrive in time for the Provincial Exhibition.

H. George & Sons, Crampton P. O., Ont., report their herd of swine in good shape. They will exhibit at the Provincial, and the Industrial Exhibitions this fall. They report their fall pigs coming very strong and healthy. Three of their sows have lately farrowed 40 pigs.

We are pleased to announce that Messrs. George Ertel & Co. have established works in this city under the supervision of Mr. Ertel, jr., for the manufacture of their celebrated hay presses. They guarantee their presses superior to any other made. See advertisement in this issue.

Mr. W. Kirby, manager for Messrs. C. Fairfield & Co., of Waverly, Iowa, recently imported per SS. Superior twenty-eight entire horses, two very fine Hackneys, eleven Belgians, some of which are very choice, and seventeen shires, a number of which were prize winners at leading shows in England.

Mr. Wm. Douglas, lot 80, River Road, four miles west of Caledonia, Onondaga township, will sell by auction, on Tuesday, Oct. 8th next, a fine lot of choice Shorthorn cattle of Bates blood; also a lot of fine Cotswold sheep, and Berkshire pigs of breeding age. Mr. Douglas is one of our oldest breeders. See advertisement.

Wm. Stewart, Jr., Menie P. O., reports the demand for Ayrshire cattle on the increase, he has sold heifer Hattie Bell 1186, to W. W. Dracup, Rawdon township; heifer Apple Blossom 1181, to Edward Chisholm, Front of Sidney, Hastings county. Stock are doing splendidly, never done better. Abundance of feed all over.

Messrs. Ormsby & Chapman's report:—Our last importation of Shire horses and improved Yorkshire pigs arrived in good order last month (July). The Shires comprise fifteen head in all—twelve stallions and three mares. They are all registered in the English Shire Stud Book, and are, we think, calculated to suit the demand for short-legged, blocky horses. The Yorkshires—six in number—are from the famous herd of Mr. Sanders Spencer, and are pronounced by good judges to be the best we have ever imported. The demand for our pigs has been very great this last year, and seems to be still increasing.

A representative of the ADVOCATE has recently had the pleasure of inspecting the importation of Mr. J. C. Snell, of Edmonton, Ontario, consisting of pedigreed Berkshire pigs and Cotswold sheep selected by Mr. Snell, in person, from the leading herds and flocks in England. The Berkshires include a choice lot of 16 young boars and 11 sows. To follow the list through would take more space than we can give at present. Suffice it to say, the balance of these young boars strike the visitor as possessing extraordinary length of body and strength of bone, qualities which are being looked for more and more as the demand for muscle or lean meat increases, and size with quality is seldom objectionable. Such a lot of young boars cannot fail to prove of immense value in imparting flesh, blood and constitution in the herds of this continent, into which they may go. The sows are of equally marked character and quality. The Cotswolds comprise a number of very fine yearling rams and ram lambs, and a choice selection of yearling ewes and ewe lambs, which have evidently been selected with a view to meeting the American demand for early maturity, constitution, quality and covering. The ram lambs are especially good, being large, stylish and well woolled, and the importation as a whole is creditable to the judgment and enterprise of the importer, as well as to the skill and taste of the breeders, and cannot fail to be of immense value in improving the flocks and herds of America. Mr. Snell reports an active demand for both pigs and sheep, and satisfactory sales of some of the imported animals as well as those of home breeding.

NOTICES.

Mr. Manson Campbell, of Chatham, is sending out twenty of his improved fanning-mills and baggers every day of the week. They will be on exhibition at the leading Ontario Fairs—London, Toronto, Hamilton, Kingston and Ottawa. Over fifteen thousand have been sold so far this season.

FORTY-FOURTH PROVINCIAL EXHIBITION.—This exhibition is now close at hand, and there is every prospect of it being a success. It is in the interests of breeders to avail themselves of this opportunity of exhibiting their stock, as the prizes won at this "Canadian Royal" will be referred to with pride, and command deference in years to come. We would call attention to the various meetings to be held during the week of the exhibition. On Tuesday evening will be the meeting of the Shire Horse Association. On Wednesday evening the annual meeting of the Council of the Agricultural and Arts Association. On Thursday evening the meeting of the Dominion Sheep-breeders' Association—see programme on page 277. These meetings will doubtless prove instructive and interesting. By special arrangement, artists competing for the FARMER'S ADVOCATE prize for the best pencil drawing of rural Canadian scenery, can make their entries up to the week of the show without payment of entrance fee. This will give all artists a chance to compete.

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275-y

Dates of Principal Fairs to be Held in Canada and the United States.

NAME.	PLACE TO BE HELD.	DATES.	SECRETARY.
4th Provincial Exhibition of Agriculture and Arts Association of Ontario.	London	Sept. 9th to 14th.	Henry Wade
Midland Central Fair.	Kingston	Aug. 28th to Sept 7th	R. Meek
Eastern Townships Agricultural Association Industrial Exhibition	Sherbrooke, P. Q.	Sept. 3rd to 5th	E. Winn Farwell
Central Canada Fair Association	Toronto	9th to 21st.	H. J. Hill
Brantford Southern Fair.	Brantford	9th to 14th.	C. R. W. M'Cuig
Peninsular Fair.	Chatham	10th to 12th.	R. M. Wilson
South Renfrew Agricultural Society.	Renfrew	17th to 20th.	John Tissiman
Great Central Fair.	Hamilton	17th and 18th.	W. E. Smallfield
North Lanark Agricultural Society.	Almonte	23rd to 27th.	C. R. Smith
Lindsay Central Fair.	Lindsay	24th to 28th.	Wm. P. McEwen
Ontario and Durham Exhibition Society.	Whitby	24th to 28th.	James Kelth
Southern Counties Fair.	St. Thomas	24th to 27th.	W. R. Howse
Peterborough Central Fair.	Peterborough	24th to 27th.	John A. Kalns
Great Northern Exhibition Association.	Collingwood	24th to 27th.	Wm. Collins.
Bay of Quinte.	Belleville.	25th to 27th.	T. J. Crawford
Guelph Central.	Guelph	25th to 28th.	Wm. Smeaton
Great South-Western Exhibition.	Essex Centre.	25th and 26th.	R. McKenzie
The Northern Exhibition.	Walkerton	Oct. 1st to 3rd.	A. E. Jones
South Dorchester.	Belmont	1st to 4th.	Jacob Seegmiller
County of Prince Edward.	Pictou	2nd and 3rd.	Wm. Black
West Elgin.	Wallacetown.	2nd and 3rd.	Thos. Bog
Ontario Central.	Port Perry.	2nd to 4th.	D. Campbell
South Grimsby.	Smithville.	2nd to 4th.	H. Gordon
North Renfrew Exhibition.	Beachburg.	3rd and 4th.	W. H. Morgan
North Perth Agricultural Society.	Stratford.	3rd and 4th.	John Brown
South Oxford Union Exhibition.	Oterville.	3rd and 4th.	John Brown
Norfolk Union Fair.	Simcoe.	4th and 5th.	Alex. McFarlane
Ontario Provincial Fat Stock Show.	Toronto.	15th and 16th.	J. Thos. Murphy
North Western Exhibition.	Goderich.	Sept. 17th to 19th.	Henry Wade
Lincoln County Fair.	St. Catharines.	23rd to 25th.	R. C. Hays
County of Haldimand.	Cayuga.	1st and 2nd.	Albert Pay
East York Agricultural Society.	Markham.	2nd to 4th.	Thos. Bridger
County of Yarmouth.	Yarmouth.	10th to 11th.	Thos. B. Crosby
P. E. I. Provincial Exhibition.	Charlottetown.	2nd to 3rd.	
World's Greatest Fair and Exposition.	Detroit, Mich.	Sept. 17th to 27th.	E. W. Cotterell
Ohio State Fair.	Columbus, Ohio.	2nd to 6th.	L. N. Bonham
Buffalo International Fair Association.	Buffalo, N. Y.	3rd to 13th.	C. W. Robinson
Tri-State Fair.	Toledo, Ohio.	9th to 13th.	John Farley
Michigan State Fair.	Lansing, Mich.	9th to 13th.	J. C. Sterling
New York State Agricultural Society.	Albany, N. Y.	12th to 18th.	J. S. Woodward
N. Indiana and S. Michigan Agricultural Society.	Mishawaka, Ind.	16th to 20th.	C. G. Towe
W. Michigan Agricultural and Industrial Society.	Grand Rapids, M.	23rd to 27th.	James Cox
Indiana State Fair.	Indianapolis, Ind.	23rd to 29th.	Alex. Heron
St. Louis Agricultural and Mechanical Association.	St. Louis.	7th to 12th.	Arthur Uhl
Comber and Tilbury West.	Comber.	8th and 9th.	John Taylor
West Middlesex.	Strathroy.	3rd and 4th.	C. Greenaway
North and West Oxford.	Ingersoll.	Sept. 17th and 18th.	
Woodstock.	Woodstock.	23rd and 24th.	
Derham.	Tilsenborg.	24th and 25th.	
South Perth.	St. Marys.	24th and 25th.	
Centre Bruce.	Paisley.	24th to 26th.	
Sandwich E. and W.	Windsor.	24th to 26th.	
Baron Central.	Clinton.	24th to 26th.	
Brampton.	Brampton.	Oct. 1st to 3rd.	
Great South-western.	Essex Centre.	1st to 3rd.	