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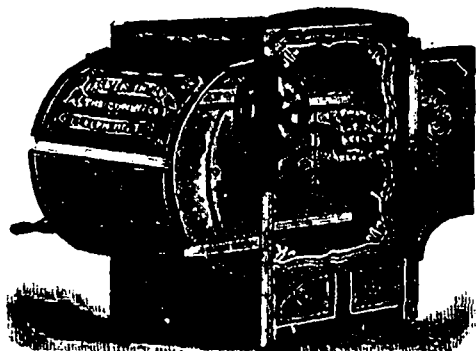
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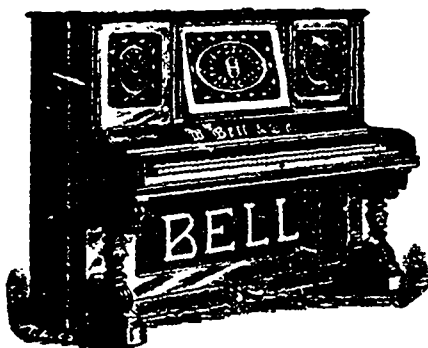
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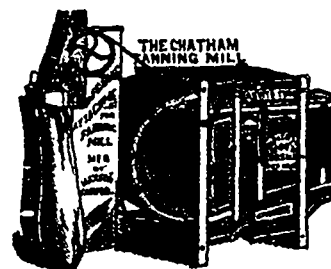
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THE CANADIAN LIVE STOCK AND FARM JOURNAL

Devoted to the Interests of the Stock-Raisers and Farmers of Canada.

VOL. VII. No. 9.]

TORONTO, SEPTEMBER, 1890.

[WHOLE No. 83



Group of Galloways.

Owned by Mr. Thomas McCrae, of Janefield, Ontario.

Our Illustration.

Our sketch of this month represents a group of Galloways owned by Mr. Thomas McCrae, of Janefield, which is scarcely two miles distant from Guelph, and a less distance from the Ontario Agricultural College. The largest animal in the group represents Good Girl of Garlieston 7431. This shapely cow with a deep body, and well-filled in essential points, and supported on rather short limbs, was bred by the Earl of Galloway in 1883. She has the typical Galloway head, with broad forehead and short face, and large ears well fringed with soft hair, which is also abundant on the body. She is out of Eva of Garlieston (2844), and by the sire Baliol (1475). The one year heifer Rance, IX. (5937), by Black Crusader (4304), and out of the dam Rance IV. (5544), was bred at Janefield. She is very neat and prim, and well furnished with the requisites of Galloway development that are most admired. She was first at the London Provincial and the Toronto Industrial of 1889. Her dam Rance IV., was a favorite in the Dalbeattie herd of Thomas Biggar & Sons, for whom she won second prize at the

Inverness show of 1883. The beautiful Dunara, the smallest animal in the group, was bred at Janefield in February, 1889. She is by Stanley II. O.E.F. (4473) and out of Lizzie VII. of Tarbreoch, by the celebrated Harden (1151), who this year again was first as a sire at the Highland show held at Dundee. Dunara is a pretty animal with even lines, and is dun in color, and gives promise of making a heavy-bodied cow.

The bull Stanley II. O.E.F. (4473), whose head appears in the sketch, is one of the principal stock bulls in the Janefield herd. Stanley is a fine strong bull with low limbs, round barrel, short muzzle and well-proportioned development, and is proving himself an excellent sire. He is out of the dam Berta of Drumlanrig (4222), and the sire Stanley III., and was bred in 1885 at the Ontario Agricultural College. He was first in his class at Toronto, and the Provincial, Ottawa, in 1887, won the same honor at Toronto in 1888, and was also first at Kingston and at Ottawa in 1889.

These are but a few specimens among the many good ones of both sexes now in the Janefield herd, about which more is said on one of the inside pages.

Special Exhibition Number.

TO FRIENDS OLD AND NEW.

As we send from our office this month many thousands more than the regular issue of our JOURNAL, it will reach a multitude of new readers. These we ask to join us and assist us in our aim, which, briefly stated, is to carry into all the rural homes of Canada, true and profitable knowledge, so that prosperity may enter there and happiness quickly follow. We are satisfied to let the information contained in this issue say to what degree we are playing well our part, and we only further desire to state to our new readers that we are earnestly, and we trust effectively, striving to place in the hands of every husbandman, no matter how humble his lot, a strong key to success in his calling.

Our old friends will find this issue in keeping with past pledges and an earnest of what is yet to come. We trust that the pages of this number will clearly reflect our determination to keep ever moving in the direction of progress.

THE
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All communications should be addressed THE J. E. BRYANT COMPANY (LIMITED), 58 Bay Street, Toronto, Canada.

TORONTO, SEPTEMBER, 1890.

Original Plans, Devices, and Ideas.

If you have an original plan, device, or idea, that you think would be of benefit to your fellow farmers or stockmen, turn to our March number and see how we will pay you for it if you send it to us for publication. Space forbids us printing the whole scheme in full, as usual. We would refer those desiring to know more of this to our January, February, and March numbers, where the premiums are given in full with complete particulars.

Pigs, and especially sows, derive much benefit from the moderate feeding of waste fruit. Windfalls from the apple trees and those unfit for barrelling could not be put to better use.

THE best wool, like the best mutton, is produced by sheep that are well fed and attended. Neglect and poor feeding weakens the strength of the fibre, checks its growth, makes it of a hairy nature and lessens the weight of fleece.

MANY may have already chosen the prospective brood sow, but it will not be amiss to allude to a quality often overlooked. The points of a brood sow are widely known, but the value of the quality of being bred from a line of milkers is not generally recognised. A good milking sow possesses a very desirable feature, raising stronger, healthier and more rapidly growing young; and it is most important to remember that this quality runs in strains just as pronounced as in the case of cows.

SURPRISING results are given in the *National Stockman* from experiments with French cavalry horses, in which the object sought was to ascertain the best methods of feeding for army service. It was found that when the hay was increased in the ration, and the straw decreased, that the horses became indolent and liable to sweat with the slightest exertion; but when the straw was increased in the ration and the quantity of hay lessened, the horses were full of strength, sweated less and returned to the stables after the exercises were over without a wet hair. The same good results, it is said, were obtained by increasing the proportion of oats and diminishing the hay. As a result of these experiments it was decided to very materially reduce the amount of hay issued, and to increase the proportion of oats served out.

At the Illinois College Farm, experiments have been conducted to determine the values of ordinary foods for hogs. The summary is as follows: Skim milk could not be economically fed to fattening hogs, unless it was waste product which could not be utilized otherwise. It required on an average $4\frac{1}{2}$ lbs. of shelled corn to produce a pound of pork during an average period of four weeks, or one bushel produced $13\frac{1}{2}$ pounds. It required $4\frac{1}{2}$ pounds of corn meal to produce one pound of pork, or one bushel of corn made into meal and fed will produce $12\frac{3}{4}$ pounds of pork. When fed dry, shelled corn is more economical than corn meal for fattening hogs. It required $7\frac{1}{2}$ pounds or one-fourth of ground oats to produce one pound of pork, when fed with equal parts by weight of corn meal. One bushel of corn is worth three bushels of oats for fattening hogs. Corn-fed pigs gained $4\frac{1}{2}$ pounds per week, and ate 21 pounds of corn per 100 pounds of live weight. Pork was produced during cold weather, with corn at 28c. per bushel, for a shade less than 3c. per pound. Indian corn is the most economical pork-producing material during the winter months in regions where extensively grown.

Plimsoll's Pamphlet.

Mr. Samuel Plimsoll has written a pamphlet on "Cattle Ships," in which he seeks to awaken the legislative minds of Great Britain to prohibit the importation of live cattle from ports situated west of 12° west longitude. The chief argument urged is based on the grounds of cruelty, and the principal illustration of this is drawn from the harrowing incident of the ship Iowa with 150 cattle on deck and 300 below at the mercies of a terrific storm. Mr. Plimsoll's illustration will lose force with many who give this matter quiet consideration, for storms are just as likely to overtake cattle ships and cause just as much confusion and suffering on them as those used for other purposes. The attempt of old Canute to stop the tide of the ocean by word of mouth, was just about as nonsensical as Mr. Plimsoll's attempt to stem the Canadian trade in live cattle by word of pen. As the press dispatch says, the Department at Ottawa has evidence in its possession to show that so far as the Dominion cattle exporters are concerned there is little ground for complaint. At our solicitation, Mr. Cunningham, who is thoroughly acquainted with the trade, has given expression to his views in an interesting article which we publish in this number.

Dishorning Cattle.

The dishorning of cattle is at the present time creating a widespread interest amongst stockmen, chiefly aroused on account of the contests going on in several countries between the authorities of humane societies and those who are following this practice. In England, Scotland, and Ireland, the matter is at present receiving considerable attention, in the courts as well as out of them. With our friends across the line, and also with us, more than usual interest is attached to this question, as it has an important bearing on one of our largest industries.

That dishorned cattle are more easily tended, more tractable, give less trouble in shipping, and are less liable to injure each other or their attendants we readily believe, but we cannot convince ourselves that even to secure these qualities it is justifiable to submit animals with matured horns to the cruel and reprehensible operation of having them sawn off. We have no hesitation in making the assertion based on

the knowledge and testimony of those learned in physiology, and also grounded on the painful evidence of the animals themselves, that sawing off the horns of cattle that are approaching maturity is a ghastly operation, that only those of perverted and hardened feelings could derive any satisfaction from performing.

Fully conceding the desirability of the end, the more humane means of securing it, to our mind, is the practice of applying prepared chemicals, or employing what has been termed disbudding, when the horn is immature and easily killed or removed. Those that have tried either of these methods speak highly of both. In comparison with the brutal method of sawing off the horns of grown animals, the use of chemicals or disbudding is just as cheap, easier performed, and but very little pain is given the animal operated upon.

Foundation Stock.

A structure of any kind that is to stand well must rest on a good foundation. Likewise a herd that is soon to prove a credit to its owner must be well grounded. It would be possible to commence with a poor foundation and so improve it by a certain line of breeding that ultimately it would reach great excellence. But to accomplish this would require a lifetime, and even then the work would have to be skillfully done, or it would certainly end in failure.

But what good, we ask, would come to anyone by adopting such a course? It is surely self-evident to any one that animals improved for years will make a better foundation on which to build a herd than those which have not been so improved, and that if a record of such improvement has been kept it is of more value than in the absence of such a record.

In selecting foundation stock of common types, a due regard must be had to *individuality*. The weeds must all be rejected. There can be no excuse for any man continuing to breed from animals inferior in kind where these are so plentiful and so easily obtained as we find them to-day. It seems to take many of those who breed only common stock a long time to learn that the value of these even is not to be measured by their numbers.

In selecting animals in any of the pure-bred lines, another element must be considered in addition to individuality. We mean *pedigree*. The animal must be good, or by that most common and uniform of all the laws, "like produces like," its progeny will not be good. Its pedigree must be good, by which we mean that all the animals recorded in the ancestry were such, that individually they in their day gave a good account of themselves. The external form of animals to be chosen for foundation stocks have certain general characteristics which have much of a resemblance. The characteristics in which they differ relate rather to the species than to the individual animals themselves. In selecting foundation animals, try and get them free from the following defects: Reject a male with a feminine head and neck, for he is likely to be deficient in stamina; and reject a female with a masculine head and neck, for she is pretty certain to be a poor milker. A dull eye denotes a sluggish system, and a wild eye restlessness, not compatible with easy management or easy keeping. A narrow front or chest is very objectionable. It is associated with deficient lung power, impaired stamina, a lack of hardihood, a want of strength, and a liability to disease. A long lank body, with flat ribs and a tucked up hind flank, is always to be passed by in choosing animals to breed from. This form of body indicates weak digestive organs and ill-doing generally. Bones unduly large are very objectionable. They are seldom

or never well muscled, and are subject to various ailments owing in part to weakness of texture. On the other hand, small and fine bones are too often linked with lack of size. A beast with hard non-elastic skin and harsh hair should be sedulously shunned, as they are food-wasting machines. The principal return that we get from such animals is the manure.

Animals suitable for foundation stocks must possess a good, large, full, calm eye; a broad chest, a broad and strong loin, medium bone (more or less), compactness of frame, well-sprung ribs, good heart girth, and a skin of medium thickness (more or less), elastic and mellow, and covered with soft pliant hair.

A man who cannot choose foundation stocks of the above type has not learned the alphabet of his business as a breeder, and unless he first learn the art of selection he is doomed to failure, for without this knowledge he goes on in his work much as a vessel moves without a rudder.

Shipping Store Cattle to Great Britain.

We are glad to notice that the unwisdom of this practice is at last getting a hold upon the public mind. It is now several years since the public papers first drew attention to this trade by urging the rearing of store cattle for export to Great Britain. We at once thereafter brought out an article in the JOURNAL strongly opposing the idea, and since that time the JOURNAL has made frequent references to the unwisdom of the practice.

We are glad to notice that Alderman Frankland has been entering a vigorous protest 't'rough the medium of the Toronto press, and that the Central Farmers' Institute have chosen this as one of the subjects to be discussed at the next annual meeting.

The position of the farmer who raises store cattle for shipment is much like that of the individual paying interest, while the position of the person finishing the cattle here may be compared to that of one receiving interest. It is extremely doubtful if store cattle can be reared and sold unfinished but at a loss, while those that are fattened here bring a substantial profit here. This was clearly brought out in the bulletin recently issued on the subject from the Guelph Experimental Farm. It was there shown that by judicious feeding the farmer received a direct profit on the food fed, a profit on the food raised, that is a profit in this respect equal to the difference in the cost of raising this food and its market value, and a third profit on the value of the manure in excess of the cost of the litter.

It seems unfortunate that this country, which is capable of rearing magnificent animals for shipping purposes, should be debarred from getting any additional food supplies that may be wanted without paying a duty on them. Corn is one of the most valuable of foods for fattening store cattle, and yet the duty on it makes its importation for this purpose prohibitory. This is not the sole reason, however, for the unwise course pursued by so many of our farmers in selling their cattle lean, nor is it perhaps the principal one, yet it is an obstacle and as such should be removed. The farmers with one voice should demand its removal.

The principal reasons why so many farmers sell store animals rather than finished are to be found, first, in a lack of capital, and second, in a lack of calculation. The former it will not be easy to remove, especially if the practice is continued, the latter can be at least partially corrected by sufficiently agitating the subject. It is to be feared that very many when calculating the cost of fattening, set about in some

what as follows: They set the value of the cattle at the commencement of the finishing period deducted from their probable value at the close of the same, against the market value of the food used in fattening, taking no account of cost of marketing the grain or of the value of the manure of high quality, which is thus produced. They fail to see that by selling their stores lean and then selling off the farm the food which would fatten them, they are hindering their future success quite as effectively as the money lender would lessen his gains who periodically drew upon his capital without making any deposits.

Once more then we say to our farmers, finish the cattle you raise at home, and finish them in the best possible way. By so doing you will get good value for your food fed to them, good value for your cattle, and good value for the labor expended. All this largely depends, however, on the class of cattle you grow. If they are of scrub stock you cannot attain the highest value from them under any circumstances.

The Autumn Management of Sheep.

In the autumn management of sheep, weaning the lambs first engages the attention of the shepherd and the farmer. This should be done not later than the end of August, that the ewes may have time to make up lost flesh before the period of wintering comes on. Neglect here is attended with loss ultimately, which will tell severely on the next year's crop.

Good pasture is next in order for the ewes which are to be retained, but this need not of necessity be in one field. If the sheep may be allowed to change from field to field every week or two, cleaning up the grass in fence corners and on stubbles, they will do well providing they have access to water.

At the time of weaning the lambs the udders of the ewes should receive attention. In most instances they will require two or more partial milkings while being dried. All females with udders partially spoiled and those which have proved poor nurses, and also those showing signs of age, should be removed, and put on good pastures, and finished on rape or by giving a grain ration, when they should be sold as mutton for what they will bring. This should be done before housing time, and certainly not later than Christmas, for ewes of this type are hard to feed.

Before mating the breeding ewes, they may get a grain ration for two or three weeks, which insures more uniformity as to the time when the lambs come. The more common practice is to let the rams run with the ewes during this period, but where the flock is large it is much better for the ram when the flock is driven to the yard early every morning. The ewes which are in season are then allowed to remain with the ram for a time, when they are removed, and returned to the flock the next morning.

The ram lambs when weaned must get good pastures and a ration of oats and oilcake, or of oats, wheat bran, and oilcake. Oats alone will serve a good purpose. Those intended for breeding will soon be ready for sale, and those intended for the butcher may be finished with or without rape, and sold not later than the holiday season. The ewe lambs intended for breeding may be fed similarly to the rams, but the ration should be less in quantity, as excess of fat is no advantage to them at this period. Those intended for the butcher may be fed and treated the same as the ram lambs. It will pay the farmer much better to castrate his ram lambs which are not intended for breeding purposes when they are from three to six weeks old. These along with the ewe lambs may then be fed during the winter for

shipment to Britain. In this line we are doing little or nothing when we should be doing a fine trade, and the principal reason is doubtless that we have not the right kind of material to ship.

Protect the flocks from cold rain storms in autumn, which do them a great deal of harm. Coughs are almost certain to be contracted from such exposure, and very often inflammations follow which result in death.

Canada is not doing her whole duty in regard to sheep-raising. Many farms have no sheep at all, and others have an inadequate supply. We do not advocate the keeping of large flocks by the average farmer, but every farm should raise more or less, if for no other reason than that of furnishing home supplies of palatable and wholesome meat.

The Preparation of Food for Stock.

The man who best understands profitable feeding is he who is thoroughly acquainted with the animals he has in hand, and possesses the requisite knowledge of the proper preparation of food for them, so as to make the best use of the cheapest foods at his disposal. While it undoubtedly acts as an incentive to know what ideal feeding is, yet the actual practice must vary as the resources of farms differ in extent. Each must decide this for himself, but in doing so it is the very worst policy to turn a dull ear to the experiences of others.

A most interesting and instructive paper written by Henry F. Moore, giving the practices of the stockmen in Great Britain, in respect to the preparation of food for stock, appears in the journal of the Royal Agricultural Society of England, for last year. The subjects of chaffing or cutting, mixing, cooking and steaming foods is fully discussed by the most prominent stockmen of Great Britain.

The most striking feature of the British method of feeding is the economy displayed, as clearly shown in the fact that straw is in almost every case used for feeding, and only the less sweet or spoiled and coarse portions being used for litter. One stockman even following the practice of buying straw especially to mix with his hay, as he considers that a better feed than hay alone is in this way obtained. There is also a general consensus of opinion in favor of cutting foods, no less than 70 per cent. practice it, 20 per cent. partially so, and only 10 per cent. not at all. The strongest reasons given in favor of the practice are the avoidance of waste and the greater facility it affords for moistening and mixing with various meals. The mixing of foods is almost universally followed, but the mixtures are so various that no general rules can be deduced from the replies. The most evident feature is said to be that the use of meals of various kinds of grain is becoming more and more common. A great variety of opinion is expressed on the economy and usefulness of cooked or steamed foods, but on the whole it is said that there is not so much in favor of the system as there is in favor of cutting and mixing foods. The results of experiments are very pronounced in showing that the digestibility of foods is not increased by steaming. As Sir John Lawes points out, however, this method of preparation may have practical advantages such as the avoidance of waste, by making the most of the foods so prepared, and by the more thorough incorporation of the various mixtures employed. It may be stated further that for young stock and for aged cattle with defective teeth it might be used to advantage. The general opinion expressed is not favorable to its use for stock which require hardness, and it is also decidedly stated by many,

that animals fed with cooked or steamed foods do badly afterwards when put on pasture. Sixty-five per cent of the correspondents either are opposed to it or have no opinion to offer, and only 35 per cent follow it. The lessons brought out by the enquiry are summarised to be, that good feeding consists of making the best use of the foods available or most cheaply obtainable under given circumstances. Speaking broadly, it is stated that cutting straw and hay and giving these foods as a portion of a mixture (grain, meals and cake and pulped roots being most usually added), may be generally adopted with advantage. Cooking and steaming cannot be so generally recommended. The value of these operations are clearly limited, and in the case of hardy animals, may be non-existent. With us however, the warming of food has a distinct value, owing to our climate which those under other conditions could not appreciate.

Economy in Stock-Raising.

This is an art that has been but little studied by the average stockman of the Dominion. This arises in part from the plentiful supplies of food afforded by a domain not yet stocked to its full capacity. But all this must change, at least in the older provinces. Now that the lands are becoming fully stocked in many localities, according to the present system of feeding, it will be found as necessary to practice economy in stock-feeding as in the management of the affairs of the household. Economy in stock-feeding has a regard to the kinds of stock, to the objects sought, to the kinds of food fed, and to the system of husbandry practised.

When meat is the object sought, those of the scrubby order will not produce it at the same profit as those which have been well bred. Notwithstanding all that has been said and proved on this point, many still cling to the idea that the difference is mainly one of food. We find farmers clinging to this delusion who would grieve to waste even the gleanings of their fields, and yet from year to year they waste a large amount of food on animals which do not make the best use of it, and which cannot from the very constitution of their natures. The amount that is thus wasted every year in the older provinces is probably more than the value of any one of the grain crops grown there. This waste applies equally to the production of muscle, meat, and milk.

Economy in stock-keeping is much affected by the object sought. When growth alone is the aim, as in the case of young animals, an under-supply or an over-supply are equally to be avoided. If the supply of food is so limited that in three years the beast attains the weight which, with liberal feeding it would reach in two years, the loss is the food of maintenance for one year, whatever this may be. If, on the other hand, too much food is given and that in a form too concentrated, the after development is seriously interfered with, so that here too, there is waste. But this mistake is much less frequent than that of under-feeding. When milk or butter is the aim of the stockman, unless the cows are kept in full flow of milk during the milking period, there is loss. The cost of maintenance is increased, and this may prove a very large proportion of the cost entailed in feeding. That such is the case will be at once apparent, when we consider that if two cows do the work of three, other things being equal, the cost of maintenance of the third cow is a total loss. The kinds of foods fed materially affect the economy of stock-feeding. To get best results the farmer should raise as much of the food as he can with profit on his own farm. Where this is done the

cost of drawing food home and of drawing its equivalent away in some other form are saved. But it is not wise to attempt to grow food where a full crop cannot be produced with a good deal of regularity. In such a case, it would be better to buy that kind of food or its equivalent in some other form. Again, combinations of foods are usually preferable to single rations, but the combinations to be adopted must to some extent be gauged by the relative prices of the different kinds of food. Sometimes it may be wise to sell one kind of grain rather than another, but the following year it may be the kind fed the previous year that should be sold. In some instances, but not very many, it may be prudent to sell one kind of grain and buy another. At other times the ration raised on the farm may be incomplete and so should be supplemented by a ration completed by the addition of some purchased foods.

The system of husbandry practised may have an important bearing on the subject at issue. When it is a mixed system there need not be much grain or food purchased at any time; but when some special line is followed, as fruit growing, it may pay well to buy food and feed cattle when the manure is the only profit.

FOR THE CANADIAN LIVE STOCK AND FARM JOURNAL.

The Pure Breeds of Cattle.

By Professor THOMAS SHAW, Ontario Agricultural College.

[FOURTH PAPER.]

THE HISTORY OF SHORTHORNS.

The results flowing from the works of those great improvers of the Shorthorn race of cattle have been far-reaching indeed. That Shorthorns are more numerous to-day than any of the existing improved breeds of cattle will not be questioned, and that they have exerted a greater influence manifold on the improvement of other breeds is equally clear. That this numerical strength, and the improvement of other stocks consequent upon it, are alone the result of intrinsic merit is not so clear. This, of course, has much to do with their popularity, but it is not the sole explanation of that popularity. Shropshire sheep are undoubtedly one of the most valued breeds of sheep to-day. But this popularity is not the outcome alone of intrinsic merit. It is accounted for in part, by the fact that in England the establishment and improvement of the breed fell into the hands of men noted for their spirit and enterprise. That same spirit was caught up by the early importers of Shropshires to America: hence we find them in less than a century from their establishment one of the foremost breeds in the world. The rapid extension of Shorthorns and their wonderful numerical increase was likewise more the result of activity and good management on the part of those who first improved them. It should be borne in mind by all who are engaged in the important work of growing improved stock, that men will look at excellence and the results which grow out of it when they would fail to do so were these not held up prominently to their view.

When the Colling Brothers sent those two mountains of living flesh embodied in the Durham ox and the white heifer, that travelled through the length and breadth of the land, they did more for the diffusion of the breed than would have been accomplished in a generation by individual breeders in every country, pursuing their work in a quiet way, and without coming in contact with the general public. The work so well begun by the Colling Brothers, and

so well sustained by Bates and the Booths, attracted the attention of noblemen to the breeding of Shorthorns. The lively interest which those gentlemen manifested in the work was well backed by the possession of unlimited means. This enabled them to pay those large prices for Shorthorns, the fame of which filled the land, and which wafted across the sea led the stockmen of many lands to look upon them as being possessed of wonderful excellences, since numbers were found willing to invest sums so large in the establishment and maintenance of herds of this breed.

Thus it is that we find Shorthorns to-day so numerous in many countries of the world. Of the pure breeds they are unquestionably the dominant race both in North and South America, and the same remark will hold true of the cattle of Australia and New Zealand. The fame of the Scotch Shorthorns was less associated with fabulous prices paid by owners of unlimited wealth. They originated with men who could only afford to keep an eye to utility, and were bred more for the meat they would produce from a given quantity of food, than for progeny, the value of which largely consisted in the number of crosses of a certain line of breeding, as was too much the case with Shorthorns coming from old lines of high-priced families, which were not always honored by the individual merit of their descendants. Thus it was that the Scotch Shorthorns carried with them a stamina and a quality that soon made them favorites with the people, and also rendered them highly useful in the improvement of other stocks.

The two mistakes that have been made in the breeding of Shorthorns are a weakening of the constitution in certain families, through line-breeding continued too long and too closely, and a practical neglect of once admirable milking qualities, through the feverish desire to force the flesh-producing qualities of the animals to the highest possible pitch. For the first mistake the wealthier breeders are largely responsible, and the reason that led to it was probably the desire to keep the prices of these animals abnormally high. The second mistake will be sooner corrected by the brisk demand during recent years for dairy products than by any other means. For the first of these mistakes, the great improvers of Shorthorns that we have named are only indirectly responsible. It was not so much for the purpose of advancing prices that they resorted to line-breeding, and in-and-in breeding which is usually its fore-runner, as for that of securing greater individual excellence in the cattle. Their successors, however, continued to maintain the families thus founded pure and unmixed, for the sake of high prices. For the second mistake nearly all the breeders of the Shorthorn world are responsible in some degree, since milking qualities of the highest order cannot easily be secured where the practice of suckling the calves upon the cows is universally prevalent.

Breeding Ayrshires.

Extract from a paper read by Mr. Lees, of Lagg, Scotland, before the Ayrshire Agricultural Science Society.

At present we have two distinct classes of breeders of Ayrshire cattle, one following largely a fine form of milk vessel, the other a fine form of body; but, in my opinion, breeders should aim at producing the most useful and most commercial animal, and should endeavor to combine the highest milk-producing properties with symmetry of form. I will, therefore, endeavor to explain a few weak points in our present



Champion Hereford Cow, "Rosewater."

breed of cattle, in order that we may guard against those deficiencies, and thus breed a more valuable class of animal.

The great drawback in our dairy cows at present is their small teats; but I am glad to say that within the last few years there has been a slight improvement. There is room for further improvement yet. There is no doubt that these small teats have been the means of reducing the value of our dairy stock, on account of the difficulty of getting them milked. Purchasers from a distance, and others, object to them on that ground solely, as it is well known that they are the best producers of milk of all breeds of dairy cattle.

Certainly I must admit that this class of breeders have brought their stock to a high state of perfection. The form which has been attained is the ideal form of a good commercial animal. I think that if breeders could combine with their fine type of body a well-balanced broad vessel with good strong teats, and good milking properties, they would produce an animal that would find a ready market both at home and abroad. To get this class of stock, I should recommend you to cross with a well-bred, strong, large-framed cow, a well-known milker both as regards quantity and quality, and to keep a daily or weekly register of the milk-producing properties of your cows. You would be very much astonished, I can assure you, at the different strains of cattle you would find even in your own byre by weighing the milk occasionally and testing the percentage of cream. In fact, there are few dairies in which there is not a number of cows scarcely worth keeping, and the sooner these are removed and fattened the better for the farmer and for the breed. I am strongly of opinion that if breeders would pay attention to the points I have mentioned, there is a great future for our much-famed breed of Ayrshire cattle.

A Famous Hereford.

The Hereford cow "Rosewater," shown in the accompanying engraving, has become famous through the marvellous series of important prizes she has won at the principal exhibitions of Great Britain. She was calved February 27th, 1886, and was sired by Rare Sovereign 10499, dam Rosemary, by Grove 3rd 5051. Beginning in 1887, she that year took third prize at the Hereford Agricultural Society's show; third at the Royal of England; second at the Shropshire and West Midland; third at Manchester. The following year (1888), she was first and champion at the Bath and West of England; first at the Herefordshire Agricultural show; champion at Hereford Agricultural show; first, Royal of England; first, Shropshire and West Midland; champion, Shropshire and West Midland; first, Manchester, Liverpool and West Lancashire; first, Newport show; champion any breed Newport show. During the next year, 1889, she was shown at the following and won: first, Bath and West of England; first, Royal of England; champion, Royal of England; gold medal, Royal of England; first, Shropshire and West Midland; first, Royal Counties' Agricultural show; first, Gloucester Agricultural show; first, Newport show; champion, any breed, Newport show. This year (1890), she was first, Oxfordshire Society's show; first, Bath and West of England show; and was also first at the Royal of England held at Plymouth a short while ago.

Her present owner, the Earl of Coventry, should feel elated over such unparalleled success in live stock exhibiting. Her record will do much to bring the beefing qualities of the Hereford before the live stock fraternity.

The Galloways of Janefield.

The oldest herd of Galloways in the Dominion, and indeed on the North American continent, is that of Mr. Thos. McCrae, of Janefield. This place is within less than two miles of Guelph, which is easily accessible by either the G.T.R. or C.P.R. railways. When pure breds of any class were not yet numerous in Canada, Mr. McCrae founded the Janefield herd in 1861 by the purchase of the bull Mosstrooper from Geo. Roddick of Port Hope. Shortly after, a number of females were purchased of ancestry imported by the late Geo. Miller of Markham. Since that time the breeding of Galloways has been extensively carried on at Janefield. Several importations have been made by Mr. McCrae to replenish the herd, which on more than one occasion has been almost obliterated through extensive sales. The first of these was made in 1874, when the bull Young Lochinvar came to Janefield, a bull which gave a good account of himself in the herd. In 1881 seven head were imported; in 1882, forty-one; in 1883, sixty-seven; in 1887, forty-two; and in 1888, thirty. These were selected from the best herds in Scotland, such as those of Tarbrooch, Dalbeattie, and Balig. Misfortune befel the importations of 1883 and 1886. The former was shipwrecked, and the latter destroyed in quarantine, along with several others, among whom pleuro-pneumonia had made its appearance.

The sales from this herd have been something phenomenal, as will be at once apparent when we mention that of the 1839 animals recorded in the fourth volume of the North American Galloway herd book, no less than 761 traced more or less to animals once owned by Mr. McCrae. These sales have been made to

purchasers from a large majority of States in the Union, attracted to Janefield by the excellence of the herd.

In winning prizes the representatives of the Janefield herd have been unusually successful. They have carried the herd prize at our leading shows for many years with but one exception, and on that occasion the animals composing the successful herd had been largely drawn from Janefield.

The Janefield herd at present comprises about sixty head. Of these thirty are cows and breeding heifers, and ten are calves. There are nine comely heifers rising two years old, and ten coming three.

The average individual excellence of the animals is very good throughout. Amongst the choicest females we may mention, in addition to those referred to on the first page, Queen V. of Drumlanrig (9579) by Netherlea (3335), bred at Thornhill, Scotland, in 1886; and Carline (10515) by Blackamore (1175), bred at Castle Douglas in 1887. Both are short in limb happily.

The bulls number twelve head. Of these the chief stock bulls are Stanley II. O.E.F. (4473), described on the first page, and The Cob of Tarbreoch (4167). Both are four years old. The Cob was bred by Jas. Cunningham of Tarbreoch, in 1886, and has for sire the wonderful Harder (1151). The three-year-old Count Palatine (4508) is by Crusader (2858), the great Dalbeattie prize-winning stock bull, and he carries in large degree both style and quality. There are two fine two-year-old bulls and four yearlings, so that purchasers can have a choice in regard to age and breeding, as they are mostly of different families.

There are at present in the herd representatives from the Scottish herds of Tarbreoch, Dalbeattie, Balig, Thornhill, Arran, Garlieston, Castlemilk, Carlisle, Closeburn, and Croys. These have been directly imported in addition to those of them, particularly the younger ones, bred at Janefield.

As sires of these, Harden (1151), Crusader (2858), Scottish Borderer (669), Current Coin (4037), Chelmsford (1568), Netherlea (3335), and Stanley III. (1793) are prominent, but the stock of several others almost equally renowned in the annals of Galloway breeding are now at Janefield. An excellent opportunity is thus afforded for selecting foundation animals and securing good sires of any age that may be desired.

Rambling.

THE SUNNYSIDE SHORTHORNS AND CLYDESDALES.

The herd of Booth Shorthorns at Sunnyside numbers about 55 head. They are in excellent breeding condition and many of them are young. The laurels won in the past preclude the necessity of saying anything here regarding the excellence of the breeding of this herd. The leading characteristics of the animals at present composing it are size, substance, and quality. They are larger than the pure Cruikshank cattle and although not possessed of the same shortness of limb, possess frames capable of larger development. Young bulls, of which this herd has produced so many for stock purposes, are still a prominent feature. The calves are by Sir Ingram = 10889 = and the present stock bull Baronet, by The Baronet, first winner as a two-year-old at the Royal Show of England in 1887.

The stud of Clydesdales at Sunnyside will probably soon be as valuable as the herd of Shorthorns. In breeding these Mr. Hunter has been remarkably successful. His brood mares trace to Queen, imported in 1881, and a number of them are by the valuable stock horse Gambetta, also imported to Sunnyside in 1881. A worthy successor has been found to Gambetta, in the two-year stallion Master Lynedoch (Vol. XII.), by the noted sire, Lord Lynedoch (4530), and from the dam Jess of Brockhouse (5825), by Glancer (342). The size and style and symmetry and action of this horse are all very good. Of the half-dozen breeding mares at Sunnyside, Queen 2nd, coming three years, is exceedingly handsome, and a one year stallion by Gambetta is good, though not large.

The flock of Shropshires is small but select.

THE SHROPSHIRE OF FAIRVIEW FARM.

"His farm is the admiration of the county," was the highly laudatory but (as I afterwards found), well-deserved opinion expressed to me by a friend in referring to the Fairview Farm, three miles from Wood-

ville, of which Mr. John Campbell, jr., is the proprietor. On entering the pretty avenue, I found everything the perfection of neatness and order. The farm-yard was as clean and tidy as the lawn of a city merchant-prince. On entering the barn I was still more struck by the reigning discipline of the place. The plows placed in racks along the wall; the harrows, cultivators, rakes, reapers, mowers, root-cutters, etc., all carefully but conveniently stowed away, each in its own corner, all showed how much value Mr. Campbell sets upon order and care as points of good farming. "I am convinced," he said, "that an implement lasts twice as long, when properly looked after, and protected from the ravages of the weather." Near the barn, alongside of the avenue, was a field of mangels. Mr. Campbell has the reputation of being one of the best mangel growers in the province. This field was in excellent condition. Not a vacant spot in the whole field, and each similar to the other, like soldiers on parade. Mr. Campbell believes in the free use of salt for mangels; 500 lbs. to the acre he applied in this case, also one ton to the acre of the bone refuse of a pork-packing establishment. The first Shropshires we saw were a pen of 6 imported shearling rams; among these was a fine fellow which we think will give a good account of himself at the coming shows. After this we renewed our acquaintance with Royalist. As a shearling in 1889, he stood first at the Bath and West of England Show, held at Exeter last year, and at the Royal at Windsor, and 1st at all the Canadian shows wherever exhibited. Mr. Campbell considers him the best ram he ever had. Next we inspected a pen of 4 shearling ewes, the companions of Royalist; these were also winners at the Bath and West of England Show, and also at the Royal, Shropshire, and Hereford Shows. They are beauties. Our next delight was Royal Patron, a grand ram, imported in 1889, and winner of first prize in the aged class wherever shown. Passing on we noted two ram lambs, twins, perfect types of the breed, imported this year from Mr. H. Williams, near Shrewsbury, by whom they were bred. Then two three-year-old ewes, imported from Peter Everall, also near Shrewsbury; these ewes Mr. Campbell considers the best he ever had, and they are in every way excellent specimens. After these came a pair of shearling ewes that were imported last year; they were winners in England, and always have been first wherever shown in Canada. Mr. Campbell's importations this year have been quite considerable. Besides the importations mentioned are 26 yearling ewes, principally from the flocks of H. Williams and J. Bowen-Jones. Mr. Campbell's reputation as a breeder of Shropshires is of the best. He is the holder of several medals for the best pens of Canadian-bred Shropshires in the province, and also of a gold medal for the like honor in the Dominion. Last year he won in all 22 first prizes, 19 seconds, and 10 thirds at the Toronto, London, and Hamilton Shows. Mr. Campbell's farm, too, has had its share of honors. In 1884 it was awarded a gold medal; and two years later it was awarded 4th place in the general sweepstakes competition for the whole province.

FOR THE CANADIAN LIVE STOCK AND FARM JOURNAL.

The Standard Bred Horse.

I. EARLIER HISTORY.

To the student of breeding who revels in tracing the influence of the fusion of blood elements, there is not a more curious and amusing, instructive and valuable study than the history of the standard bred horse. Out of vastly divergent blood elements bringing with them widely different characteristics and talents, and also suffering under conflicting theories of breeding which directed methods and practices, the standard bred horse emerges to-day a distinct breed, differing from all others, no matter what their nationality, chiefly in the truthness of the perpetuation of his qualities and the height of his development. It is indeed wonderful the result considering the various sources that have been utilized. The foundation stock, of which I shall have more to say later in this paper, was undoubtedly well advanced in progress before the thorough-bred Messenger touched the shores of Pennsylvania in the year 1788. After the

thorough-bred infusion of that time came from the loins of the Norfolk trotter Bellsounder, imported from England in 1822, and closely topping that was part of the Canadian contribution to the blood of America's national horse, in the role of the old Canadian Pacing Pilot of 1860, and principally through his get, Pilot jr. Years of wise and careful breeding guided by close observation of actual performances, coupled with the intelligent course of breeding from animals possessing speed at the trot, has resulted in evolving an animal high in intelligence, quick in action, and beautiful to look upon at all times. Many allow their wholesome and justifiable dislike for the mean and scoundrel practices of some race tracks to give them a jaundiced eye in looking on this breed of horses, but why not try and wrest these animals of high development from such ignoble uses instead of leaving them solely in the control of those who debase their good qualities. It only takes a grain of observation and less common sense for any one to make themselves acquainted with the fact that the best type of standard-bred horse possesses rare equine beauty, stylish appearance, and the greatest utility for light work and roading.

At present the idea is almost universally held that the history of the standard-bred horse begins with the advent of Messenger in America, but I am inclined to believe (though not at present desiring to belittle the force of the arguments of thorough-bred theorists by seeking to lessen the powerful influence of Messenger) that before this horse touched our shores good foundation stock, trotting as well as pacing, already existed, especially in the New England states and our own Lower Provinces. The Narragansett pacers that were in their zenith about the middle of last century no doubt in losing their identity as a breed contributed much to the first fusions that resulted in the trotter, which completely supplanted them before the beginning of the present century. Racing of all kinds was common in those early days, in fact, so demoralizing were the tendencies of these that the New Jersey legislature, in 1748, passed an act for the repression of "running, pacing, and trotting races." Writing about Rhode Island in 1735, Rev. James McSparran, D.D., observes that he has seen some of these pacers "pace a mile in a little more than two minutes and a little less than three." In the lower provinces, more particularly Quebec, as importations of horses were made into that province from the Province of Picardy as early as 1665, pacers and trotters must have reached considerable development before the coming of Messenger, so that meagre though our knowledge may be, it yet affords grounds for the conclusion that trotting history runs farther back into the misty past, than is generally conceded. In my next letter Messenger and his influence will be my subject. S.C.

FOR THE CANADIAN LIVE STOCK AND FARM JOURNAL.

The Stock Bull.

The bull is often said by stockmen to be half the herd in a prize-ring. Yet how many bulls are there that get a fair share of care at home? Were but a tithe of the interest and management which is lavished on the animals at exhibitions, given to many of the stock bulls in Canada, one would hear less complaints of the non-utility of pure breeds, and many of the accidents which often result in the loss of human life would be avoided. The conviction that all bulls are fierce is firmly implanted in the minds of a large number of persons, who are quite oblivious to the fact that there are varieties of dispositions in bulls as well as in human beings. Some are good tempered, a few being naturally cross, while a good many are rendered so by injudicious handling. A bull requires to be properly broken in, as much as a colt does; in both cases human life is at stake and it is only by a good education that the risk can be reduced to a minimum. The earlier this is commenced the better, beginning by teaching the young calf to lead in the halter, followed up with a daily course of grooming and kind handling, combined with firmness, taking care to adopt the teaching to the nature of the animal. Thus those that are timid require more coaxing and kindness, for a timid animal is very easily made cross; if any obstinacy or temper is shown by the young calf it should be properly quelled, not with a club but by a

whip, the crack of which is often more effective than the lash. As a rule, however, this part of the business is usually completed by the breeder, prior to the time of sale, and as many content themselves with purchasing from those who make a specialty of breeding bulls, it is needless to enter into fuller particulars.

In selecting a stock bull due regard should be had to the purposes for which he is required; thus, if for milk, it is essential that he should possess the characteristics that denote milking propensities; whereas if beef is desired one should rather pay attention to beefing traits. It may be thought that these remarks are quite superfluous, but it is frequently the case that a purchaser, inspecting a number of bulls, is very apt to lose sight of these very important items. When the new purchase arrives home he should be placed in a comfortable loose box, and not allowed at first, at any rate, to rough it, for he has probably come out of a warm stable. His food should consist of a ration tending to vigor rather than fat, and during the winter nothing is better than chopped oats with a small proportion of pea meal mixed up with a little cut hay, and damped slightly, in addition to long hay and a few roots; in summer, green feed such as oats and vetches, clover or corn, may be substituted for the hay and roots with benefit. It is difficult to give the exact quantities to suit each animal, much depends on the appetite of the individual, but a good rule will be found to give no more than he will readily clean up. The bull should be kept on good nutritious food, never suffered to become poor, nor when in use, too fat. He will prove a surer sire in such condition than when pampered. Foods rich in carbohydrates, such as corn, etc., are not as desirable as those richer in albuminoids, such as peas and oats, etc., which are more conducive to his procreative power. Foods rich in sugar are extremely liable to produce barrenness both in cows and bulls. Many breeders in the old country, strongly object to mangolds, for this reason, although I believe that fed in small quantities the bad results are not at any rate so apparent, but molasses are undoubtedly most injurious, and in one instance under my own observation, where the syrup was fed only in very small quantities, the effects were plainly perceptible, and not until sometime after the molasses were discontinued did the bull regain his former sureness. Many farmers permit their bulls to run at large with the cows, but it is a practice much to be deprecated; it has a tendency to encourage insubordination in the bull, since handling is often omitted; they also become poor in condition from the combined effects of fretting and flies, and last but not least, they are liable to become breachy, and perhaps cause a life-long feud between old friends. In young as well as old bulls, exercise is most important, but it should be obtained in a well-fenced lot, where there is no danger of them breaking out; indeed, old bulls, provided they have not been overworked when too young (and here I may say that one good service is as effective as a dozen), will under this treatment become as ready and active as yearlings.

Have often wondered at the objection which is so prevalent in Canada against mature bulls, and it does seem extraordinary that people prefer purchasing an untried

calf, which may or may not get good stock, when bulls in the prime of life and proved sires of superior merit can often be purchased at the same and frequently far less money. Presumably the objection arises from the fact that many bulls are spoiled from overservice when young, the prevailing idea being to obtain as large a number of rows as possible, instead of restricting a young animal to a limited number. It is obvious that this is a very shortsighted policy, for in England we find that bulls which are proved good stock getters are used as long as their vigor and stamina are retained; thus, going back to the beginning of this century, C. Collings celebrated bull, Favorite (252), was ten years old when he got Comet (155), who was sold for 1000 guineas, and the bull Marsken (418), died at the age of 15 years, being useful for 13. Again, coming to a later period, the Hereford bull, Lord Witton, one of the most noted stock getters, was used up to (I believe), 11 years of age, when he was sold for 3,800 guineas. These examples are only a few out of many that could be quoted, to show the shortsightedness of the custom of turning off bulls at three-years old. It is only at the

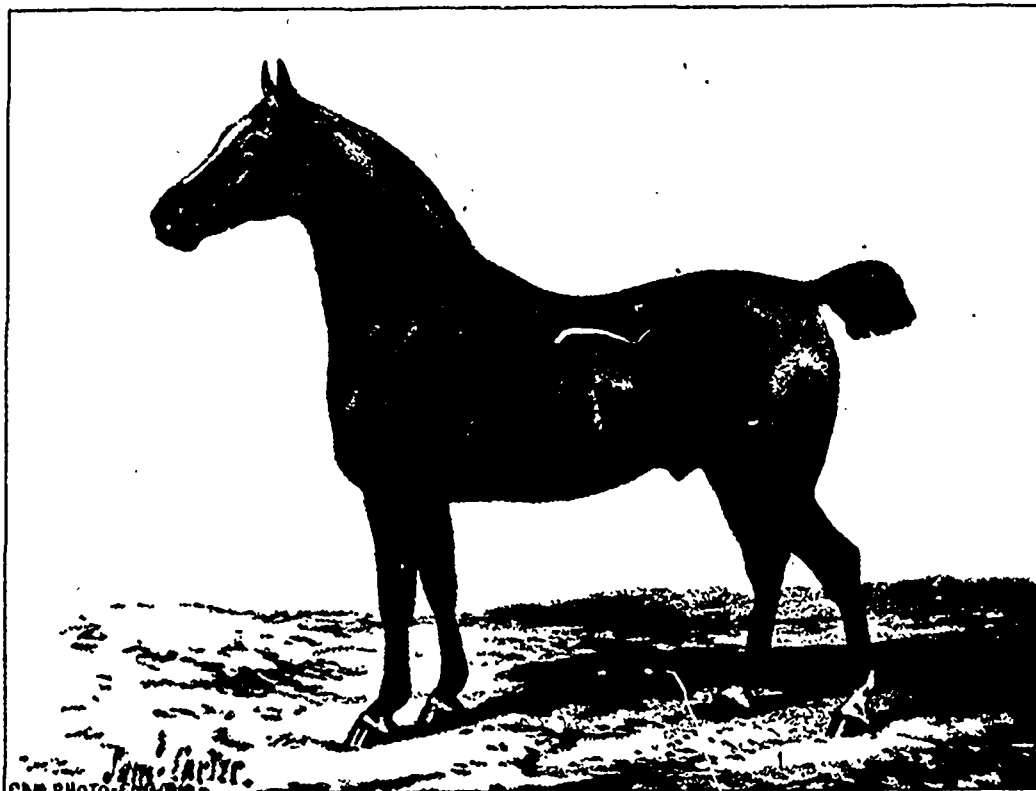
The official report of the London Show held in March last, issued by the Hackney Horse Society, describes as follows this stallion and his appearance:

Stallions four-year-old and upwards, exceeding 15.2 hands, were a grand class of twenty-three, premier honors falling, as was the case last year, to Mr Henry Moore's Rufus 1343 by Vigorous 1215; dam 200 Lady Kitty by Quicksilver (Jackson's). Mr. Moore's chestnut, which again carried off the Championship and thereby secured the absolute possession of the Elsenham Cup for his owner, may be considered the best Hackney that has yet appeared at any of the Society's shows. He has thickened since last year, his splendid action has not deteriorated one iota, and his grand forehead, back, quarters, and legs defy criticism. Moreover the temper of Rufus is as perfect as his manners, there not being the least disposition to fidget when he is in the ring, and this most valuable attribute in a stallion appears to be transmitted to his stock if the behaviour of his offspring which appeared at the present show is to be taken as any criterion. The pedigree of Rufus is interesting, inasmuch as he is somewhat closely in-bred to Norfolk Gentleman

492, the last named horse being sire on one side, and likewise a grandson of Rufus' dam Lady Kitty.

The success of Mr. Moore as a breeder and exhibitor of Hackneys is wonderful, as he has won the Champion Cup awarded to stallions three times, twice with Rufus and once with Candidate 20, whilst with mares he has won this honorable distinction with 289 Princess and 827 Primrose.

This engraving will support our assertion that for smoothness of form, finish and symmetry of all parts, the Hackney is pre-eminent amongst horses. They have the active temperament and ambitious spirit of the Thoroughbred, without the fickleness and inclination to vices of the latter. Their fault in comparison with the Thoroughbred is lack of ranginess. Mated; however, with rangy mares the typical Hackney stallion would get horses that sell readily in any of our cities.



Rufus 1343.

Champion Hackney Stallion, and Winner of 2nd Elsenham Challenge Cup.

age of four or five year old, that the stock of a bull can be fairly tested, and if they are good, the longer he can be used the better, while if bad, he cannot be discarded too soon.

AGRICOLA.

Champion Hackney Stallion.

As considerable has been written on the beautiful symmetry, graceful action, and stylish appearance of the Hackney, we offer those interested an opportunity through the engraving of Rufus 1343, to verify the claims that have been made for this handsome breed of horses.

Rufus 1343 stands 15.2 hands, and is a chestnut in color. His breeding is as follows:—

Rufus 1343	{	Vigorous 1215	{ Norfolk Gentleman 492
		200 Lady Kitty	{ Quicksilver 108 Fanny

For the CANADIAN LIVE STOCK AND FARM JOURNAL. The Cow that is Wanted.

During the past few months several articles under the caption, "The General Purpose Cow," have appeared in the columns of this JOURNAL, against which I wish to enter an emphatic protest. These articles have striven to prove that one of the crying needs of the Canadian farmer is a "general purpose cow," and each writer has advanced the most plausible arguments to prove the right of his most loved breed to wear that title.

There is not, neither is it desirable that there should be, a "general purpose cow." This is the age of specialties. The world is feeling more and more the uselessness of the Jack-of-all-trades; concentration to a particular branch has become a necessity. The motto is "know one thing well," "do one thing well." In the present order of things, the "general purpose cow" finds no place. The dairy interests of this country stand first, and all cattle breeding must follow along lines which will promote those interests. The crying demand is not for a

"general purpose cow," but a cow which will produce the greatest quantity of marketable dairy products, whether butter or cheese. It is the product of the living animal which pays best.

Now, to meet this demand, what are we asked to do? We are asked to invest in those breeds, the Shorthorns and Galloways for instance, in the breeding of which, for generations, the milk-producing qualities have been the last consideration. And what is the inducement? The uncertain hope, that at the end of an unprofitable existence as a dairy cow, they may be transformed into a quantity of second-class beef. Knowing, as we do, the qualifications of the above mentioned and kindred breeds, and also knowing as we do, that the demand is for a cow which will produce the greatest quantity of the most profitable commodity, that that is either butter or cheese, for beef-raising is becoming less profitable each year, I ask is the experiment worth trying? Most emphatically, No! It has taken years to establish what we call pure-breeds, that is, breeds stamped with certain characteristics, which have become fixed by the proper selection of parents. It has been a study to eliminate all tendencies which would destroy those characteristics.

The very term "general purpose" is opposed to the term "thorough-bred." Each breed has a different mission, and to accept the term "general purpose" is to pave the way to the levelling-down process, in other words, a descent to the days of "scrubdom." We want no retrogression.

It is worthy of notice that the advocates of the "general purpose" cow are found only among the breeders of the beef-producing breeds, breeds which on account of the low price of beef are fast losing their old time value. Will these gentlemen please inform the readers of this JOURNAL, when and where the wand of the magician was passed over the heads of their favorite breeds, endowing them with those milk-producing qualities, of which they were never suspected, and entitling them to the name of the "general purpose" cow.

In conclusion, I would advise the inexperienced farmer to study carefully his surroundings, and decide which line of farming he had best pursue, whether dairying or beef-raising—if the former, let him select one of breeds which have earned a reputation, which will suit his needs; if the latter, let him select one of the beef-producing breeds, but above all things let him beware of that myth and delusion, the "general purpose" cow.

W. H. McNISH.

Elm Grove Farm, Lyn, Ont.

Outlook for Toronto Fair.

A WONDERFUL EXHIBIT OF LIVE STOCK PROMISED.

As the entries for the coming Industrial to be held in Toronto from the 8th to 20th of September, closed last week, we are able to assert with certainty that the coming fair will far surpass any that have heretofore been held in Canada. The entries of live stock is larger than even the most sanguine could hope for, there being no less than over 1,000 horses and 600 head of cattle entered. The Shorthorns are represented by the Bow Park herd, Bradford; Thomas Ballantyne & Son, St. John; John Morgan & Sons, Kerwood; J. Russell, Richmond Hill; R. Davies of Toronto, and many others. Herefords will be shown by E. W. Judah, Hillhurst; Wm. Fleming, of Weston, and many others. Exhibitors of Polled Angus are Hon. Mr. Cochrane, of Crompton, and Dr. Craik of Montreal, and several other important breeders. Dr. Craik has also entered selections from his herd of "Spotted Polls." Looking upon the absence of horns as being very desirable and the practice of disorning as very revolting, Dr. Craik has by selection and crossing originated from a horn grade cow (a cross between Ayrshire and Durham) crossed by his registered Ayrshire bull, a strain of hornless spotted polls which have been carefully selected for their milking properties. Galloways will be exhibited by Mr. Thomas McCrae, Guelph, and Wm. Kough, Owen Sound. The herds of Holsteins will be represented by Messrs. Smith Bros., Churchville, with 15 head; Maple Grove stock farm, Picton, 8; R. S.

Stevenson, Ancaster, 9; Whelan & Breckin, Oakville, 10; Hallman & Co., New Dundee, and others. Ayrshire, will be shown by Wm. Stewart, Menie; Thos. Guy, Oshawa; Mr. Drummond, Montreal; and James McCormick, Rockton. Of Jerseys, W. A. Reburn, St. Anne's, will show 22 head; A. McLean Howard, Toronto, 16; Capt. Rolph, Markham, and others.



MR. J. J. WITHROW,
President Toronto Industrial Exhibition Association.

The official programme, giving the order of the special attractions that have been provided for visitors each day of the fair, has been issued. Visitors are assured that they will have the opportunity afforded them of witnessing the greatest and best display in every department of agriculture and manufactures that has ever been held in Canada, from which must be derived much substantial benefit and enjoyment. No liquor and games of chance or other devices for duping the unwary will be allowed on the grounds, and the management have taken every care to prevent any occurrence that will lead any of their patrons to regret having visited their exhibition. As cheap excursions will be run on all lines of railway leading to Toronto during the two weeks of the fair, there is every reason to believe that the attendance of visitors will be greater than ever before.

It pleases us to be able to brighten these pages with an engraving of the popular president of the Association, and much more gratified are we to be able to say that he has almost completely recovered from the effects of an unfortunate accident which occurred a short time ago. It must be apparent that for one to hold such an important position as Mr. Withrow occupies, executive ability and those qualities which contribute to popularity must be possessed to a high degree. The marvellous success of the Industrial Exhibition in all directions is due in no slight degree to the wise directions and arduous labors of the enterprising president.

FOR THE CANADIAN LIVE STOCK AND FARM JOURNAL. The Transatlantic Cattle Trade.

Having read Mr. Plimsoll's pamphlet regarding the shipment of live cattle on ocean steamers, I have a few comments to offer thereon as suggested. I think there is little danger of him succeeding in his scheme to prohibit the importation of live cattle to Great Britain, as many of the English statesmen are largely interested as ship-owners, and in cargo steamships cattle contribute more in freight than any other branch of commerce. Take the St. Lawrence route as an instance. I believe I am safe in saying that the gross ocean freight on cattle this year will amount to as much as the combined freights on lumber, grain, and cheese. The cattle trade is therefore much too valuable to allow Mr. Plimsoll to wipe it out.

I would, however, be glad if Mr. Plimsoll could prohibit the carrying of cattle on deck of vessels dur-

ing the winter. The animals suffer terribly, not from the cold, but from the water which washes over the sides and keeps them so wet that it is next to impossible for the men to go in amongst them to feed and care for them.

I hope he will also succeed in compelling the ship owners to carry all the feed and hay in the holds of the vessels instead of "perching" it up on the top of the cattle stalls, where it is exposed to the wind and liable to be swept off with a very moderate storm. The placing of feed in this way is the greatest injustice the trade suffers from.

Mr. Plimsoll issues his pamphlet at a good time, as the cattle trade from United States ports during last winter will hardly bear investigation. I think I am within the mark when I say that between 4,000 and 5,000 animals were lost at sea from November, 1889, till May 1st, 1890. The Beaver Line steamers from New York (they are considered crack steamers), lost from 150 to 300 head for several voyages. Many of the Warren Line boats made heavy losses, the "Iowa" losing 416 head on one voyage. Of course last winter was an exceptionally severe one.

As regards the Canadian cattle trade from Montreal, no better argument can be used against Mr. Plimsoll than to quote the mortality from this port. It has seldom averaged for the season one per cent. On such lines as the Allan, Donaldson, Beaver, and Hansa, the average mortality is about one-half of one per cent.

The cattle usually land in splendid condition, no effort being spared by either the shipowners or the owners of the stock to provide for their being carefully and properly looked after.

Mr. Plimsoll claims that in case of a storm it is impossible to handle the ship properly with cattle and cattle feed on the deck, and that it is also very much more dangerous for the seamen. I haven't a doubt of this, but surely this can be remedied by a much milder process than that of prohibiting ocean steamers from carrying live cattle altogether.

W.M. CUNNINGHAM.

Crossing Pigs—Chester Whites and Berkshires.

EDITOR CANADIAN LIVE STOCK AND FARM JOURNAL:

As an instance of the value of the Ohio Improved Chester White Pigs, for crossing purposes, we desire to submit the following to your readers, as it has come under our own observation. A Berkshire sow, owned by Mr. Thos. Didmon, farrowed on the 14th May, 1889, a litter, sired by Edward B. (3589). The litter was all sold, except one, which he raised, and killed a few days before Christmas. It would then be a few days over seven months old. When dressed, it weighed 264 lbs. Two from the same litter were bought by Mr. Edward Passmore, and killed when five and a-half months old, and they dressed 165 lbs. and 168 lbs. each. Mr. George Lincoln had a litter from a Berkshire sow that were sired by McDonald Boy (3093), two of which he killed when eight months' old, and they dressed 217 lbs. and 242 lbs. each. Others we could enumerate, but space will not permit.

In respect to the easy keeping qualities of the C. W.'s, we might mention that, in figuring up our feed bill, we found that it had just cost us thirty-two cents for each pig, per month, from the 15th of January until the end of May, or about three and a-half months. All the pigs weigh from 100 lbs. to between 400 and 500 lbs., and were kept in good order.

Yours truly,

R. & J. GURNETT.

Ancaster, Ontario.

The Herd Laws of Ontario.

EDITOR CANADIAN LIVE STOCK AND FARM JOURNAL:

I have read with great interest several articles which have lately appeared in the LIVE STOCK JOURNAL upon the subject of cattle being allowed to run at large upon the highways of the country, and it seems hard to believe that such things are really permitted by the laws of the Province of Ontario, and harder still to understand why such relics of bygone days are quietly submitted to by even the long-suffering tillers of the soil. In the Province of Quebec, the law is very clear upon this subject. Article 428 of the Municipal Code says, "Pound-keepers are bound to receive and retain in safe keeping, animals found straying on any beach, flat, road, or public place, or any land other than that of their owners, and impounded by the rural inspector, or any other person who finds them, until such ani-

imals are reclaimed by their owners, or sold at auction under the provisions of this section." In regard to fence laws in the Province of Quebec, they are not so well adjusted; every Municipal council is empowered to make by-laws "To oblige the proprietors and occupants of lands to fence the same along municipal or other roads," and though I have never known this latter to be enforced, still the law remains as a menace to the economical reform which is fast spreading throughout the Eastern Townships of abolishing entirely all road-side fences, and I believe the abolishment of this municipal fencing power will also soon be an accomplished fact. Pending the repeal of this iniquitous Ontario herd law, I believe I should be disposed to impound stray cattle, not for vagrancy so long as the law sees fit to encourage it, but for pilfering. The farmer in holding the titles to his lands, whether from the crown, the sheriff, or any individual, owns the entire lot, including the roadway over which the public have but right of passage, and any graves, stones, sods, trees, aye and the fruit thereon, and the sap therein, belong just a much to the landowner "himself, his heirs and assigns," as if they were found upon any other portion of his real estate. Without taking into account the enormous expense of clearing winter roads from the snow-blockades caused by fences, I would ask, why should the farmer be deprived of his hay or even grain grown within the limits of the high road, and compelled to build an expensive roadside barrier, simply for the convenience of the man who seeks to defraud him of his rights? The plea that the grass either as such or as hay, should be the portion of the poor man, is entirely devoid of any practical bearing, and even if it were not so, can any government defend a law which compels a man to inflict a useless burden upon himself, greater in many cases than his entire annual tax for school and municipal purposes?

W. A. HALE.

Questions and Answers.

If there is an subject bearing upon this or any other department of our JOURNAL upon which you desire information, write us, and we shall be pleased to intrust your query to competent persons and publish the answer thereto in our earliest issue, and if an immediate answer is required, such will be gladly given if a postage stamp is enclosed. Write the queries on paper detached from all matters of business, sign your full name and address as a guarantee of good faith, and write only on one side of the sheet. We request the assistance of our readers in making this a useful and interesting feature, and we shall always be pleased to hear from any either desiring information or obliging enough to give it for others, upon any topic within our field.

TREATISE ON ENSILAGE.—R. B., Deseronto, Ont.—Can you give me the name of the best treatise on ensilage? (The best on the chemistry of the silo is Fyfe's *Livestock*, but the best on the whole subject is perhaps the pamphlet of Prof. A. J. Cook, of Lansing, Michigan, called "Silos and Ensilage." The most information on the subject may be obtained from the bulletins issued by Experimental Stations, notably: Bulletin 32 and 50, of Guelph Agricultural College, bulletin 4, Central Farm, Ottawa, bulletin 19, Wisconsin Experimental Station, Madison, Wis., bulletin 3, Vol. II., Ohio Experimental Station, Columbus, O.; bulletin 47, Michigan Agricultural College, Lansing, Mich.; bulletin 7, Illinois Experimental Station, Champaign, Ill. These may all be obtained by dropping a postal card to above addresses requesting the same. Ed.]

CHESTER WHITE SWINE.—A. C. E., Quebec—(1) Where would you advise me to register Chester White swine? (2) Is there more than one registry in Canada? (3) Are all of the associations for registration purposes founded on the same basis? (4) The only registration associations for this breed that we know of are the National Chester White Association, of which E. L. Moody, Eminence, Ky., is secretary, and Todd's Improved Chester White Record Association, of which C. W. Baker, Mansfield, O., is secretary. Unless your herd is of the Todd's strain we would advise you to register them in the first mentioned. 2. No registry for them has been established as yet in Canada. 3. No. We cannot tell you the difference, as we have not a copy of their standards by us, though we wrote some months ago to the secretaries mentioned above for them. —Ed.]

COLOR OF SHORTHORNS.—WHITE OR RED?—Alexander Wood, St. Marys, Ont.—I remember when a boy in Aberdeenshire, that our Shorthorns were nearly all whites. I would like to know when the reds came into favor, and in what way they are better than those of white color? The few white cattle I have are the best thrivers, and I would rather have them white only the chances are not as good for selling them for breeding purposes. Now can some of our veteran breeders give us good reasons why the rage is all for reds? Is it prejudice, or do the reds possess some quality on account of their color which some of us know nothing about? If it is nothing but prejudice, I should think that we could do something towards removing this ban from the white and roans. I trust some one will be able to state the

reasons why the reds are preferred. [It is only within the last twenty years that the white color of Shorthorns has been discriminated against in favor of the red. Prior to that time the importations were chiefly white and roans. To us the matter is distinctly a prejudice, which had its origin in the fact that albinos, animals that are white with pink eyes, are known to be weak in constitution. Unless an animal becomes an albino, there is no reason for thinking that they are deficient in vitality and hardiness on account of their white color. Lewis F. Allen not very long ago wrote: "I have bred pure Shorthorn cattle for 50 years, although not within the last five. They were all colors that I have named, and I never could find any greater tenderness of constitution, want of hardihood or other deficiency in the light than the red colored. The large majority of the bullocks at the fat cattle shows at Chicago, for several years past have been light roan in color, there being seldom a red one, showing fully that the lighter colors are even preferable to the red in perfecting their beef qualities, and that they do not detract from the excellence of the animal but rather favor profitable production." Consideration of the facts that white horses, white fowl of all kinds, and the various species of white domestic animals are not thought to be weaker in constitution on that account, leads to the conclusion that a white color does not of itself indicate lack of hardiness. If any of our breeders have found it otherwise, we should be glad to hear from them.—Ed.]

YELLOW CLOVER.—R. E. Birdcall, Birdcall, Ont.—Enclosed you will find what I call yellow clover. About eight years ago we seeded down about one-half acre with a mixture sold for permanent pasture. The first year or so we noticed an odd plant or so of the yellow clover scattered over the plot, and observed that while most of the other grasses got fewer, this gradually increased in quantity, until this year in some spots it was thick as it could possibly be, making a splendid bottom and splendid pasture. The strangest feature of it is that when the top of the clover is just ready for cutting, the seed is quite ripe down the stem. The seed forms in a cluster of from ten to twenty seeds on the end of a small stem shooting out every few inches from the main stalk. One stock which I enclose measured over 39 inches from the surface of the ground to the top, and has 13 clusters of seeds ripe and one green. It seems to be of the same nature as alfalfa, as it does not start to grow quickly after cutting. The secret of it getting thicker every year seems to be that a great number of seeds fall off while cutting, and harvesting, as this year you could see it lying on the ground after the hay was taken off. I might say that this plot has had a crop of hay harvested off it each year for seven years, and pastured in the autumn. I do not remember all the mixture that was sown, but after seven or eight winters exposure the number has dwindled down to orchard grass, alfalfa, timothy, red top and a little red clover and this yellow clover. The orchard grass, yellow clover, and alfalfa predominate. Kindly give me the correct name, and state whether in your opinion it is going to be a valuable plant to cultivate for pasture or hay, and also whether it can be bought of leading seedsmen and probable price per bushel. [The plant you enclose and so minutely and correctly describe, is known technically as *Medicago lupulina*, and commonly as yellow clover, yellow trefol, hop clover or medick, and also as black medick. Its greatest value is for mixing with other varieties. When grown for hay its fault is much the same as that of alfalfa, the difficulty of cutting it to good advantage owing to the variation in maturity. It is of little value for hay when the other heavier producing clovers may be sown, as the yield is light, but it is often used to good advantage as a volunteer crop on uncultivated fields. For pasture it is a splendid clover, being hardy, prolific, and nutritive. It flourishes especially on limestone soils, and is excellent for dry pastures, it being used somewhat extensively in Great Britain in mixture for such soils. In the green state it is very similar to the other clovers in nutritive value. It can be obtained from leading seedsmen for about 20c. per pound.—Ed.]

FENCE LAW.—A. B. Balfour, Burlington, Ont.—I wish to air a grievance, not only of mine, but of the majority of farmers, namely, that of fences. I have four neighbors, three of whom have, you might almost say, no fence, as it is in such a dilapidated state, and mostly down altogether. Good fences make good neighbors—would you kindly let me know if there is a sufficient law to compel neighbors to put up their part of the fence, also, am I entitled to damages by my animals getting injured through this neglect of my neighbors? I had a valuable horse injured in this way during the busiest time and on a small farm where only one team is kept. You may know the loss, not only from the injury itself, but from the loss of time, which is everything. [In our next issue the question of fences and fence laws will be thoroughly examined and fully discussed in our Counsel Table Department, where a number of questions of a like nature to this will also be answered. We would request any of our readers who have complaints to make or suggestions to offer in respect to fences and fence laws to forward them to us at once, so that this subject may be treated of as broadly as possible.—Ed.]

Veterinary.

For the CANADIAN LIVE STOCK AND FARM JOURNAL.

Blanketing Horses.

By DR. GRENSIDE, Guelph, Ontario.

The blanketing of horses, like everything else, requires to be done with discretion, in order to derive full benefit from it. From our observation and way of thinking, many errors are committed even in this simple matter, hence a few remarks upon it are not out of place, as in a week or two from now horse-covering will again be called into requisition.

There is a wonderful attractiveness about a nice, clean, sleek coat on a horse. It is only second to flesh in filling the eye, and increasing the admiration of inexperienced observers. It must further be confessed that few good judges of horses are not altogether influenced by its alluring effects in forming an estimate of all that goes to make up value in horse-flesh. Judicious blanketing has a great influence in improving a horse's coat. Exhibitors of horses at our fall shows experience a great deal of trouble in getting their animals' coats in the condition they would like.

There is no time during the warm period of the year in which it is so difficult to make a horse's coat look well as in the autumn. No matter how much trouble is taken it is impossible to make the coats of some horses look well during a portion of September. Horses shed all their coats in the spring, but in the autumn only a partial moult takes place. The hairs that are to fall out lose their gloss as they become loosened in the hair bulbs, and are practically dead. This process of shedding produces an irritable condition of the skin, which causes it to be more or less scaly and scurfy, and tends to prevent it from lying. The natural oily secretion is impaired at this time, and consequently the glossiness of the coat is impaired. A good deal can be done, however, in the way of overcoming the ill-results of this natural process. Perhaps the most important factor in the management is blanketing. Towards the end of August, or the beginning of September, many of the nights are very cool, while the temperature during the day is high, and the sun scorching. This great variation in the temperature in the different periods of the twenty-four hours causes marked changes in the circulation of the skin, which leads to irritability and dryness. In order to overcome the ill-effects of the varying temperature, a sufficiently warm blanket should be used during the night, to keep the skin comfortably warm, and the circulation active. This will tend to hasten the process of moulting, and keep soft and glossy those hairs that are not going to be shed. A thin, light cotton sheet, used during the day to keep off flies, lessens irritation of the skin. Horses that are being specially prepared for show are the better for getting their exercise either in the morning or evening, or better still, if time is available, both morning and evening. Our experience is, that at this season rubbing can be overdone. Generally speaking, it is a good plan to rub a horse dry with cloths, on coming in from his work, as it stimulates the skin, makes it sleek, and improves the tone of the system generally. But in September the skin is very susceptible to irritation, and if rubbed very much, particularly when it is damp, it is apt to cause harshness rather than benefit it. In September, and even during August, if a horse comes in very wet, we usually pursue the plan of allowing him to dry, before cleaning him.

Just here we would draw attention to the mistake usually made of using the curry comb too freely, and of using sharp-toothed ones. The teeth should be blunt, and the comb handled gently, and only used

enough to separate matted hairs. Lazy grooms are particularly fond of using dandruff brushes, and neglect sufficiently strapping with the ordinary body brush. Dandruff brushes are very harsh and irritating to the skin, and their use should be limited.

In our use of blankets in the early autumn, we should be guided by the temperature; not only should they be used at nights, but on cool days their use should not be neglected. Care, however, has to be taken to avoid ever keeping the animal so warm as to sweat. Sweating under the blanket not only makes the horse uncomfortable but it destroys the condition of the coat. The cautious use of blankets in the early autumn, and of course continued, has considerable effect in checking the undue heaviness of the coat, and that tendency to profuse sweating so noticeable in October, and in fact for the remainder of the winter if the precaution of blanketing is not taken early in the season. Some horses that are inclined to have very heavy coats will not have the growth of the coat sufficiently checked even by careful blanketing, and such animals if they have to perform much fast work are greatly benefited by clipping about the first of November, or later if convenient. Unfortunately many people do not allow their horses to derive the full benefit of clipping, on account of not using a sufficiently liberal amount of covering; a clipped horse should have at least two warm blankets on him, and more are sometimes of benefit, particularly during cold spells. A great mistake is frequently made in applying a horse's covering while he is wet with sweat or from any other cause. The best plan to pursue is to dry the animal with cloths, taking care to avoid cold draughts. If it is inconvenient to so rub him, a blanket may be applied to prevent chilling while the evaporation from the skin is taking place, but this should be removed as soon as it is thoroughly dampened with steam, and another dry one put on. Before putting on the first blanket the skin should be rubbed dry, if possible.

A great improvement has been made of late years in having blankets cut to fit properly. There is still room for another improvement, in order to have them fit more closely to the body and prevent them from becoming displaced, hanging off the quarters and getting torn. Our experience is that a couple of flank straps, buckled underneath the belly, is a great assistance to the surcingle in keeping the blanket in its place, and is an effectual prevention of tearing from the blankets getting under the hind feet. Horses that stand in the stable a great deal are apt to get sore on the back, from the constant pressure of a tightly buckled surcingle. This can be satisfactorily and effectually prevented, by using straps under the chest buckled in the same way as the flank straps. In fact we think that surcingles can be entirely dispensed with, if this much cheaper and equally satisfactory substitute be used.

Care should always be exercised in having blankets thoroughly dry, as a damp one is worse than useless; and they should be brushed, shaken, and beaten occasionally in order to keep them clean.

The object of sufficiently clothing a horse is not only to improve his coat, but there is in addition a wonderful saving of food, vigor, condition, and animal heat. The chief loss of the heat of the body is from radiation from its surface. This waste can be lessened and controlled very largely by judicious blanketing.

The unreasonable excuse for scanty blanketing is often made, that if a horse is well clothed in the stable he shivers on first coming into the cold air, but this is only momentary, for as soon as he begins to move, and the circulation is aroused, no chilliness is felt.

The Farm.

GRANARIES should be well ventilated, if for no other reason than that the granary weevil, which destroyed large quantities of grain last year, is very easily killed by cold.

THAT fall wheat may escape the attack of the Hessian fly and Wheat-stem Maggot, Professor Fletcher advises the delaying of the sowing until after the third week in September.

IN an experiment with salt, plaster and farmyard manure, the Kansas Experimental Station found that on a strong clay of moderate fertility the salt applied, at the rate of 300 lbs. to the acre, gave the best results for fall wheat. The straw from the wheat plots to which salt had been applied was noticed to be a peculiar bright color, and this was observable also on the haulms weeks after the wheat had been harvested.

CANADA, last year, exported over \$30,000 worth of wood ashes, not to say anything of the quantity that must have been used in the manufacture of pot and pearl ashes, of which over \$100,000 worth were exported. This distinctly informs us that some farmers are making a mistake through not knowing the fertilizing value of ordinary wood ashes. In view of the current price and the benefits that follow the use of wood ashes, it is not making an over-drawn statement to say that there is not a better fertilizer on the market to-day. They contain large quantities of potash, some lime and a little phosphoric acid. If those making a practice of selling their ashes, or worse still, allowing them to go to waste, would apply them to their potatoes, beets, cabbages, onions, clover, peas, or other such like crops, or use them in their orchard, they would soon have their eyes opened to the error of their former ways.

Purchasing Seed Wheat.

It is always a matter of no little importance as to which kinds of grain shall be sown of the many varieties which are usually at hand to select from. The old varieties, from a number of causes, yield less bountifully, and of the many new ones that are being introduced from time to time, it is often difficult to say which should be largely sown until they have been tried in the various localities.

In the purchase of any variety of new seed grain the utmost caution should be used when the price is dear. The same caution should be observed even when it is not dear, for a new variety largely sown in any locality where it has not hitherto been tried, is just as likely to fail as to succeed. That a sample of grain has done remarkably well in our locality is not a sufficient guarantee that it will do even ordinarily well in another, where the conditions of soil, climate, and it may be culture, differ. A large yield, therefore, and a fine sample, are not sufficient justification for the wholesale introduction of any kind of grain in a locality where it has not been tried. Farmers, therefore, should be satisfied before they pay high prices for new grains that they are expending their money profitably. If they do purchase, it should be in small quantities and for tentative purposes.

Advertisements are put out regarding new varieties giving extraordinary yields. These may be perfectly correct, but it should not be forgotten that these have

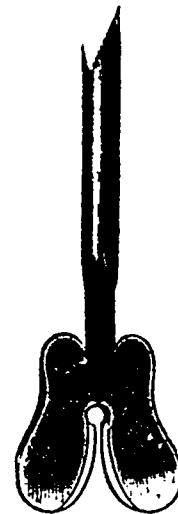
been grown on well-prepared soils, specially fitted to produce the highest possible returns. When such grains are offered at very high prices let our farmers consider well before they invest.

In introducing new grains the safer plan is to purchase one or two bushels only where the price is moderate, and if the yield proves good the average farmer then will have enough of seed to supply his own wants. If the result is disappointing there is then not much loss. It would not be easy to define exactly what an extortionate price is for new grains. It may be safely said that when more than \$3 or \$4 per bushel is paid for seed wheat of any kind, it is almost certain that it is too dearly purchased, and in regard to other grains so large a sum as this should not be hazarded. Indeed when one has to pay more than twice the ordinary market price for seed, he should consider well the propriety of doing so.

Remember, please, we do not advise the farmers to neglect a change of seed, or not to give due attention to the introduction of new varieties, but to duly guard themselves against what some of our agricultural papers are accustomed to term "speculators."

A Tool for Cutting Corn.

A tool for cutting corn, tobacco, etc., and for clearing up brush, is thus described in the *Home and Farm*. The accompanying engraving shows one which cannot be surpassed in effectiveness. A plate of steel 6x10 inches should be shaped as shown and welded to a strong shank that can be attached to a heavy shovel handle. After hammering the edges thin, they are ground properly and brought within half an inch of each other, a circular hole fully an inch in diameter being left above them in the plate. The plate should then be tempered, so that it will hold a keen edge without breaking if it strikes an obstruction. Hung in a shovel handle and ferruled, this appliance will cut more brush and do it more closely without being ground than anything on the market. One edge protects the other, and unless a thin stone be standing on edge, they cannot be dulled without being driven into the ground. A smaller, lighter pattern is excellent for cutting corn and tobacco.



Spontaneous Combustion.

An account of a case of spontaneous combustion, the reliability of which is fully vouched for, comes from Mr. Henry Talcott, and appears in the *Ohio Farmer*. About the last of the second week in July, a neighbor harvested six acres of wheat of very heavy growth. He had some timothy grass in the fall when seeding his wheat and more last spring, so that the wet season caused such a heavy growth that the butts of the bundles of wheat were full of it. Two or three days after harvest he hauled in two loads and put it over some new hay. Noticing that the berry was a little soft he delayed putting in any more for a couple of days, when he hauled in the balance, filling the mow clear to the roof. Two days afterwards fire was seen from the dwelling house in the evening, shining through the cracks in the end of the barn. When the

doors were opened the fire was found to be in that portion of the wheat mow which had the two first loads of wheat, but it quickly spread as soon as the draft of air entered and completely destroyed the barn and its contents.

Autumn Cultivation.

The farmers of this country may have clean farms if they only bestir themselves to bring about a result so much to be desired. So long as the paralyzing doctrine is cherished that the soil can neither be made clean nor kept in this condition, just so long will the presence of foul weeds prove a blot and a disgrace upon our farming. It does seem strange why it should be deemed impossible by any one to clean a farm altogether, if it is thought possible to clean it in part. When we speak of making a farm wholly clean, we mean freeing it altogether from the presence of the more troublesome and baneful forms of weed life.

Autumn cultivation will always have a prominent place in the means used to clean a farm. As soon as the grain is removed the ploughs should be at work in the fields which are to be cropped the following year. The only good reason for delay that may be offered, is that of allowing the sheep a little time to do the work of scavengers among the stubbles. In this way many weeds that would otherwise produce seeds may be turned under, and others, the seeds of which are lying in the soil, will at once commence to grow. These are in turn destroyed with the harrow or with the ploughing which takes place later in autumn. This style of cultivation is peculiarly beneficial where weeds prevail which ripen their seeds in autumn, as in the case of rag-weed. If rag-weed were kept from ripening in meadows and pastures, it must in time give way before a continuous system of autumn cultivation. It is also of much use in inducing mustard seeds, the seeds of wild flax and of many other weed seeds to sprout, when by the next ploughing they are sure to be destroyed.

To hasten the destruction of some forms of weed life it will be necessary to use only the gang-plough, but in the case of the Canada thistle the ordinary plough is better, as it turns the entire surface of the soil more completely. The ploughing in this case should be comparatively shallow, lest the horizontal root-stocks of the thistle should be brought near the surface, and so be induced to grow. The principal difficulty that lies in the way of autumn cultivation is the scarcity of help at the proper season. When the gang-plough should first be at work, the peas and oats are to be housed, and when these are cared for the field roots are to be gone over, and the ground is to be made ready for fall wheat and rye in sections where these are to be sown. There is also on many farms just a little lack on the part of team help. The only possible remedy in both instances is to get more.

The destruction of weed life is not the only advantage of autumn cultivation. It tends to spoil the plans laid by insects that worry and harass the farmer. These insects are disturbed in their hiding places, and in large numbers they come to grief. The soil is also brought more in contact with atmospheric influences and weathering influences generally, which so hasten its decay that assimilable plant food is thus made ready for the next year's crop.

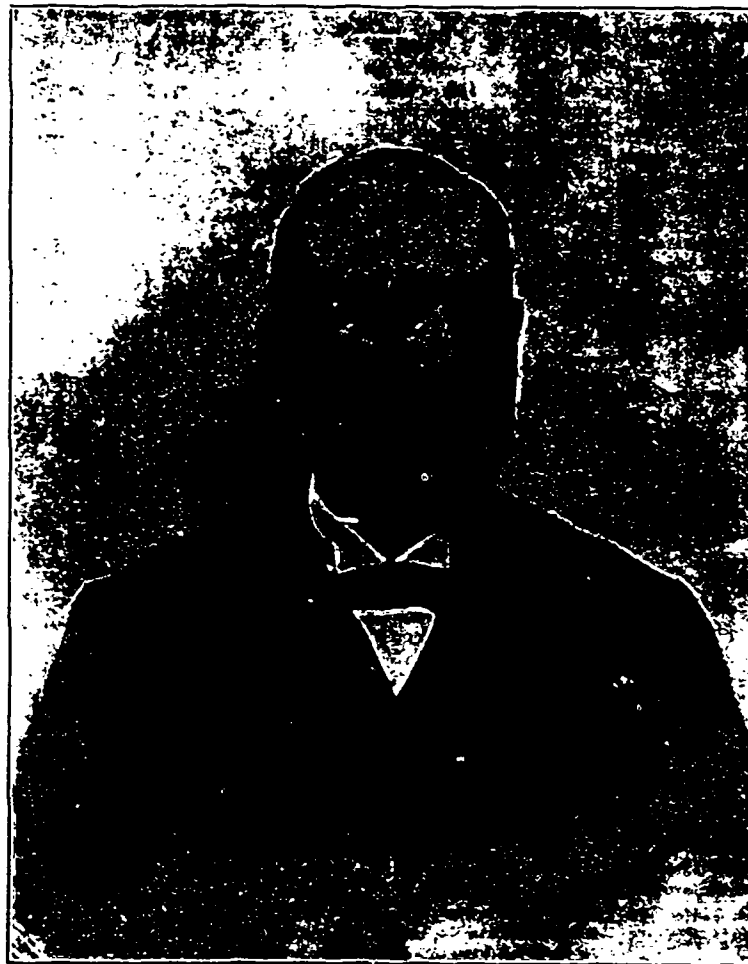
Its mechanical advantages are also of some value, more especially in dry seasons. The first shallow-ploughing makes it easier to have the late ploughing deeper than it would otherwise be, where it is desired to lower the line of cultivation.

In many sections of the country, autumn cultivation is unknown. The farmers who dwell in these will

Where soil is in good condition, it may follow rye sown the previous autumn. The rye may be sown about the last half of August if intended for pasture, and later if intended for cutting the next season for soiling purposes. It may be pastured both autumn and spring, and when this is done the ground may be ploughed at any time that may be desired. It need not, however, be ploughed before the end of May, which gives ample time for surface cultivation before the period for hoeing it arrives. When the rye is cut for fodder, the ground cannot, in all probability, be ploughed before the first half of June; but even then there is opportunity for thorough pulverization before the time of sowing the seed.

If it is deemed prudent to apply manure after the rye and before the rape, this may be done with ease when the rye is being pastured; but it may not be done so easily when the rye has been cut for fodder, owing to the shortness of the period allowed in performing the labor. It is true that commercial fertilizers may be applied at any time, and several of these are much conducive to the growth of rape. As soon as the rape is nicely above ground the horse-hoeing should commence and should be frequently repeated as in the case of turnips. Where the preparation of the soil has been thorough and careful, there will not be very much hand-hoeing required, but there should be enough of this given to prevent any weeds from going to seed.

By thus growing a field of rape along with other cleaning crops, as roots and corn, a farm may be kept practically clean without summer-fallowing at all. The land is also by this system put in an excellent condition for the succeeding crop, the rape being fed upon the land. It should be the pride of the farmers of this province, and indeed every province, to keep their farms clean. It is no unattainable task. The adoption of the system of growing a goodly portion of hoed crop every year will soon enable the farmer to clean his farm, if watchfulness and care are exercised in other directions. When once clean, it is nothing short of a crime to allow the farm to become foul again.



JOHN DRYDEN, ESQ., M.P.P. (See page 296.)

require to bestir themselves, for autumn cultivation will hereafter be the constant adjunct of advanced farming, at least, in the province of Ontario.

Rape as a Cleaning Crop.

There is no crop grown, perhaps, which can be better utilized as a cleaning crop than rape. This is largely owing to the late period at which it may be sown. Of course much of its efficacy for this purpose depends upon the previous preparation of the land, but there is usually ample time for this, as the rape need not be sown till about the last week in June. It may be sown even later where the soil is good, and where it can be given ample cultivation afterwards with the horse-hoe.

The New Disease of Oats.

During the past season in several sections of the provinces, the oat crop was severely attacked by a disease previously unknown to Canadian farmers. At first the young plants appeared to be doing well, but as soon as they had grown nicely out of the ground the lowest leaves began to shrivel and turn yellow, giving attacked fields the appearance of being badly rusted. Later on the plants seemed to gain new life, but owing to the early check in their growth yielded in most cases but poorly. By many, this trouble was thought to be due to the excessive rainfall, but from correspondence with Professor Smith, of New Jersey, the only scientist who has investigated the trouble here, we learn that this disease has

been caused by a small worm. In respect to this, Professor Smith writes us: "I investigated the matter up to the point at which I determined that it was due not to insect work but to a true nematode worm in the roots. I found this worm encysted and quiescent. I published in the State crop bulletin a mere note, saying that the injury was not due to the aphides, as everywhere supposed, and that on good land with a little stimulant in the form of manure, the oats would recover and make a crop. The result has been as I predicted, and except in poor land where the oats had not vitality to recover, up to 80 per cent. of a full crop has been harvested." As this worm has been doing great damage to the clover and oat crops of Scotland, and the rye crop of Germany, European investigators, especially Miss Omerod, have already given the disease considerable attention, and it may not be amiss to give their conclusions. The worm known as "Eelworm" (*Tylandchus devastatrix*) in Europe, is very small and slender, being only one-twenty-fourth of an inch in length. It attacks the roots of the oat and clover plants, producing a swollen root in the former, locally known as "tulip root," and causing what is termed in the latter, "Clover sickness." It has been determined that the only crops liable to attack are clover, oats, buckwheat, and onions, and it has been further noted that barley, peas, and beans are completely exempt, and wheat almost so.

Several methods of prevention and remedy have been found effective. The application of manures has proven to be very beneficial, especially gas-lime, applied in the fall, allowed to remain exposed for about four weeks, and then deeply ploughed in. The gas-lime quickly kills the worms, as they leave the roots as soon as the plants begin to dry from maturing, a fact which may be noted in the improved appearance of the crop as it nears the ripening period. Potash manures, such as wood ashes applied in the spring, forces the crop ahead, so that the effect of the attack is lessened. Manure coming from animals that have fed on diseased fodder plants, should not be applied to fields upon which clover or oats are to be grown, as the worms pass through animals uninjured. Fields that have been affected one year should not be sown to either clover or oats the next, as the worms remain in the soil for some years, if supported by crops which they feed upon, or by weeds serving the same purpose, of which the most common are the common buttercup, the daisy, the common plantain, shepherd's purse, and sow thistle.

The Victor Baling Press.

On this page we illustrate a machine for pressing hay, which is held in high estimation in the United States where they have been before the public for 24 years, and though only lately manufactured in Canada, they are here making rapid progress in public favor. They are manufactured by Messrs. George Ertel & Co., of London, Ont. In the performance of the work of baling hay these machines have attained to their present status through their stated qualities: rapidity, simplicity, durability, smooth and compact bales, besides possessing numerous other attributes. Messrs. Ertel & Co. warrant and guarantee their Victor presses to be just as they represent them or no sales, and they make the liberal offer also of shipping one to any responsible and reliable party on five days trial.

John Dryden, Esq., M.P.P.

The old pioneers of Canada were a company of brave men. The contest which they carried on amid almost superhuman difficulties in subduing the savage wilderness was simply herculean. The fine farms and comfortable steadings which they gave us are not, however, the most valuable of their legacies. We find these rather in the intelligence and thrift of their families, all along trained to habits of industry and good citizenship. Peace be to the ashes and all honour to the memory of those heroes of the former generation.

John Dryden, the subject of this sketch, is the son of the late James Dryden, one of those departed worthies who came originally from Sunderland, England, at an early age, and settled after a time on a part of what is now the beautiful four hundred acre "Maple Shade" farm, not far from Brooklin, in the township of Whitby. On this farm Mr. Dryden resides, and the success with which he tills it has few parallels in the annals of Ontario farming.

Mr. Dryden was born in the year 1840, and when but twenty-two years of age assumed the management of the farm. His stock-keeping proclivities, which manifested themselves at an early age, were now given full rein, and so successfully has this feature of his business been carried on, that he has for years been the possessor of one of the best herds of Cruikshank Shorthorn cattle in America, and his flock of Shropshire Down sheep may also be thus classed. Almost



THE VICTOR BALING PRESS.

the entire farm is underdrained, and is now as it has been for many years past, in a high state of cultivation. It is one of the cleanest and best managed farms in the Dominion, and would well repay a visit to any who are desirous of improving their methods.

The people of South Ontario have shown much wisdom for many years past in choosing a farmer to represent them in the Ontario Legislature, and that wisdom has been more than justified by the man whom they selected. Mr. Dryden, ever since he came of age has served the public in various capacities, beginning as secretary-treasurer of his school section, then president of the County Agricultural Society, and also reeve or deputy-reeve of his township, thus showing that since an early age he has always manifested an interest in public affairs. In 1863 he was at the age of twenty-three first elected to the Municipal Council. He was immediately elected by council to the positions of deputy-reeve and reeve, and this he continued to hold for seven years when he voluntarily resigned. In 1879 he was nominated to contest his riding for a seat in the Legislative Assembly and was elected by a large majority. He has held this position for eleven years and at a recent election was again returned. Mr. Dryden's public duties are not limited to the political arena as he holds the positions of vice president of the American Shropshire Breeders' Association, and also president of the Dominion Shorthorn Breeders' Association. Before the present law authorizing the organization of farmers' institutes came in force Mr. Dryden took an active part in the forming of what was then known as Farmers' Clubs at different points, and both by voice and pen his influence has been felt in the furthering of the farmers' interests ever since. His name is now mentioned as that of the probable successor of the Hon. Chas. Drury as Minister of Agriculture.

Whether this surmise is correct or not, as to the suitability of his qualifications there need be no doubt. He has given evidence of his ability as a farmer in the splendid condition of his farm and the high class stock upon it, and of his executive capacity we find abundant evidence in the successful management of a large business, one feature of which, the live stock element, is more liable to vicissitude than ordinary farming, and requires a higher type of qualifications to manage it successfully. Such a man at the head of the agriculture of this Province could not fail to command the confidence and respect of all classes of the community.

For the CANADIAN LIVE STOCK AND FARM JOURNAL.

Something about Manitoba.

At the present time no part of Canada is attracting more attention than Manitoba, and probably no part of the continent of North America offers greater opportunities for the investment of capital, or is likely to yield greater returns to the toiler, than does this fair province. Look at the wonderful progress being made there. Ten years ago it was practically an isolated and unsettled country. To-day it has a population estimated by many to be nearly 150,000. There are about 1,500 miles of railroad, giving good markets in most of the settled parts of the province. There are schools, and roads, and churches, all over the country.

There are this year 746,058 acres under wheat; 235,534 acres under oats; 66,035 acres under barley. Altogether over 1,050,000 acres were put under crop. This, of course, is not the sum total of our farming operations. Year by year much more attention is being devoted to mixed farming. In the early days of settlement in Manitoba it was nothing uncommon to find farmers having from 100 to 200 acres of crop, who had to purchase the butter and eggs and meat they required for their own use. This sort of thing is rapidly changing, and nearly all the old settlers have now good sized herds of cattle ranging from ten to forty head according to the wealth of the farmer. Cattle do wonderfully well in

Manitoba. It is astonishing how they thrive on the rich prairie grasses. Ontario farmers who visit Manitoba in the early spring are surprised to find how fat the cattle are turned out, when fed during the long winter on nothing but wild prairie hay.

Speaking of hay I am reminded that many Eastern farmers have the idea Manitoba will not be a cattle country. They say it is too cold, and then again, grass cannot be cultivated there. These are erroneous ideas, and will soon be classed amongst the exploded ones. Cattle do better, and can be fed at less expense, in the cold dry climate of Manitoba, than they can in the possibly less severe, though more humid, climate of Eastern Canada. There are very few days during the Manitoba winter when cattle cannot be turned out to rustle amongst the straw stacks. Then as to grass, there is at present an almost unlimited natural supply on the broad prairies. This of course will not always be so. As the country becomes settled and the farms fenced in, many men who to-day and perhaps for some years to come, can procure all the hay they require for the trouble of cutting, will have to cultivate it. Timothy and other imported varieties do well in many parts of Manitoba, but there is good reason for believing that the native grasses when cultivated will do better than any other. The experiment has been given a fair trial and proved abundantly successful. A few weeks since I visited the Experimental Farm at Brandon, when I saw thirty varieties of native grasses, and most of them doing well.

Fuel is an important item to consider. Popular opinion in the East assumes we are badly off for fuel. This is an altogether wrong assumption. In many parts of Manitoba there are large forests. In many of the settled portions of the province wood may be bought for \$3 to \$5 per cord. In some of the older set-

tled districts of the country, wood, it is true, is now becoming very scarce. It can and is brought in by rail from other parts, but we need not depend upon wood for fuel. There are inexhaustible supplies of coal in and near the Province. It is said Manitoba coal will next winter be sold at \$5 per ton. In many parts of the territories lying between Manitoba and the Rockies there are large beds of good coal.

The climate of Manitoba is enjoyed by those who live there, and none speak more highly of it than the farmers of Ontario. It is considered by medical men one of the healthiest known climates in the world.

Special inducements are offered to settlers. Free grants of 160 acres of land may be obtained in some parts of the country. These are usually some distance from railroads. Railroad and other lands can be purchased for from \$3 to \$10 per acre in nearly every part of the country. Ten years are given to pay for these lands.

The towns and villages of Manitoba are growing very fast, and some of the more important points present first-class openings for small manufacturers. Flour mills and grain elevators are raising up all over the country. By the end of this year there will be between eight and nine million bushels of elevator capacity west of Lake Superior.

This year the crops are simply magnificent. The grain is being harvested in the best condition, and the total output of grain and farm produce will be far in excess of anything ever known there before. In addition to wheat and flour, for which a world-wide reputation has already been secured, Manitoba will this year have oats, hay, beef, roots and dairy produce for export in large quantities. In a few years Manitoba will be as widely and favorably known as a cattle and dairy country as it is to-day for "No. 1 hard wheat."

A. J. McMILLAN.

Emigration Commissioner, Toronto, Ont.

Young Man, Be Educated.

It would be wilfully slandering the good sense of our readers to take for granted that they were not aware of the increased power that education will give farmers to make their acres more profitable; for the round of common life teems with striking instances of ignorance weakening effort and chaining men to low levels, and of education making more productive their labor and widening their field of usefulness. These instances must have impressed the young men who are deciding to follow farming as their life's work, with the benefits of true education, so that it but devolves on us for our present purpose to intimate where and how this education may be best obtained. To that question, past experience and later thought and observation command the answer—The Ontario Agricultural College.

To strip the question of all sentiment and view it simply as a stroke of business, let us consider the outlay for, and the returns from, a course of study at that institution. The outlay consists of work, time, and money. As the young man who pleads guilty to an abhorrence of work, mental or manual, is usually down so low as to be only reached by a rope and noose, we cannot hope to touch such that find work an obstacle. With most farmers' sons a difficulty consists in not being able to leave the farm for the required time. This impediment largely disappears, however, when we consider that the most of the work at College is done during the winter, when there is little doing on the farm; and further, as the summer holidays are very long students may get back to their farms for harvesting. The cost in money need but be very small, ranging from \$50 or less to \$75 per year as determined by the amount of outside labor the student does and whether or not he is a county student.

The returns are enormous from this small outlay. The striking merit of the course is the practical teaching on dairying, live stock, and the various sciences, such as could not possibly be secured outside an agricultural college, while the drilling in English and kindred subjects is as thorough as that of our best institutions. While the information imparted in respect to the various features of a farmer's work are of immense value to make greater the profit from the farm, yet the other influences which there play upon the character of young men, render them fit for the highest duties of citizenship, and primes them with a deep

enthusiasm for the vocation they have chosen. Fate has already decided that for most farmers' sons they must comparatively unaided hew out their own path way through life, but it is within the power of every one of them to say whether they will do it with the blunted axe of ignorance or the keen cutting blade that education tenders to them.

Another Clean Farm.

EDITOR CANADIAN LIVE STOCK AND FARM JOURNAL:

I see in the columns of the last JOURNAL a statement that there was only one clean farm in this Dominion. Now, sir, I beg leave to contradict that, for there is one in the township of Markham, that prides itself on its cleanliness and fertility, and it has done so for the last fifty years.

Now as to how to keep a farm clean. In the first place, a farmer to have a clean farm must be diligent, keep his eyes open, and not trust too much to hired help men, as they cannot always be relied upon. He must go himself and examine his fields, to see that no injurious weeds are gaining a foothold. As regards thistles they are very easily got rid of, if the ploughs are kept in good working order and used often. A drowning man is just like a thistle being destroyed, if he is continually getting his head out of the water it takes him a long time to drown, but if kept under he soon expires, and that is the way with the thistle, plough it down and keep it there, and you will soon get rid of the abominable weed.

Yours truly,

ROBERT B. ELLIOTT.

Buttonville, Ont.

The Cheese Industry the Farmers' Salvation.

EDITOR CANADIAN LIVE STOCK AND FARM JOURNAL:

A considerable number of articles have lately appeared in various papers on the cheese industry, a business so well known and prized by the farmers of Ontario that I have not thought it probable that anyone would be deceived by anything that might be written against it. That cheese factories in some localities have proved a failure is too true. But why? The fault lies with the farmers who supplied the milk to such factories, or rather, failed to supply the milk promised, and why have they failed? They pay little or no attention to their cows, get them to give a little sup of milk for three or four months out of twelve, and that when milk is least valuable for cheese or butter, and send this to the cheese factory from June to September. Before the 1st of Oct. most of their cows are dried up, and because they only realize from five to ten or twelve dollars per cow, they declare to the world that cheese-making does not pay, that cheese factories are a "fraud," and that those engaged in the business are "swindlers, sharks," etc. They feed practically nothing to their cows and get nothing in return. Keeping cows after this fashion does not pay and of course soon starves a cheese factory.

It comes down to a simple matter of arithmetic—nothing from nothing and nothing remains.

I have yet to learn of the failure of a cheese factory which has been well supplied with milk for the first five years of its existence. The farmer who makes an agreement to supply milk to a cheese factory and lives up to that agreement will never be disappointed. I sincerely pity the man who, if he expects to make anything out of his milk, either in butter or cheese, has no skill enough to make his cows give him 10 lbs. of milk at a milking for a period of six months, which would give him 3,600 lbs. of milk, or if he kept Sunday's milk at home he would still have 1,200 lbs. to send to the cheese factory. This has been nearly if not quite doubled by Mr. McCrea of Brockville, in a herd of one hundred cows. I will here give you the names and post office address of two of the patrons of the Lakefield cheese factory, so that any of your readers may write to them and find out for themselves whether the gentlemen are making money or losing in this business. I give these names without asking permission, as I have not seen them lately.

Mr. G. W. Mann, of Bridgeport, from nineteen cows, sent to the factory 67,530 lbs. of milk, or 3,554 lbs. per cow, for which he received the sum of \$494 or \$46 per cow. \$67.13 of this was earned in the month of May and \$106.61 in the month of October—months in which many Canadian farmers acts as dry nurses to their cows and in which the cow is not supposed to do anything. Thus R. Mann, of Bridgeport post office, from seventeen cows, sent to the factory 69,772 lbs. of milk, or 4,104 lbs. per cow, for which he received the sum of \$503.39 or \$29.61 per cow. Of this amount \$79.54 was earned in May and \$88.69 in October. These figures are net, after all expenses are paid, and are for 1889, which was hardly an average season. I believe the salva-

tion of this country is not in "two-rowed barley" nor in commercial union, although that would help the farmer, but in our great dairy industry, which is bringing more money to those engaged in it to-day than any other branch of agriculture.

Yours respectfully,
J. W. MOORE.

One Year at the Ontario Agricultural College.

EDITOR CANADIAN LIVE STOCK AND FARM JOURNAL:

DEAR SIR,—I very frequently receive letters from farmers' sons, asking if they will be allowed to take a special or a partial course at this College. For the information of those who write thus, and of farmers' sons generally, I would like much to be permitted to answer these questions through the columns of your paper.

By the term "partial," I mean a course more or less fragmentary in regard to subjects selected, and also in regard to the duration of the period of attendance. Such a course may be taken here, but it is neither desirable nor profitable. The individual who adopts this course only gets an imperfect and very probably a confused idea of any subject. By a "special" course is meant one in which the attendance continues for one College year, and during which the student devotes his attention to one or more subjects, as he may desire. By adopting this course, a young man may, in one year, take in the two years' lectures on Agriculture and Dairying; but, to enable him to do so, he must board outside the institution. In this, however, there is no real hardship; for the College is but little more than one mile from the city of Guelph.

The entire cost to the outside student would include the tuition fee, books, and board. The tuition fee is \$20 a year, which is simply a nominal sum. The outlay for books is not of necessity more than that sum; and good board may be had in Guelph for from \$3 per week and upwards, according to the amount of accommodation required. From the statement thus given, it will be easy to estimate the entire cost of the special course, when it is borne in mind that the College year commences Oct. 1st, and closes during the last half of June, and that no lectures are given from Christmas until January 22nd, following.

Those who take a special course are not required to do any manual labor on the farm, and yet they may take advantage of any instruction that may be given at the stables if they choose to do this.

I would not, on any account, have it understood that I am recommending this in preference to the complete two years' course. The students should take the full two years' course where at all possible, or what is much preferable—the regular three years' course. Perhaps it is not generally understood that a student who passes all the examinations for two years becomes an associate or graduate, and that the degree of B.S.A. is conferred upon those who successfully pass all examinations for three years.

There may be, however, a large number of young men who cannot leave the farm for two or three years, and yet they could do so for one year. I am satisfied that to them a special course, such as I have described, would be of much value. They could thus get all the lectures on General Agriculture and Live Stock, and along with these could take the lectures on Dairying. Lectures on other branches might also be taken in, as on Veterinary or Horticulture, at least the principal portion of them on one or the other of these subjects. A number of students took this special course last winter, who were unable to remain two years; but why should we not have at least one hundred students of this class every winter? By the payment of \$20 for tuition, the farmer's son is thus enabled to attend while from two to four hundred lectures are being delivered on the subjects of his future life work. This tuition is, therefore, marvellously cheap, or the lectures are marvellously worthless.

Nowhere else in Canada can so much in the line of education be got for so little money, and it is just barely possible that this is one reason why those educational privileges are not more highly prized. It is my firm conviction that a young man from the farm can learn more at this institution in one year, regarding the general principles of agriculture, and even regarding details and methods of much importance, than he will gather in a lifetime simply from his own experience in farm work. The same will hold true in regard to a knowledge of the breeds of live stock. I appeal, therefore, to the young men of the farm, and ask them to give the subject of this letter their careful consideration; and I appeal to the fathers on the farm, and urge upon them to allow their sons to avail themselves of the advantages of this institution, if the latter are so minded. Men would call that farmer cruel who would starve his colt or his calf, but what must they say of him who starves his son intellectually, and that for all time?

Some may say that, in thus writing, you are blowing your own trumpet, and that of your own department. I care but little what may be said on this score. The time was, and not very long since, when I was a farmer's son on a Canadian farm myself; and I think, therefore, that I have a right to know something of the educational needs of a farmer's son, and of the capabilities of this institution to supply those needs. I have no anxiety to conceal the fact that I do desire that the young men who are to remain upon the farm shall have at least half the chance in an educational point of view given to those who turn their attention to the professions.

Yours, etc.,

THOMAS SHAW.

Ontario Agricultural College, Guelph
August 14th, 1894

Around the Counsel Table.

Where no counsel is the people fall; but in the multitude of counsellors there is safety.

Our New Department.

As our readers will be pleased no doubt to note we have introduced in this issue a new feature of usefulness for our JOURNAL. As the department itself will fully explain its nature, we desire to say only a word in respect to its scope. We will endeavor each month to obtain opinion from those best qualified to pass them on the varied and many undecided problems relative to all phases of the agricultural industry. In doing this we are sustained by the hope that much good will emanate from the able and valuable opinions that will be published. From any of our readers we will always be exceedingly pleased to receive suggestions, comments, or criticisms, on the views expressed by those treating of the questions that have been asked.

Farmers' Institutes.

1. How might the work of the Farmers' Institutes be made more effective through the exertions of the officers and members?
2. Through what means could they be made more attractive and popular?
3. How might further government assistance be given them with benefit?

Necessity of Earlier Notice from Secretaries—Need of Advertising Meetings—"Round-Up" Institutes.

1. The attendance at Institute meetings would be larger, and the benefit to the farming community much greater, if the officers would fix upon and announce the places, and, as far as possible, the dates of their two principal annual meetings, two or even three months before the meetings take place. The secretary of every Institute which wants help from our College at its January meeting, should write to me not later than the month of September, naming the place of meeting. If all secretaries will do this in the month of September, I can arrange the programmes and announce the dates for all the January meetings, early in the month of November. By the failure of a few secretaries to give me this information at the proper time, the programmes and announcements for the whole Province are sometimes delayed until late in the fall; and such delay is fatal to the success of many meetings. No time is left to talk up the meetings; not enough even to advertise them properly; and there is little or no opportunity to prepare papers. The officers of the Institute should not fail to get five or six men (the most successful farmers) to prepare short, pithy, practical papers for each meeting. This part of the work is badly done in many Institutes; and the result is very unsatisfactory. No Institute is, or ever will be, successful, so long as it relies entirely or even chiefly upon outside help. The primary aim of the local Institutes is to draw out and develop local talent, and, if an Institute fail in this, its work will never amount to much. It is not enough for the president or secretary of an Institute simply to ask a number of persons to prepare papers. These officers should not

rest day or night till they get a *positive assurance* from five or six men that they will, without fail, prepare papers, deliver addresses, or lead in discussions, as requested. They should also endeavor to bring out their best men, and to have the most important subjects introduced and discussed. The success of an Institute meeting depends also very much upon the way in which it is advertised. It is not enough to put up a few small posters a week or two before the meeting. Whatever posters are printed should be carefully distributed and put up in the best places throughout the riding, three or four weeks before the date fixed upon; and eight or ten days before the time, 500 or 600 copies of the programme should be sent by post in open envelopes to the leading farmers of the riding, especially those who live nearest to the place of meeting. Many secretaries fail utterly in this part of the work. If officers will do their full duty in Institute work, they must be careful to keep faith with the public—to give everything which they announce, full measure in every particular.

2. I think nothing is needed but good papers or addresses, and lively discussions to make the day meetings all that they should be; but some forethought and considerable time are necessary to make the evening meetings as interesting and profitable as we would like to see them. Good music, with short, crisp, and pithy addresses, will serve the purpose. To secure this, it is well for officers to enlist the sympathy and help of the mayor or reeve, and as many citizens as possible, of the city, town, or village, in which the meeting is to be held. The work should be undertaken weeks before the meeting, and followed up persistently till the last hour.

3. I know of only one way in which any more government money would be wisely spent in Institute work, and that is, by providing the funds necessary to enable us (quite apart from the Permanent Central Farmers' Institute) to hold at least two practical central Institute meetings every year, shortly after the local January meetings. Say one meeting in Kingston and another in London—each meeting to occupy two or three days; and the work to consist of papers or addresses and discussions on live stock, the breeding and feeding of animals, dairying, the cultivation of the soil, destruction of weeds, growing of crops, etc.—all by the best men we could get in Canada and the United States. These men to be paid for their services; the discussions to be fully reported; and the papers, addresses, questions, answers, and discussions, to be printed in a volume, which would be sent annually, without charge, to all members of the local or riding Institutes throughout the Province.

Guelph, Ont.

JAMES MILLS.

Select Subjects of Local Importance—On Evening Programme Remember the Ladies—Circular Naming Specialists.

1. I think the most important consideration is the right choice of men. Failing in this, the Institute must be a failure, no matter how much money is at its disposal. The president needs to be a man, not only well adapted to control a body of men, but also able to draw expressions of opinion from farmers present, who have not been accustomed to speak in public meetings. Often a man, who is best posted on the practical side of the subject under discussion, has no confidence in his ability to tell what he knows, and will not speak unless he is unconsciously drawn out by the tact of the chairman. Very much also depends upon the secretary. If he neglects to thoroughly advertise the meeting; if he is incompetent to either suggest suitable subjects, or to arrange a programme, the failure of the meeting is well assured. I can think of nothing nearly so important as the foregoing. Of course it is most important that the subjects placed upon the programmes should be such as have a practical bearing upon the actual work of the farmers in a given locality; for while in some parts of the country it would arouse no interest to discuss the subject of dairying, for instance, in others this would be more suitable than anything else, and the same might be said of fruit culture or stock raising. I think it is all very well to bring out local talent as much as possible, but it is still more important to engage the most competent man available to lead in the discussion of the topics proposed. If such a man cannot be had in the locality, better go to the expense of bringing such a man to the meeting from a distance, so that the subjects may be properly handled.

2. I believe the present plan of making the evening meeting attractive by a certain amount of music and recitations is very well in some cases, but very often it is carried to an excess, and the true object of the gatherings wholly lost sight of. Topics might be introduced by competent persons, bearing upon every department of industry in a community; if, for instance, an experienced housekeeper could be induced to speak, or give a paper, on some department of domestic economy, this would engage the attention of a large number of ladies. The nearer the subject under discussion comes into touch with the daily lives and occupation of the men and women composing a community, the greater will be the popularity and effectiveness of the meetings.

3. I think the most useful kind of assistance which the Government can render the institutes is in the providing of competent men, who are specialists in their departments and are practically successful, to attend and speak at the various meetings as required. I do not approve of sending out too many speakers at one time, and then leaving the Institutes to shift for themselves all the rest of the year; but I think that help should be provided for the other meetings of the year, as well as for those which are attended by the professors of the Agricultural College. I think it would be a grand idea to have a list of first-class specialists, in the various departments, published in the form of a circular, having attached to it their names, and the subjects they are best prepared to handle. From this list the executive committee of each Institute could make their own selections of subjects upon which they needed outside aid, and also make their own choice of the lecturer. The arrangement of the visits by the professors of the College, should be left in the hands of President Mills as now, but the sending of the other speakers, in the remaining part of the year, should be placed in the hands of the Secretary of the Central Farmers' Institute, under the approval of the Minister of Agriculture.

L. WOOLVERTON,
Sec. Ont. Fruit Growers' Association.
Grimsby, Ont.

Organize Farmers' Clubs in Every School Section—Two Agricultural Advisers for the Province—Farmers' Fund—Induce Young Men to Attend the Agricultural College

1. I think much could be done by encouraging and forming farmers' clubs in every school section in each county. It would be desirable also to have an annual picnic and entertainment, thereby arousing a feeling of interest and good social relations between all members and non-members of the farming community.

2. I do not know of a more effectual way than by showing the farmers in general the great need of scientific knowledge to carry on their operations properly and profitably, and that the Farmers' Institutes are the cheapest and most convenient sources of obtaining this knowledge.

3 (a). By dividing of the Province into two or more sections, and having a skilled scientific and practical agriculturist to advise the farmers in all the pursuits of the farm such as, the laying out of plans for new buildings (barns, stables, houses, and silos), re-modelling of old buildings to best advantage the treatment of the soil, laying out of farms into fields, the proper construction and location of under-drains, the best feeding and management of cattle, the best books for farmers to read, advise the best experiments for farmers to make, the best crops that certain classes of soils are best adapted for, etc.; in short, information bearing on all the scientific and practical knowledge suited to the best interests of the farmer—a general adviser of the best interests of the farmer. (b) The manufacture of Canadian phosphates, at the lowest possible cost, to be sold to the farmer at cost, and every inducement offered that it is possible to make for its general use and adoption. (c). To form a fund to loan money to farmers, at a very low rate of interest, to encourage and assist the remodeling of old barns and stables, or for building new ones, confined entirely to out-buildings, secured by first mortgages on the land. (d). To use every liberal inducement for the youth of the country to take advantage of the Agricultural College for future prosperity, and to send the instructions to the older people on their farms for present prosperity.

D. M. McPHERSON.

Lancaster, Ont.

Local Experiments and Investigations Recommended—Advertise with Prudence, Push, and Posters—Advice for Ardent Party Politicians.

1. (a) By the holding of preliminary meetings to settle all the details of arrangements, programme, committees, etc. (b) By selecting the right man for president or chairman. It is a mistake to try to compliment some prominent man, by putting him into a place for which neither grace nor nature has lent him fitness. The chairman of an Institute meeting should be a man of energy, good judgment, genial tact, and quick discernment. He should have enough tender pity for an audience, and enough nery consideration for the speakers, to shut off a bore promptly; all the more so, if the speaker himself happens to be that sort of a talker. (c) By appointing a working secretary, who will succeed in making people know that his Institute is very alive and active. (d) By advertising with prudence, push, and posters, in every school-house and post-office in the riding. (e) By issuing a fortnight ahead, a programme of the subjects, hours, and speakers for every session. The programme can be made an advertising medium, and thus provide for its own cost. (f) By planning a series of simple experiments or investigations in farm work in the neighborhood, to be reported on at the Institute meeting; for instance, the effects upon the quality or quantity of crops, say, of wheat, barley, and oats, by cutting them at the green, middling, and ripe, stages of growth; or the quantity of corn ensilage required to make as much milk or beef as one ton of average hay. (g) By decorating the place of meeting with at least a few plants and flowers, and arranging for music for the evening sessions. (h) By talking "Institute" at the breakfast table and elsewhere, both before and after the meetings. (i) By every member trying to contribute some new item of information on farming matters, at one of the sessions during the year.

2. (a) By securing the presence of at least one speaker of ability and reputation, from a distance. Distance lends enchantment to more than scenery, when real worth is also a quality. The imported talent may not instruct more aptly or deeply than native or local, but it draws better. Crowded meetings bring enthusiasm into themselves; and everybody may carry some of it out into the work of life for increased profit and pleasure. (b) By formally limiting the time of addresses to thirty minutes each. (c) By getting beforehand a few men to break the icy feeling of reserve, by beginning to ask questions, or to take up the discussions, after each address or paper has been presented. (d) By confining the discussions and questions to the particular subject before the Institute. (e) By providing a "question drawer" for the opening of each session. Into it all questions of a miscellaneous character can be put. This makes a most interesting and useful feature of an Institute gathering. (f) By sending circular letters to a large number of farmers in the locality, asking them to invite the neighbors to accompany them to the Institute meetings.

3. (a) By engaging experts to discuss before the Institutes, in different localities, the methods and practices followed in relation to particular branches of agriculture in other places or countries. (b) By furnishing to the local committees of the Institutes, skeleton forms for the preparation of programmes. (c) By advising ardent party politicians, and those aspiring that way, to save their stock stump speeches for other occasions than Institute meetings.

JAS. W. ROBERTSON.

Dominion Experimental Farm,
Ottawa, Ont.

Offer Young Men Prizes for Essays—Give Every Prominence to the Question Box.—Squelch Long and Tedious Speakers.

1. I think the work might be made more effective by offering prizes to the young farmers for short essays on the various subjects in connection with their calling. The prize essays being read at some of the meetings, would lead the young men into debates, thereby learning them to speak in public.

2. The most attractive meetings I have attended, were when the question drawer was well filled. Many

who cannot write a paper can ask interesting questions, and thereby get the information they are most in need of. I fear that at some of the Institute meetings there are too many long lectures; therefore I would encourage the giving of more prominence to the "question drawer."

2. If you were to ask the question through your journal, what makes some meetings disinteresting and unattractive, I think the great majority of replies from those who are capable of judging, would be long and tedious speeches. I know of an instance in which an hour and a quarter of the valuable time was consumed by an individual (not a farmer) in trying to convince the people that there should be an agricultural school in each county. It is needless to say that before he had finished the audience was somewhat thinner, and I have no doubt some went away resolved that they would attend no more such meetings. Two and a half hours is long enough for any meeting of the kind, and the committee of management should always regulate the time to be occupied by each speaker. If the chairman and secretary are wide-awake they will see to it that people who come to attend these meetings are not bored with rehearsals. I could tell you of an "Institute Meeting" last January in one of the foremost counties in Ontario at which neither the president nor secretary put in an appearance. If the Government continues to assist institutes conducted in such a careless manner, it may well be said, "It is liberal." Where there is such a woeful lack of enterprise, any government trying to promote the best interests of the agricultural class will find it up-hill work, yet I do not pretend to say it should withhold further aid.

Cataraqui, Ont.

D. NICOL.

Make Special Efforts to Secure Attendance—Elect Only Competent Presidents—A Superintendent Should be Appointed.

1. The officers should (a) attend the regular business meetings, which they often fail to do. (b) When meetings are to be held in their respective neighborhoods, they should put forth special effort to secure a good attendance. (c) They may add much to the interest of the meeting by furnishing information, asking questions, and taking part in the discussions that may arise on practical questions. (d) They should adopt the most effective modes of advertising the meetings, as through the public schools, and by interesting the press. The members may (a) influence others to attend, and to become members, but only on the condition that they attend regularly themselves. (b) They may also take an active part in the meetings after the manner described above on the part of the officers. Each one can lend a helping hand in bringing together a good attendance, which is an important factor in securing best results.

2. They can be made more attractive and popular (a) by securing a larger number of men, competent and thoroughly practical, to address the meetings. This would involve the necessity of holding mass meetings, which may easily be done where the work is properly managed. (b) By electing such presidents only as are competent to preside over the meetings in a happy and pleasing way. (c) By appointing only such secretaries as are live men, who will do their work in an enthusiastic manner.

3. One person should be appointed by the Government, whose whole time should be given to the work of the Institutes, or, at least, during the winter season. His duties would be such as those of arranging to hold meetings in succession throughout the Province, commencing at one end of it, and concluding at the other. There might be one such meeting in each county, and it could last two days. The secretaries would co-operate in calling these meetings. They should be addressed by a number of gentlemen, secured for the purpose, men eminent in their special departments of agricultural work. In this way thousands of farmers would be reached where hundreds are reached now.

Guelph, Ont.

THOMAS SHAW.

Secure Best Available Person for Secretary—Seek to Develop Local Talent—Choose Subjects of General Interest for the Evening.

1. I would say that, from the opportunities which I have had during the last four years, in attending Institute meetings, in many parts of Ontario, it has become clear to my mind that if Farmers' Institutes are going to continue to be popular, and if they are to be important factors in advancing the best interests of agriculture, these results will only be brought about by the farmers living in the neighborhood in which an Institute meeting is going to be held taking a live interest in the matter themselves. I mean by this that they should elect first-class men for directors, and a thorough pushing business man for secretary. It will be found that the success of the meeting will largely depend upon the sort of man that fills that position. Having secured the best available man for secretary, then, next in importance, comes the president. Taking it for granted that the preliminary work has been well attended to, the success of the meeting will depend, in a great measure, on the tact and good management of the chairman. He is supposed to know the men who are experts in their own particular line, and should so arrange that these men will be brought to the front. He is also expected to see that the speakers confine themselves to the matter under discussion, and to know when to close discussions on any particular question so as not to weary a meeting. The enjoyment and profit of many a meeting is often sadly marred by some man wandering off from the subject under consideration, and talking until the audience gets thoroughly tired out. A good-tempered chairman, who possesses tact, always knows what to do in a case of that sort. In regard to the question of outside assistance—the more I know of institute work, the more strongly I am convinced that, while it is advisable and of great advantage to secure the help of the professors of agricultural colleges, and occasionally of other men who stand high in their own particular lines, yet it is a mistake to depend too much upon such assistance—the leading aim with all Institutes should be to develop, to the fullest extent, local talent.

2. Passing on to the next question, what I have said about the first, bears also on the second. A well-arranged meeting, where there are a sufficient number of speakers, who are well up on the questions dealt with, will always be "attractive and popular." However, a good deal can be done in this way—by associating with the directors others than farmers, with the view of getting up first-class evening meetings. These should be of a semi-social nature, and the speaking should be on such subjects as would be pleasing and interesting to a mixed audience. There are a great many things that can be talked about at these meetings, which are of general interest, and yet quite appropriate for a Farmers' Institute. I derived more pleasure than I ever before experienced at an evening meeting, from an address on "Window Gardening," by Prof. Fletcher, of the Central Experimental Farm; and how the ladies who were present did enjoy it!

3. I do not think that further assistance is required in carrying on the work of local Institutes.

JOHN I. HOBSON.

Mosborough, Ont.

Fences and Fence Laws.

The matter of fences and fence laws will be next discussed in this department. We shall be pleased to hear from any of our readers who have anything to say on the questions appearing below. We invite hearty discussion, as it is only by having such that true conclusions may be drawn.

1. What style of fence have you found to be best in point of cheapness, durability, and utility?

2. Kindly give full details as to method and cost of erection.

3. Do you think that any changes are desirable in regard to the present fence laws of your province, and, if so, what would you suggest?

The Dairy.

"WITCHES in the cream" be chased out by dissolving a teaspoonful of salt in a quart of water and adding this at a temperature of 65° Fahr. to each four quarts of cream, just before churning.

BUTTER kept at a low temperature quickly spoils when brought into a higher. Australian exporters found this out through costly experience, in sending frozen butter to the British market, as it quickly became rancid when thawed.

It is a good practice in washing butter to add a handful of salt to the washing water, whether the butter is afterwards dry salted or salted with brine. It renders more complete and easy the washing out of the butter-milk.

THAT there is great need of missionary work in the dairy interest, such as butter conferences could best do, will be made clear through the valuable article which Mr. Joseph Youill favors us with in this issue. The beneficial results that will follow this teaching cannot be measured for some time to come. Mr. Youill's contribution greatly strengthens our already firm belief that no other agency could do better work for the butter industry of Canada than butter conferences conducted by practical and enthusiastic specialists.

OF the various ways of utilizing skim-milk we know of none more profitable than feeding it to growing pigs with ground oats and shorts, in the form of a thick slop. For this purpose two of shorts and one of ground oats gives a mixture of the best proportions. Of late, considerable attention has been given to the worth of skim-milk for colts, especially if the dam is a poor milker, or when the colt is just being weaned. Some have found it a good food and have given as much as 15 to 20 pounds a day to colts that are being weaned with benefit. Under conditions that will not permit of using it otherwise, it has been found that it may be fed back to the cows mixed with the bran. It appears to us that such a practice would only be justified under conditions where it would otherwise go to waste.

A NOVEL manger for a cow stable is endorsed by Waldo F. Brown. In his stable he has one wide manger running through the centre, and a row of cows facing inward from each side. In describing it he says there should be no obstructions in it and that it should be floored with dressed lumber, so that hay may be easily pushed through it, and a broom meet with little resistance in sweeping it. The feed boxes for meal he has projected half their width over the manger and half over the stall. He has also two ventilating shafts leading to the loft above which he uses for dropping hay through into the manger. In answer to adverse criticisms he says that it is a great saving of space and also labor, as the hay is dropped from above directly before the cattle; that there has not been the least danger from the cows hooking; and lastly, that he has been able to keep it thoroughly clean, as it is very easily swept out, only taking about two minutes to sweep the whole length of thirty feet.

FROM four creameries in the vicinity of Seaforth, we learn from the local paper, that Mr. John Hannah has shipped to the Edinburgh market 523

tubs of creamery butter, representing about three weeks, make of this season up to July 1st. Through this we are informed \$5890 has been paid out to the farmers of that district who were patrons of these creameries. With facts such as these to speak so plainly there is little need of further development of them. We are glad to learn that the farmers of that section appreciate the scope of such opportunities, as made patent through the fact that this year the patrons instead of having to be solicited as formerly are coming forward and asking Mr. Hannah to send for their cream. There are many other neighborhoods as suitable for dairying as that of Seaforth, where a cutting from the "root of evil" would be equally agreeable. The *Expositor* speaks words of wisdom in saying dairying and stock-raising is what our farmers must depend upon, and the sooner they come to it the better.

MR. MCNAMEE favors us with a communication published in this issue that will excite attention. As we are firm in belief that the manufacture of a high uniform quality of Canadian butter would bring with it a higher price in home and foreign markets, we offer just a word of comment on that interesting article. While Mr. McNamee is right in saying that price is governed by supply and demand, yet it is equally true that the demand is governed by factors also, and not the least influential of these is the quality of the article offered. As conceded by Mr. McNamee, makers of fine butter are able to command a good price from customers, and for the same reasons the same is true of the foreign market, where each competing nation is as an individual. If exporters could gather together butter of a high grade of uniformity they could establish a reputation in foreign markets for Canadian butter, as has been done in the case of cheese, and thereby increase the demand for it, which would be followed by higher prices as other competitors were distanced. The higher the quality of butter the more of it is consumed, or in other words the greater the demand; and the more uniformity there is the more stable is the reputation. In respect to the rest of the communication, which will be found interesting, we would say in the words of Hugo: "The real is narrow, the possible immense."

Valuing Milk for Cheese Making.

That there is need of a change in the present system of paying cheese factory patrons for their milk is agreed upon by mostly all persons, the only difference of opinion being in respect to the method of reconstruction. As paid for at present, weight only being taken into account, a premium is put upon the supplying of poor milk; for water, the cheapest produced and heaviest constituent of milk as well as the most abundant, is paid for equally with other valuable constituents, though it has the least value of all for cheese making. Under the present method no encouragement is given for the patron to grade up his herd to give a richer milk, nor is there any inducement to feed the best foods for the same purpose. The pooling of milk as done at present at our cheese factories, pulls the progressive dairyman down to nearly the level of the worst breeder and feeder in the factory's list of patrons.

Recognising then the need of a change the more important question arises how to remedy the existing condition. Though it may not be possible to work out a scheme that will provide for all the slight considerations that might crop up, yet, it is clear to our

mind that a better system than that followed at present might be easily adopted. As yet, the real value of the several constituents in milk for cheesemaking is not fully known, but enough is known to form the basis of a system of valuation, far in advance of that of weight alone. Of all the constituents of milk, those having most value for cheesemaking are the fat and casein. It has been the custom with many, to speak of a cheese cow with the thought behind it that the casein in milk is the only constituent requiring consideration when the cheesemaking value of milk is being determined. If that were so, skim-milk cheese, differing only from full cheese in the abstraction of the fat of the milk, would have a value equal to the richest Cheddar. The market speaks differently, however, for the prices range from two cents per pound for the poorest skim cheese, to ten cents per pound for the full cheese. From this it will be seen that the fat is the most valuable constituent in milk for cheesemaking. It is a fact of importance also in considering this subject, to know that of the two constituents, fat and casein, the most fixed in quantity in normal milk is the casein. In colostrum the percentage of casein is high, but in normal whole milk it has never been known to vary more than about one per cent. either way beyond 4.50 per cent. The fat on the other hand has been found by Prof. James to range from 2.4 to 7.5 per cent., and at a factory near London, Ont., Dr. Macfarlane found the difference in the quality of a number of samples of milk taken from that of five patrons, to be as much as 1.77 per cent. butter fat.

Seeing that the most valuable constituent in milk for cheesemaking is the fat, and that the only constituent varying in different milks to any appreciable extent is the fat (the one per cent. difference of casein being of such little value that practically it would not be worth while troubling about), we feel justified in saying that it would be a far more equitable system to not only weigh the milk but also determine the percentage of fat as to weight per pound of milk and pay for the milk on this basis. The difficulty of determining the percentage of fat for this purpose is now overcome, since the introduction of Prof. Short's method a short time ago, and the later and better method of Prof. Babcock.

For the CANADIAN LIVE STOCK AND FARM JOURNAL.

Common Mistakes in Buttermaking.

In the month of June, Mr. A. A. Wright, of Renfrew, Ont., engaged Mrs. Youill and I to go with Mrs. Wright and he, for the purpose of giving practical lessons on butter-making. We found the county of Renfrew one of the most favorably situated counties in Ontario for dairy farming, as the natural grasses grow in great abundance, and on almost every farm are to be found living springs of pure water at a temperature of from 42° to 45° Fahr.

The most common mistakes we met with in our trip may be briefly summed up as follows.

1. Milking beefing breeds. Our opinion and experience is that you might as well beef the dairy breeds for profit as to milk the beef breeds with the same in view.
2. Milking at the wrong time of year. We strongly recommended winter dairying.
3. Milking only six or seven months of the year, while they should milk their cows ten or eleven months each year.
4. Milking at irregular hours. We found instances where cows were milked at five in the morning and not again until seven or eight at night.
5. Milking in wooden pails. We even found cases where wooden dishes (made by a cooper) were used for setting the milk in.
6. Setting in shallow pans and allowing the milk to set too long before being skimmed. We recom-

mended setting in plain cans 20 inches deep and 8 inches in diameter, with ventilation through the lid, set in water at from 40° to 45° Fahr., and also advised skimming in twelve hours.

7. Ripening the cream at too high a temperature. We found instances where cream was ripened at 66° Fahr. Cream should never be allowed to rise in temperature higher than 58° in summer and 62° in winter.

8. Using the old dash churn. We advise the use of the Daisy churn. We found a great many using the Daisy churn, but most of them churned too long. They churned so long that the particles of butter were so large that they could not salt the butter properly in the churn.

9. Keeping butter over summer without having proper places to keep it in. We find that few women have a good idea of the amount of cleanliness needed to make a good butter. The men are to blame in a great many instances, as they will not allow the women the proper appliances. The above observations will apply in our experience with other places as well as in Renfrew county.

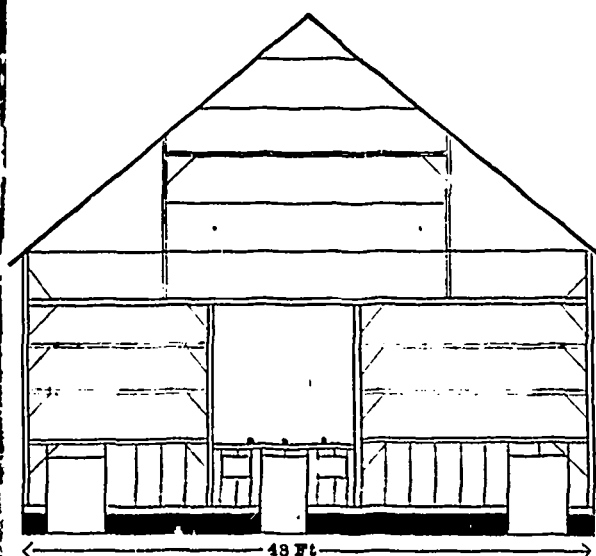
We strongly recommended butter and cheese factories. If cheese factories were fitted up with the appliances for butter-making, and the patrons see that their cows coming in during the month of November, they could have their milk made into butter in winter and into cheese in summer. And if the cows are fed ensilage they will milk nearly as well all summer as if they had been dry all winter. We have cows that came in during November (Ayrshires) that are giving over 50 lbs. of milk each day; they were fed ensilage last winter.

Jos. Youill,
Meadowside Farm,
Carleton Place, Ont.

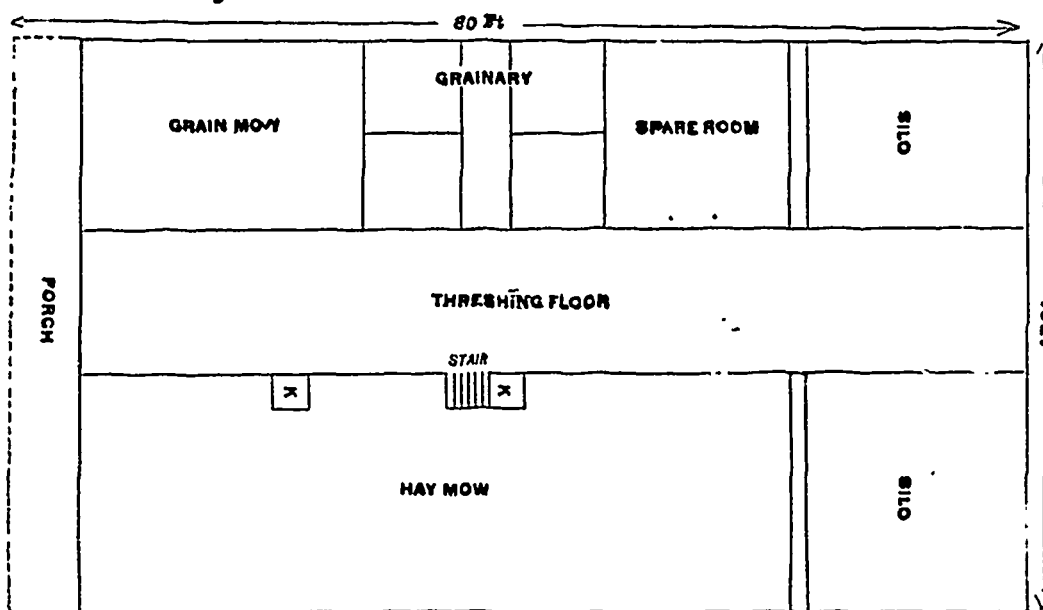
A Dairy Barn.

The enclosed plan which I forward you was designed by Messrs. Thos. Carlyle and Hudson Hendrick. The frame consists of six heavy bents with sills one foot square, and is twenty-four feet high from the stable floor to top of plate. The ventilators are used as shutters for putting down hay, and they have doors all the way up one side. A glance at the plan will show that with this arrangement a good supply of light and air may be obtained in summer and winter. It is also convenient for feeding and cleaning a large number of cattle. The manure is drawn out of the stable with a horse, the passage being wide enough to drive all the way around.

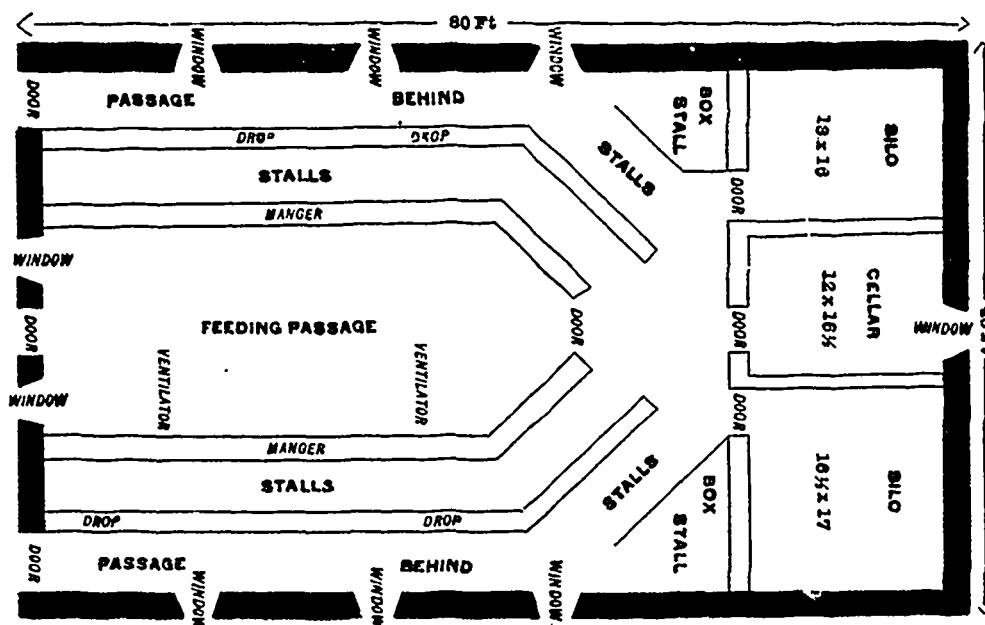
If the stone can be procured cheaply, it is better to build the foundation wall 7 feet instead of eighteen



CROSS-SECTION, DAIRY BARN.



PLAN OF DAIRY BARN.



BASEMENT OF DAIRY BARN.

inches above the stable floor. If the wall is built only 18 inches above the floor (as shown in the draft), the side and end posts require to be 5½ feet longer; the posts are 11 x 13 inches square. The first inside post (from the north end) is 20 feet from the end; the others are 15 feet apart. The sides of the stable should be boarded at least three times, twice with rough lumber and once with rustic and felt between. If the rough lumber is put on diagonally it helps to stiffen the frame. The lowest girts (the ones on which the joists rest) require to be very strong and well supported with studding. The planks for the floors of the mows are laid lengthwise, and those for the threshing floor crosswise. The joists should not be more than three feet apart. The measurements for height are taken from the level of the stable floor. The cost of this barn is between six and seven hundred dollars; this will vary somewhat in different places, and depends a good deal on the way in which it is finished inside and out.

Chesterville, Ont. KENNETH MOODIE.

Milk Production.

Editor CANADIAN LIVE STOCK AND FARM JOURNAL:
DEAR SIR,—I have from time to time read with

great attention, the articles of professors and leading dairymen, on the great results attained and possible to be obtained, by paying more strict attention to the care and management of stock, the production of milk, likewise the manufacture of first-class cheese and butter.

Of course, these articles may have a good effect in stimulating the farmers to a greater exertion to improve their system of managing the dairy, but in my opinion their statements are in almost every case so much exaggerated as to make one believe they were writing from imagination, and that strained to the utmost tension.

We have been told time and again by professors and others, that if the butter production of Canada was of a uniform first quality, we would be able to realize millions more in the price of that article. Now, sir, any one who will follow the market for the last four months, with butter selling from 10c. to 14c. in Toronto, 10c. to 12c. in New York, and I have seen Welsh butter quoted as low as 6d. in England, must at once come to the conclusion that the price is governed by the law of supply and demand, and that if all the butter made in Canada and the world over for that matter, was made gilt-edged it would not bring a remunerative price. Now, makers of fine butter are able to command a good price from customers and for local trade, when, if it was all made so, these chances would be lost and the whole product would sell at a medium price, according to supply and demand.

The last statement of great milk production comes from Mr. Graham in your last JOURNAL. If the statistics from Holland are correct, the good people of that country must put all the land products into the production of milk, and live on very little themselves, like the Irish tenant farmers who raise fine hogs, sheep, and cattle, make fine butter, which they sell to pay the high rents, and live on potatoes themselves. Then he tells of his own production, 7,300 lbs. per cow, and of other herds that would nearly double these figures—surely his imagination must have expanded terribly to fancy 14,000 lbs. per cow.

I listened to a man read a paper at a farmers' institute, in which he said he would never keep a cow that gave less than 6,000 lbs. of milk, and I doubted very much if he had one cow in his herd that would do it, let alone the whole herd, as some time previous I had seen his best Ayrshire cow, with milk held up for the occasion, milked at a fair, not giving more than 7 or 8 quarts.

I have had some experience in Ayrshire, Shorthorn, and common cows, and I think it would be necessary to cull $\frac{3}{4}$ of the progeny of any breed to be able to get a dairy of good deep milkers, and I will give the farmers of Canada 10 years with all the instructions received from all sources, to get the average of the factories up to 4,000 lbs. I do not mean to say that there are not exceptional cows that can be forced to give large quantities of milk, and keep it up to or 11 months coming nearly if not up to the highest imaginary calculation of Mr. Graham, but they are the exception and not the rule. And that one would have to cull 75 per cent. of any or all the breeds of dairy cattle to get a dairy of such deep milkers, makes it very difficult to get together a large herd of such performers.

By far the best instruction I have noticed is contained in the address of D. M. McPherson, of Lancaster, comprising the management and feed of cows, kinds of food best adapted, and the management of milk until made into cheese, in the most practical manner, without going into any imaginary calculation of possibilities.

Our harvest is nearly all cut, in many cases it is light on low, and even on high table land, from the great amount of summer rain; the wheat, although somewhat damaged by the maggot of the Hessian fly, will prove a much better sample than last year. Hoping your JOURNAL may grow and expand, and double its circulation, and the milk production be doubled likewise, I remain, yours truly,

B. McNAMRE.

Sand Bay, Ontario.

Poultry.

It is a common mistake to attach too much importance to size in poultry. For the Thanksgiving market, two plump and well-matured ten pound turkeys will bring considerable more profit than one lean and lank weighing twenty pounds.

EXCEPTING sheep no other domesticated animals more rapidly degenerate for want of attention or need of new blood infusions than poultry. Last year at the Dominion Experimental Farm, two different strains of Buff Cochins were mated, and the result it is said, was patent in a larger percentage of eggs, producing hardy chickens of large size.

It is curious that one of the largest poultry fanciers in America, Mr. D. W. Andrews, of Lynnfield, Mass., who keeps from 1800 to 2000 hens, and claims an annual average of 110 eggs, or a revenue of \$1.50 a piece from each, should hold such a poor opinion of incubators as that which he has given to the press. The greater part of his stock are grade Leghorns, resulting from crosses of Buff Cochins or Light Brahma fowls with single-combed Brown Leghorn cocks, and the pullets of this crossed with the Leghorns again, the object being to get the most prolific laying stock. The eggs are hatched entirely by hens, starting in January and setting every hen that becomes broody up into July. As a fair sample of his experience, he narrates the following: A neighbor owning an incubator wanted to hatch some chickens for him this season, so 250 eggs were put in the incubator and 250 from

the same breeding pen were put under hens. The incubator hatched sixty chicks, and the hens a few over two hundred. He further states that he gets an average of about 800 chicks from 100 hens, and the same eggs in incubators give him only 200 chickens.

FOR CANADIAN LIVE STOCK AND FARM JOURNAL.

White Holland Turkeys.

Having been frequently asked by patrons of the CANADIAN LIVE STOCK JOURNAL for a description of the White Holland turkey and their qualities, I take this method of satisfying the interest of all.

Their name implies their color and the country of their origin. Their plumage is snowy white. They are much admired by all who see them. They are not as large as the Bronze, but what they lack in size they make up in quality and hardness. They are unequalled in this respect, unless it be the genuine wild turkey, and they will equal them. They fill a happy medium in the turkey line. The young, like all turkeys irrespective of breed, are tender yet they are easily raised. They are the most domestic in their habits: of quiet disposition; do not ramble so far from home and fall victims to hawks and skunks, like the Bronze. While they do not grow to the size of the Bronze, they are always in good demand in the markets, as they attain a medium size and plumpness, and are well adapted to small families. A medium-sized fowl of this kind sells better, for there are a dozen house-keepers that prefer a medium-sized fowl to one that looks for the large, overgrown, coarse specimens. Like the Bronze, the female of the White Holland Turkey is very prolific, laying a large number of eggs. The quality of their flesh is sweet and tender, and far surpasses the flesh of any other breed. They have been justly styled the king of the table-fowls, the champion of the poultry yards, and their feathers are more valuable for artistic and commercial purposes than any other variety, and besides this they are a handsome sight on a well-kept lawn, and admirably suited to nice suburban homes.

JASON ELLARS.

The Fowl for the Farmer.

While it cannot be stated with surety that the best conditions exist on the majority of farms for the making of a high profit from poultry keeping, yet any farmer who does not keep a few hens is doing himself and his farm an injury. The hardest nut that the farmer has to crack is in making a choice of one of the many now established breeds. The experience of many will be in harmony with the following clear and valuable opinion from Mr. Gilbert, of the Central Experimental Farm:

Beyond question, the best all-round fowl for the farmer is the Plymouth Rock. The best two breeds are the Plymouth Rock and White Leghorn, for the reasons that the Plymouth Rock puts on flesh more rapidly, and the White Leghorn lays more eggs than any other of the standard breeds. Closely following come the Wyandottes as an early flesh producer and layer. Then follow the Brahmas, but they are slower in development. Another advantage in keeping Plymouth Rocks and Leghorns is, that while the Plymouth Rock hens are hatching chickens, after laying all winter, the Leghorns (being non-sitters) will go on laying, and pay the expense incurred while the other breed is sitting. The common barn door fowl is a good winter layer, when not too old nor too imbred. Where a farmer has a large number of mixed fowls, and he does not care to get rid of them, he can do a great deal to improve the state of things by procuring a thorough-bred cock or cockerel, and breeding from him. If his fowls are large he should get hold of a Leghorn, Minorca or Andalusian male; if small he should place a Plymouth Rock, Brahma or Wyandotte male among his fowls. It is best to breed from a certain number of his best fowls. By observation he will soon find out which are his best layers, and those he should breed from, and so a flock of good layers will be produced. A hen is at her best at two

years of age. She does not lay so many eggs in her third year, and after that should be disposed of, unless of extraordinary worth as a breeder. One of the greatest drawbacks to a farmer keeping poultry successfully is that he allows his fowls to inbreed from year to year, until they are so reduced in size as to be unfit for table use, and their laying qualities are things of the past.

Horticultural.

A NUMBER of experiments have been tried in cleaning lawns of dandelion and dock, with the result that it has been found there is nothing so effectual in totally destroying them as a teaspoonful of turpentine poured upon the plants.

STRAW is the best covering to put over the strawberry bed for winter protection. After the first hard freeze mulch them with a good layer. It is not the simple freezing that does the damage, but the alternate freezing and thawing they are subjected to if uncovered. As soon as the frost is out of the ground in the spring, it is advisable to remove the straw.

At the last meeting of the society of American Florists, Mr. Edwin Lonsdale, in his paper on roses, expressed the belief that it was unwise to give the rose beds a heavy top-dressing of cow manure in the late autumn months, stating as his reasons, that it excludes all air from the roots when they most need it, and if perchance the beds are too wet at the time of the application there is very little chance for evaporation in those dull, comparatively sunless months. He has obtained more satisfactory results by applying a light top-dressing soon after the roses are planted in July or August, and if it needs more nourishment, such is given by applying a weak solution of liquid manure.

The Honey Locust Hedge.

One of the most important questions that can engage the attention of farmers at the present time is that of fencing. The era of the old snake rail fence will soon be gone, never to come again; for when the rails decay which are now in use, and decay they will, others will not be forthcoming to supply their places, as timber is far too valuable now to use it in making rail fences. Wire fences have not been found completely satisfactory. If barbs are not used the fence is not efficient; if they are used, it is dangerous. Hedges hitherto have not proved very satisfactory. Thorn hedges have not proved a success, and the same may be largely said of cedar. The osage orange will make a beautiful hedge, but it is too tender for most parts of the country. The honey locust has proved able to withstand the severity of our winters; but when grown on the old principle of clipping it back with shears, it takes much time to trim it.

If we mistake not the hedge problem has been solved, for this province at least, by the Ontario Hedge and Wire Fence Co., now operating in the Dominion, with headquarters at Niagara Falls. This company plants a hedge and cares for it in such a way that it soon becomes a thing of beauty, and capable of turning any form of live stock. Their plan of operation is briefly as follows:—The farmer prepares a strip of ground from six to eight feet wide by summer-fallowing it the previous season, or by giving it any form of culture which will bring the ground in that condition which is suitable for growing potatoes or corn. The company puts in the plants in

the spring, which are not less than six inches high when planted. They also prune the hedge from year to year, in a way that is most conducive to the production of a strong upright growth of stem. The fourth year they "plash" the hedge; when this is done it is considered a complete fence, capable of turning any kind of stock kept on the farm, and this the company will guarantee if the farmer fulfils his part of the contract. By plashing is meant the bending of the stems of the plants to an angle of 45°, and holding them in position by attaching them to four horizontal wires, which are never removed. A trench is first cut on both sides of the hedge and so near to it that the lateral roots become severed. This is to check the growth. The earth is removed for some distance below the surface and the plants are then bent, after which the earth is replaced. The only further care required by the hedge is trimming twice a year. This is done by using an implement something like a brush hook, which is used by giving an upward stroke. The cost of this operation, it is claimed, is not more than one cent per rod per year. Meantime the farmer must protect the hedge until the plashing is done, and must also keep it free from weeds and grass by cultivation.

We rejoice in the introduction of this form of hedge into Canada. It is in itself a thing of beauty. We have seen it growing, and the more we dwell upon the system the more enthusiastic we become over it. The only thing about it as yet unproved to our complete satisfaction, is its durability, and this is owing to the limited period during which the system has been

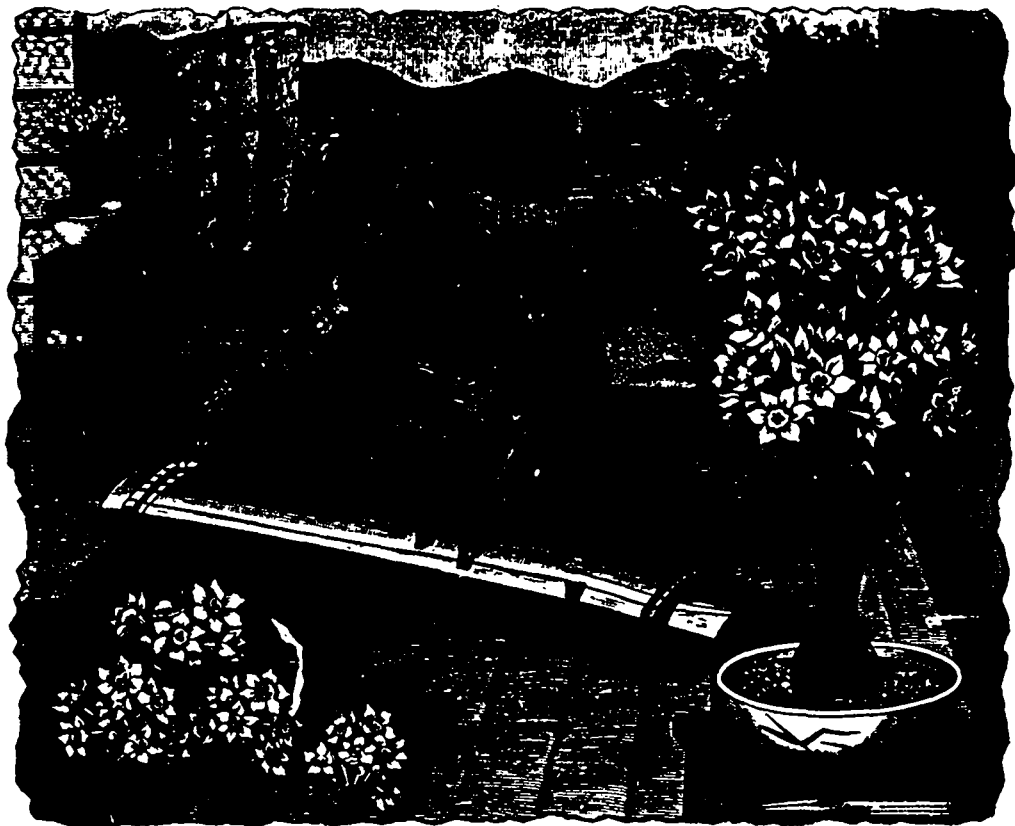
practised. The balance of testimony lies altogether on the side of almost unlimited duration, as the plant is hardy, long-lived and of vigorous and tenacious growth. The hedge takes up but little room, not much more if any, than an ordinary board or straight rail fence, and it in no way interferes with the cultivation along the borders or with the growth of the crops, as its roots grow deeply. It may of course be plashed at any height, so that fruit-growers may use this form of fence in turning bipeds as well as quadrupeds.

We have often mourned over the fact that our rural landscape was never likely to present that beautiful appearance of the farms of Merry England, because of our inability to grow hedges, but we are satisfied that this is no more a fact. We can picture to ourselves in the near future the sight of whole neighborhoods having no other form of fence but this, compared with the delicate beauty of which the hedges of England will pale, and the cost of keeping

ours in repair will be a trifle compared with that of keeping theirs. Our landscape in most places is pretty. Dot it here and there with spreading shades, alone or in clump, bound our fields with this form of hedge where required, and it will furnish a picture of rural loveliness unexcelled in any country in the world. Add to this the levelling of the borders of the highways and planting them with shade trees, and the beauty of the picture will be complete.

Chinese Sacred Lily.

Into the depths of winter such bulbs as these carry with them the pleasing fragrance of a June zephyr, making moreover cheerful and bright the apartment graced with their beauty. For the New Year festivals the Chinese have centred their affection on the sacred



CHINESE SACRED LILY.

narcissus, and well they may do so considering its many attributes of floral beauty. The bulbs being large, each one sends up spikes in varying numbers up to a dozen, all clustered with snow white blossoms centered with a beautiful yellow, which give forth a grateful fragrance. Owing to the indifference of the Chinese it is impossible to separate double from single flowering plants as they grow them mixed, but it is said that about one bulb in three produces double flowers.

Though the bulbs grow well in pots of soil the most popular method is, however, that followed by the Chinese as follows: Fill a bowl or some similar vessel with pebbles, in which place the bulb setting it in about one-half its depth so that it will be held firmly, then fill with water to the top of the pebbles and place it in a warm sunny window. It will then begin to grow rapidly in two or three weeks. If desired the bulbs may be kept and planted any time during the winter, care being taken to keep them dry. After

they have bloomed during the winter they should be planted in the garden in the early spring. This variety, which we are able to illustrate for our readers through the kindness of Messrs. Steele Bros., is hardy and easily grown, and because of these qualities in conjunction with its other rare attributes, it is rapidly advancing in favor.

The Apiary.

Foul Brood.

The outcome of the agitation carried on by leading apiarists in respect to the disease of bees known as foul brood, comes to hand in a bulletin from the Ontario Bureau of Industries containing a copy of the Act passed at the last session of the Legislature for the suppression of this disease, and also able articles from Messrs. D. A. Jones, of Beeton; Wm. McEvoy, of Woodburn; and Allen Pringle, President of the Ontario Bee Keepers' Association. The Act provides that where the disease is of the violent type all colonies so affected, together with the hives occupied by them, their contents and all tainted appurtenances that cannot be disinfected, shall be destroyed by fire, but that in ordinary cases, and in the first stages of the disease, milder measures may be used. To attempt to enter into an account of the details of the various opinions expressed as to the causes and means of prevention would not be possible in the limited space at our command. As the bulletin contains the

best information of the leading authorities, every bee-keeper should see that he becomes possessed of one at the earliest moment by applying at once to the Bureau of Industry.

For the CANADIAN LIVE STOCK AND FARM JOURNAL.

Exhibitions.

By R. F. HOLTERMANN, A.O.A.C., Romney, Ont.

Every bee-keeper should try and make a little exhibit at their local fairs. Show honey if you have it extracted and comb neat, clean, and attractive. Then show honey used for preserving fruit, honey cakes and pastry, and if you have it, honey vinegar. You may think this will not pay you, but remember the successful man is the one who advertises. No matter how good the article, if not brought before the public it will not sell. So with honey, to increase the sale advertise it, let those who should consume it see it, and they will get it into their needs to purchase.

Many a pound of honey can be sold at retail prices at these shows, and the necessity for wholesaling lessened. Wholesaling means not only a reduction in the price of the honey, but often selling on time, which has its disadvantages.

Every effort should be made to secure an enumeration of the number of colonies of bees in Canada, at the taking of the census next spring. This will give us an idea of the importance of bee-keeping as an industry, which is very much to be desired. Let every bee keeper write a letter to the Minister of Agriculture, Ottawa, urging the matter.

Fall Fairs and Exhibitions.

To be held in Canada:

The Industrial.	Toronto	Sept. 8-20
Midland Central	Kingston	1-6
Eastern Townships	Sherbrooke	2-4
Southern	Brantford	9-11
Trenton Union	Trenton	11-13
North-western	Goderich	15-17
Southern Counties	St. Thomas	16-18
Hentick	Hamilton	18-19
Western	London	18-27
Great Central	Hamilton	22-26
Central Canada	Ottawa	22-27
Wellesley	Wellesley	23-24
South Grey	Durham	23-24
Georgina and North	Sutton	23-24
Gwillimbury	Whitby	23-25
Ontario and Durham	Perth	23-25
South Lanark	Langsay	24-25
Landsey Central	Belleville	24-25
Bay of Quinte Dist	Peterboro	24-26
Central	Paisley	24-26
Centre Bruce	St. John, N.B.	24-26
Canada's Internat'l.	Quebec	24-26
Central	Renfrew	25-26
South Renfrew	Renfrew	25-26
West Durham	Bowmanville	25-26
Central	Cannington	26-27
Esquimaux	Georgetown	26-27
Lincoln County	St. Catharines	29 Oct 1
East Simcoe	Orillia	30
Central Agricultural	Walter's Falls	30
County Haldimand	Cayuga	30
York Colony	Yorkton, N.W.T.	30
N. Riding of Oxford	Woodstock	30
County Peel	Brantford	30
Mornington	Milverson	30
Northern	Warkenton	30
North Lanark	Almonte	30
Great Northern	Collingwood	30
Arthur Union	Arthur	Oct. 1-2
Cartwright	Blackstock	1-2
Huron Central	Clinton	1-2
South Oxford	Sarvich	1-2
Scarboro	Woburn	2
Peninsular	Chatham	2
West Monck	Dunnville	2-3
South Waterloo	Wyr.	2-3
North York	Newmarket	2-3
North Perth	Stratford	2-3
North Renfrew	Beachburg	2-3
Melancthon	Shelbourne	2-3
South Grenville	Smithville	6-7
North Brant	Paris	7-8
Howard Branch	Ridgeway	7-9
Halton	Milton	9-10
Caledonia	Caledonia	9-10
East York	Markham	8-10
Central Wellington	Elora	9-10
Norfolk Union	Simcoe	14-15
East Luther	Grand Valley	14-15
West York	Woodbridge	21-22

To be held in the United States:

New York	Albany	Sept. 12-13
Wisconsin	Milwaukee	15-20
International	Detroit, Mich.	Aug. 26-Sept 5
Interstate	Trenton, N.J.	Sept. 29-Oct 3
American Fat Stock Show	Chicago	Nov. 13-22
Indiana State Fair	Indianapolis	Sept. 22-27

Jottings.

Oak Hall for Clothing.—Those desiring to purchase ready-made clothing will find it greatly to their advantage to call and see the large stock of men's and boys' suits in the latest styles that is carried at Oak Hall, 115 and 121 King St. East, Toronto. Interested persons should not fail to note what is stated in an advertisement from Oak Hall in this number.

Fencing.—If you intend doing any fencing this fall, it will be to your interest to enquire into the merits of the wire packet fence advertised in this number by the Toronto Picket Wire Fence Company, 221 River St. Toronto, Ontario. It will be generally conceded that the picket wire fence is one of the neatest and easiest erected of the various kinds of fencing now before the public.

The Tornado Ensilage Cutter. This cutter has become a general favorite amongst those who have had the opportunity of seeing it at work. It not only cuts the corn in short pieces but

it splits these at the same time. It is easy to feed and is capable of heavy and fast work. Being constructed on the best mechanical principles, it utilizes all the power and is very easily run. See advertisement elsewhere.

Furs.—If you desire to see a grand display of all kinds of furs be sure and call at Dineen's, corner of King and Yonge Sts., during exhibition time, for then this large establishment will be thrown open to the public. They carry a large stock of the highest quality of goods to be sold at lowest prices. They are prepared to supply everything in the line of furs as stated in their large advertisement in this issue.

Norway Spruce. For windbreaks or purposes of ornament no tree possesses so many meritorious qualities as the Norway spruce. It is a hardy, good grower, and as it stands close planting without detriment it is invaluable for hedge purposes. Messrs. Campbell Bros., of Simcoe, Ontario, have an advertisement appearing in this number relative to the Norway spruce, which we commend to the attention of our readers.

Meetings During Exhibition Time.—The following live stock associations will meet at Toronto during Exhibition week: Dominion Sheep and Swine Breeders Association; Ontario Creameries Association; Canada Coach Horse Association; September 18th. Central Farmers Institute, at Walker House, September 16th and 17th. Ontario Poultry Association, at Secretary's Office on the grounds, 2 p.m., September 18th.

Export Trade. Up to August and, ninety-eight steamers cleared from Montreal, carrying 41,700 head of cattle, and 15,843 sheep for the ports of Liverpool, Glasgow, London, Bristol, Aberdeen, and Newcastle. This means an increase of 14,828 head of cattle, or about 50 per cent. compared with shipments of last year up to the same date. Prices are said to be somewhat better in the English market. Exporters complain of high rates charged for space.

The Red Polls.—Here is a good testimonial to the milking qualities of the Red Polls. Mr. Fairman J. Mann, of Shropshire, Eng., sent the following statement of his dairy herd to the *Farming World*. His six cows, varying from three to five years old, gave from May 1st, 1889, to May 1st, 1890, 1630 lbs. of butter, which brought about 35 cents per lb., and had 3931 gallons of skim milk to credit to his calves and pigs. In all, he realized \$200 without the calves, from each cow.

Allive to Business.—A New York druggist, who spent the winter in a Texas town for his health, was asked by the general clerk of the hotel—"Stranger, what mighty our business be?"—"I am a pharmacist."—"A what did you say?"—"A pharmacist."—"Oh, yes, a pharmacist. Well, you can buy as good farming lands in this neighborhood as you can find in Texas. You have struck the right locality, stranger, if you want to farm. I'll take you out this afternoon in my buggy, and show you one I've got to sell."—*N. B. Agriculturist.*

Coach Horse Breeders' Society. As will be seen in an advertisement which appears in this issue, a meeting of this society is to be held on the grounds of the Industrial Fair Association, Toronto, on Thursday, September 18th, at 2 p.m., and in the board-room of the Western Fair, London, on Tuesday evening, September 23rd, at 8 p.m., sharp. All horsemen, whether Coach Horse breeders or not, will find it to their interest to accept the hearty invitation which the society extends to all, as the programme of papers and subjects to be discussed promises to be a good one of general interest.

The Experimental Farm Sale. Last year there was no sale at the Experimental Farm, but we are glad to see that there will be one this year on an enlarged scale, as in addition to live stock there will be sold a large lot of various kinds of seed grains and seed potatoes grown on the farm. The sale, which is to be held on October 7th, should attract a large number of purchasers, owing to the variety of the products offered. It will be held at a time when there is not a pressure of farm work, and as reduced rates of travel have been obtained it will afford an excellent opportunity for farmers to attend the sale. Further particulars are mentioned in the advertisement on another page.

Fall Wheats.—The matter of choosing seed wheat is one of difficulty and worry, not only on account of the varied and many varieties now existing, but also through the necessity of deciding where to place your patronage. In this respect it is becoming for us to say that the firm of Messrs. John A. Bruce of Hamilton, Ont., have established a reputation throughout Canada for the reliability of the products they place upon the market. We would ask our readers to look up the advertisement of this firm in this issue in which they draw attention to a new variety of fall wheat, the Canadian Velvet Chaff, which is stated to possess various excellent qualities. The leading varieties of fall wheats and rye are also kept by this firm, in respect to which they are always willing to submit prices.

Medal Brand Roof.—This roofing, which is now extensively used by American builders, is composed of three layers of the best quality of bituminous felt, combined with two layers of water-proof composition. When this is laid upon the roof it is covered with two coats of Medal Brand Mastic Roof Coating with the last one thoroughly sanded with clean sand. This roof by the various insurance companies in the United States and Canada is classed with slate, tin, and metal. It is stated that there is more than 100,000 buildings on this continent roofed with it. The Centennial Buildings at Philadelphia, in 1876, were covered with this brand of roofing. The claims made for it are that the extremes of heat and cold do not affect it injuriously; that it will not impart any taste to water; that it is adapted to either steep or flat roofs; that it is easily applied and may be painted any desired color. The firm handling it, Messrs. J. W. Patterson & Bro., of Toronto, also have several other brands for roofing and flooring, as may be seen in their advertisement in this number.

Fast Walking Horses.—We were pleased to notice in the *Rural New Yorker* the following note taken from the *London Live Stock Journal*, which is in a line with what we have been urging upon the attention of horse breeders. "We should like to see judges in the show-ring give a little more attention to good walking than they do at present. Our best breeders' draft-horses have to get over 35 miles on an average every day they are out, and in doing so a good, well-measured, well-balanced

stride is of great benefit. Horses which walk short behind through faulty conformation or weak hocks are of little use for such work; indeed the act as a drag on the other members of the team. A long, free, launching step at the walk is all one ought to look for in our heaviest draft horses, as the drivers know that if caught trotting them by the stable foreman dismissal will follow. The concussion under-trotting on the stones is very severe, and if a four-and-a-half-mile pace can be maintained without it horses will keep their legs fresh for a long time."

A Well Managed Herd.—Ed. Hoards, Dairyman.—At the request of the editor, I herewith send you a statement of my herd of ten cows, three of them full blood Jerseys, and the rest of them grades. In 1887 my cows made an average of 250 lbs. of butter. In 1888 293 lbs. each, besides the cream and milk that a family of nine consumed. I also raised eight calves from their milk, mostly skimmed. My cows feed in the pasture in summer; and I feed four quarts of bran, oats, and corn mixed to each cow per day. In winter feed good hay and cut corn stalks. Last winter I fed forty pounds of ensilage per day to each in lieu of dry stalks, with eight quarts of oats and corn—three-quarters oats and one-quarter corn ground together. Will use the same feed the coming winter. My neighbors say their cows are "mostly dry," while mine are still doing as well as at any time this summer. Four of the cows are fresh, and more of them soon will be. They are dry not over two weeks in the year on an average. I furnish private families with butter at 25c. in summer, and at 30c. five months in winter.—H. A. Phillips, Wisconsin.

Educate for Business.—While the "Ambitious City" possesses many avenues by which young ladies and gentlemen may acquire positions of honor and trust, still there are few that will bring them so quickly in touch with business and business usages of the day as a thorough course of training in an institution set apart for that purpose. We live in an age when every ambitious young person is bound to have a business education. A knowledge of Greek and Latin secures a livelihood for only a few of the world's workers, while the great mass of men and women of to-day are dependent upon business interests for employment. The tuition received by students who have attended Spencer and McCullough's Hamilton Business College and Shorthand Institute, has been of such a character that during the past eighteen months no less than fifteen ex-students of other Canadian business colleges, besides two university men, have been enrolled among the large number of those who entered the institution. This is only one of the proofs upon which the principals base the claim that the H.B.C. is a leading business college.

Important Importation. In the *Breeder's Gazette* we find the following notes from a correspondent on late importations made by importers through the assistance of Mr. E. Goodwin Preece of Shrewsbury, Eng.: The 200 head of registered pedigree Shropshire sheep shipped for Mr. Robert Miller of Brougham, Ont., comprise the largest and best shipment ever made to Canada for one breeder, being selected with great care from all the leading flocks, only a few of the choicest being taken from each. The show sheep included several Royal Shropshire and West Midland, Bath and West of England, and other show winners, among them being the five ewes bred by Mr. H. Williams, which won first prizes at Shropshire, and West Midland show at Stonebridge, and first at Royal Manchester, Liverpool and Lancashire show at Crewe, this week; the five shearing ewes bred by Messrs. Bradburne which won first prize at the great Herefordshire show at Malvern, in a big class of twenty-three entries, beating Mr. Bowen-Jones' second-prize Bath and West of England winners; a pen of ram lambs from the same breeders which won first prize at this last-named show and first at Malvern, also two beautiful shearing rams which had won many first prizes this year. All these sheep were sired by Lord Rector, a famous winner by that renowned sire The Rector. There was also a pen of three ram lambs bred by Mr. W. Thomas, which were the pick of his fine flock and had won first at several shows; a grand shearing ram from Mr. R. Brown, the choice of his flock, which had been highly commended at the Plymouth Royal, a winner of several prizes at smaller shows and several first prizes as a lamb. All these sheep cost high prices, but considering their great merit must be esteemed a good purchase. There were several other prize winning sheep, but the especial feature of the shipment was the very choice nature and high merit of breeding ewes, which were the finest lot I have ever seen together, bar none. Great care and discrimination was exercised in selecting them, not a single ewe being bought which did not satisfy Mr. Miller's critical taste. They should attract much notice in Canada when they land and do much to increase the popularity of this widely popular and invaluable breed.

Stock Notes.

Horses.

An advertisement appears in this number of Harvard University School of Veterinary Medicine.

Do you want a team of Shetland ponies? See advertisement of Joseph Stratford, of Brantford, Ontario.

G. A. WATKINS, of Detroit, Michigan, makes a specialty of Shetland and Exmoor ponies. See card elsewhere.

English Thoroughbred horses, registered in the English Stud Book, are bred at Spruceclade Farm, of which John Harrison, Owen Sound, Ont., is the proprietor. See advertisement.

The Haras National Company, of Montreal, make very liberal offers to purchasers from them. They have on hand over fifty Norman, Breton, and Percheron stallions to select from. Note their liberal inducements in their new advertisement.

MESSRS. FRERIE, Thamesford, Ont., have recently imported a four-year-old get of the celebrated Lord Hopetoun, that was twice winner of the Glasgow premium. Hopetoun Lad is out of a mare by Prince Renfrew, that was also the dam of the prize mare Jennie Wilson.

MR. ANDREW HARVIE, of Kirkwall, Ont., recently imported two well-bred Clydesdales. One of these won first prize at Dalhousie show, when a two-year-old. He is sired by Chamer. Laird Darnley, the sire of the other, is own brother to the celebrated mare Louisa, that was scarcely ever defeated in a showing.

GRAND'S Great Annual Fall Sale, will be held at Grand's Repository, 47, 49, 51 and 53 Adelaide St., Toronto, on September 23rd, 24th, 25th, 26th. Over 100 horses will be sold, including a number of stylish carriage horses, choice saddlers, well-bred roadsters, and fast trotters and drivers. Besides a collection of strong, heavy draught mares and geldings of good stamp, 80 young work horses that have been used by the City Waterworks authorities for drawing water carts, will also be offered. These horses range in weight from 1200 to 1600 lbs., and are all of good type and temper for working purposes. This advertisement should be seen by all our readers.

Whilst in the vicinity of Collingwood about the middle of July, one of our representatives paid a very pleasant visit to the farm of Mr. John Clement, on the mountain, near that town. Mr. Clement takes a great pride in his farm and work, and as a result the former has a well-tillied and carefully kept appearance. The grain, especially one small patch of barley, at the time was very promising. Mr. Clement appreciates the work that is being done in experiments, and had given a good place to some oats and barley sent him by the Experimental Farm at Ottawa. In the way of live stock, Mr. Clement has an excellent foundation to build upon. Among the horses particularly to be noticed was a fine, shapely, two-year-old colt, and a lively foal at the mare's side. About half a dozen good Ayrshire cows form the nucleus of a good herd that is surely coming.

MESSRS. GRAHAM BROTHERS, of Claremont, Ont., proprietors of Cairnbrogue Stud, so well known to our readers as a repository for the best of Clydesdale stock, come to the fore in this number with a large half page advertisement. This firm have lately imported a number of superior Clydesdales, as they are convinced that the well-earned renown of their stud must be carefully guarded and advanced upon, if opportunity offers. Their unparalleled success at the Toronto Spring Stallion Show, has made it a striking era in the history of their stud. In the last importation only the best representatives of the renowned strains of Macgregor, Darnley, Prince of Wales, have been brought over, so that it may be depended upon that this stud carries at present a selection of Clydesdales so varied as to ages, and so high in quality, that no one could inspect them without finding exactly what he wants. He sure and see their advertisement which is illustrated by a large engraving of the invincible and massive Macneilage.

We are pleased to introduce to our readers through our advertising columns, one of the leading Shire studs in England, namely, the Blagdon Stud of Shires, of which Mr. Clement Keevil, of Malden, Surrey, Eng., is the proprietor. Though the popularity of the Shire traces to many sources, yet it may be safely said that the Blagdon Stud has contributed more to this than any other, through the high class stallions that are from year to year bred there. The lists of prize-winners at the leading exhibitions in England, will show this, as well also the fact that many of the best studs in England, including those of Lord Ellesmere, Lord Calthorpe, and many others, have representatives from the Blagdon Stud, as their crack stallions. Many stallions from Blagdon have not only added to the prestige of this stud in England but stallions there bred have proven themselves to be prize-winners in England, Germany, Holland, and America. We take pleasure in requesting our readers to note the large advertisement from this stud, which appears in this number nicely illustrated by the handsome and famous prize-winning stallion, The Boy 3358.

MESSRS. W. H. GRAHAM & SON, of St. Marys, Ont., have brought from Scotland a collection of six well-bred Clydesdale stallions, many of them excellent representatives of the noted Darnley. Commenting on them the *Farming World* eulogises them in the following words: "These were horses of good colour and meritorious quality, got by the well-known Darnley horse, His Royal Highness 2165, the celebrated breeding stallion, Old Times, whose stock have proved second to none as breeding mares; a useful well-coloured horse, Royal Bloom, whose sire was Darnley, and his dam a mare by the famous Rantin Robin 685; and the well-known breeding stallion, Lord Clyde 482, the sire of the celebrated horse, Blair Athole, that was first at the Highland and Agricultural Society's Show in 1878, and the Bute fillies shown by Mr. D. McIntyre, that stood so well forward at Kilmarnock Show in 1889. There was another good colt in the shipment, got by Master of Blantyre. Mr. Graham was unfortunate with the last two shipments he made. Having gone out in very stormy weather, he lost almost all of the horses. It is to be hoped he may have better fortune this time. His horses are in good order, and have been carefully selected with a view to the demands of the Canadian market.

MESSRS. ORMSBY AND CHAPMAN, of Springfield-on-the-Credit, Ont., have on the way from Great Britain an importation of horses and pigs, from the best studs and herds of Great Britain. Two Clydesdale stallions come from Harper's famous stud, and sixteen Yorkshires selected from the leading herds of England. This firm have also a number of Shire stallions, ten in all, awaiting the choice of purchasers. It will be remembered that last year this stud secured the imported Hackney cob stallion, Little Wonder, winner of second at the R.A.S.E., in 1885. They report sales this year as being too many to give full particulars, but they have sent stock to purchasers in New Brunswick, New York, Quebec, Wisconsin, Michigan, etc. Catalogues are soon to be issued. In this number will be noticed a large advertisement from this firm illustrated by the Yorkshire boar Pat, which appeared in a former issue, but will well bear reprinting. This boar has not only a wonderful record of prize-winning, but has also a high reputation as a getter of good stock as might be expected from his personal appearance and ancestry. Messrs. Ormsby &

Chapman have for years made a specialty of breeding the Improved Yorkshires, so that those desiring anything in that direction should not neglect to see their attractive advertisement.

MR. PATRICK CURTIN, of Adara, Ont., has recently imported six pure-bred Clydesdale stallions, of which the *Farming World* has the following to say: "They were a useful lot of sound, big, solid colts. One of them was got by the champion horse, Cairnbrogue Stamp 4274, whose brilliant record of three times first at the Highland and Agricultural Society's Show has never been excelled. Another is by the highly-bred prize horse, Master of Blantyre, own brother to the celebrated prize mare, Louisa, and a handsome dark-coloured horse he is. A third is a thick, well-built colt, bought at Stranraer Show, and got by the well-known breeding horse, Henry Irving, out of a mare by Prince Edward 1254, a son of the celebrated Prince of Wales, and own brother to What Care I, for several years stud horse in the Seaham Harbour farms owned by the Marquis of Londonderry. A useful horse is Bonnie Laddie, own brother to one of Mr. Curtin's former purchases, the stallion Bonnie Doolan, which has proved himself to be one of the best breeding stallions in Canada. There is also a yearling filly of superior quality, bred by Mr. Band, Kilmarnock, and got by Gallender out of the successful breeding mare, Flora of Kilmarnock by Macgregor. This shipment will increase the reputation of Mr. Curtin as the buyer of a class of useful horses for which there is a steady demand in Canada.

In this issue we reprint the cut of the celebrated Clydesdale stallion Little Jock Elliott (3768), imported by Robert Ness, Esq., in 1886, which appeared in the November issue of this year. This grand horse has found a home on the Shamrock Avenue Stock Farm owned by Thomas Good. He has proved very successful in the stud, and his stock have proved easy winners at the exhibitions at Ottawa and surrounding country. Sir Walter was an easy winner at Ottawa last fall, among a very respectable lot of imported yearlings. The Marquis and Victor Chief are colts of great promise; they are full brothers, all three being by Little Jock Elliott, and out of the famous bred mare Belle of Richmond. Her filly Queen Vic, by The Montgomery was an easy first in her class of two-year-olds last year at Ottawa, and also winner of diploma against all ages in the imported class. She is without doubt a grand type of a Clydesdale, as one might infer from her royal breeding. We will satisfy ourselves at present by noting among the many good ones, the magnificent type of a Clydesdale Doncaster 2371, A.C.S.B., a grand thick-set horse, and better still a sure getter of the right kind, and the beautiful Sir Wm. Wallace 2nd, by the famous Sir Wm. Wallace (866), and dam Corran Belle, one of the best bred imported mares in Canada. Mr. Good has also a beautiful herd of Durhams, headed by the yearling bull, Wilkie Collins, and his flock of Southdowns are looking exceedingly well.

MR. ROBERT NESS recent importation of Clydesdales, commented on as follows by the *Farming World*: "Mr. Robert Ness, Jun., Howick, Quebec, sailed by the Donaldson Liner on Tuesday. He is a steady and unfailing visitor, and usually takes away something of first-class quality. This year he has secured one of the prettiest Clydesdales ever exported, the Mackelvie 7013, which he purchased from Mr. William Taylor, Park Manor, Paisley. This handsome horse was first at Stranraer and Ardrossan when a yearling, second at Beith when a two-year-old, and was the West Lothian premium horse this season. As his name indicates he was got by Macgregor, and his dam, owned by Mr. Clark of Culman, was got by Hercules, and is thus half-sister to the celebrated Lord Lyon. Mr. Ness also purchased the MacHennie 7009, another son of Macgregor, bred by Mr. William Hood, Chapellor, from Mr. Robert Erskine, Underwood. This horse is own brother to the well-known prize horse the MacCallum, winner of first prizes at Ayr and Edinburgh when a yearling, and the Macpherson, whose success, both in the show-ring and at the stud, is matter of history. From Mr. Hood himself Mr. Ness purchased the fine, thick, deep-ribbed colt, Barloco, got by the Macpherson. This is a horse of much promise, with heavy, broad bones, and good action. A choice yearling filly by Mr. MacRobbie's prize horse Knight of Banff, purchased from Mr. Erskine, and a useful two-year-old by Mr. Andrews' prize horse Golden Guinea, and purchased from Mr. Stevenson, Howwood, complete the shipment. The stock of Macgregor are alike numerous and popular in Canada, and those of this tribe that Mr. Ness ships at this time will fully maintain their reputation as good wearers and sure breeders. Mr. Ness also shipped a finely-bred Yorkshire Coach horse, which he bought from Mr. Lett, Scampston. This is a horse of good quality in his class, and such as he find ready admirers in Canada.

MESSRS. D. & O. SORBY (Guelph, Ont.), latest importation brings forth the following comment from the *Farming World*. The most extensive shipper was Mr. Oswald Sorby of Messrs. D. & O. Sorby, Guelph, Ontario, who had on board fourteen head, including two three-year-old stallions, two two-year-old stallions, and seven yearling stallions, as well as three well-bred mares. A useful, big four-year-old mare by Old Times, was purchased from Mr. John Crawford, Bruntshields, Kilbarchan, and a thick, well-built three-year-old prize mare by Titwood Lord Lyon was bought from Mr. Lang, Kelton Grange, Dumfries. The splendid, big yearling colt Macnab's Heir, winner of first prize at Elgin the other day, was bought from Mr. D. C. Clark, of Blervie Castle, Forres. He is got by Mr. Clark's first-rate breeding horse the Macnab, whose breeding is unique, he being got by Macgregor out of a Prince of Wales mare. Two nice yearlings, Balmegran Hero and Balmegran Chief, were bought at Stranraer show from Mr. Milroy, Balmegran Mains. They were got respectively by the prize horse Darnley's Hero, and the well-bred stallion Bonnie Sanquhar, and are likely to make useful breeding horses in Canada. From Mr. Peter Crawford were bought the Large-side premium horse of this season, Clansick Blend, the sire of the fourth prize filly foal at Wigton, the splendid, big two-year-old colt Lord Carlung by Lord Erskine out of a Darnley mare, and winner of third prize at the Glasgow Spring Stallion Show; a fine, thick horse, with good action, got by the Prince of Wales horse Ruthven, and another of similar type, got by the well-known prize horse Prince of Airds, as well as a Lanch of promising yearlings got by the celebrated prize horse Flashwood, the Dumfries prize horse Bamey, the successful breeding horse Chamer, and the Lockerbie prize horse Silver Twist. Several of these colts are likely to make grand horses. The son of

Flashwood was bred at Galloway House Farm, and is a horse of choice quality, which would be called a good one in any country. The colt by Bamey is particularly good about the ground, and will finish a first-class horse. This lot altogether will sustain the reputation of Mr. Sorby's stud, and ensure a ready sale in Canada.

Cattle.

W. B. COCKBURN, of Aberfoyle, has decided to sell his stock Shorthorn bull Prince Charles. Notice advertisement.

ALEX. WOOD, of East Nisoury Farm, of St. Marys P.O., Ont., writes that his stock is all doing nicely, and sales good.

GEORGE BALLACHRY, of Brantford, Ontario, sells by auction in October next, his entire stock of Shorthorns, Shropshires, Berkshires, horses, and implements of various kinds. See advertisement in this number.

MR. JAMES ROWAT, of Hillsdale, Ontario, offers for sale in this issue a Shorthorn bull of the Nonpareil strain of Kinellar breeding. Shropshire rams are also offered, by one of the rams imported in 1884 for the Ontario Experimental Farm of Guelph.

Five young Shorthorn bulls, the get of Goldfinder, are advertised for sale in this issue by Mr. Wm. Wilson, of Brampton P.O., Ontario. They are stated to be A1 bulls individually and have from one to four top crosses of imported Scotch blood. If you want a bull do not fail to see this advertisement.

The Wyton Stock Breeders' Association, of Wyton, Ont., hold their semi-annual sale of Holstein Friesian cattle on Friday October 3rd, at 2 p.m. They have 35 head of calves, heifers, cows, and bulls to offer. A large advertisement from this Association appears in this number, to which we direct the attention of interested readers.

MR. ARTHUR JOHNSTON, of Greenwood, Ontario, writes to say that his Shorthorns "were never in better flesh on grass, and they were never in better form as to breeding. Twenty cows and heifers are due to calve before the first of March next. "I have the best lot of yearlings, two year old and three year old heifers, ever offered for sale by me. See my special advertisement in this issue."

Credit Valley Stock Farm, of which the Messrs. Smith Brothers, of Churchville Ont., are the proprietors, is presented in our advertising columns by a large engraving of the famous Holstein cow, Mink 402, the dam of their stock bull Mink's Mercedes Baron, that has been doing so well of late year in Canadian show-rings. This herd is strong in the best rains of milk and butter Holsteins, and as the herd now includes over seventy-five head, of all ages and sexes, purchasers will find no difficulty in securing a choice selection at this farm.

Our readers will not fail to notice the sale of stock and grain at the Experimental Farm, advertised on another page. This sale promises to be one of unusual interest, as a large quantity of grain is to be sold. We understand that in addition to an annual sale of this nature, live stock that may be on hand will be sold at any time. There are at the present time a large lot of breeding sows at the farm, of the Berkshire and Yorkshire types, the latter of which are imported. The farm manager expects, therefore, to be able to supply young pigs at almost any season of the year.

The annual sale at the Experimental Farm, Guelph, will be held October 7th. A number of young animals of various breeds will be sold, including cattle, sheep, and pigs. The live stock feature of the sale will consist in the large number of Yorkshire and Berkshire pigs to be offered. A new feature is the sale of a large lot of seed grains grown upon the farm, and of potatoes of different varieties. This is certainly an excellent idea, and should be productive of much good to the farmers, as it thus brings new and proved varieties easily within reach. See the advertisement in this issue.

Twenty-five pure bred Shorthorns, ten horses, mostly Clydesdales, twenty-five well bred sheep, and twenty pedigreed Berkshire pigs, are to be disposed of at a dispersion sale, to be held by Alex. Wood, of St. Marys, Ontario, about the last week of October. As Mr. Wood has used bulls from the following herds it may be expected that he has something good to offer in Shorthorns: H. Thompson, James Brown, J. & R. Hunter, Wm. Laing, and G. Reast. A Strathallan bull bred by Mr. John Miller, of Hrougham, Ontario, from his well-known bull Vice-Consul, at present is the stock bull here. Notice advertisement.

Among the many engravings appearing in this number, that in which appears the prize-winning herd of Mr. J. res Drummond, of Petite Cote, Montreal, will be noted as one of special merit. Mr. Drummond has been for years back devoting his energies to the building up a herd of prime dairy cattle of an already famous breed, and the success that has so far crowned his efforts is well known. While seeking the best sources for breeding purposes, the other important features of practical utility have not been shoved to one side, with the result that there are few herds of any breed showing equal development in these directions.

JAMES S. SMITH, of Maple Lodge Stock Farm, Maple Lodge Ontario, writes: "Our stock are doing very nicely, growing well, and all healthy. We have had a grand crop of calves got by Duke of Colonus, and Conqueror. We have mated Conqueror with some of our Bates cows and are well pleased with the result. The enquiry for Shorthorns is increasing very much, a large number for cows and heifers, and an increasing percentage as to particulars of their milking qualities. We think the prospect for the Shorthorn business very fair. We have a good crop of lambs from the old prize ram, Monarch. And everything sold in the sheep line that we can spare, except a few ram lambs."

DR. F. C. SINHALD, of "The Briers," Sutton West, reports an unusually prosperous year, stated to be owing in a great measure to careful personal attention to every detail in working the farm, instead of intrusting to others what every farmer

ought to attend to himself. Since the beginning of the year he has sold fifteen heifers, and eleven bulls, all registered in the Dominion Shorthorn Herd Book. This year's calves, he says, are a very fine lot, got by Butterfly Duke the 18th, grandson of 4th Duke of Clarence, imported by the Hon. George Brown from the Duke of Devonshire's herd. Had rather bad luck with horses, probably from too much blood. Pigs very prolific this year. Stock generally looking well, owing to abundance of pasture.

We call the attention of our readers to the sale of Mr. R. J. Mackie, of Springdale Farm, Oshawa, Ont., who has decided to sell his entire herd of valuable Hereford cattle. There are forty cows and heifers, and thirteen bulls and bull calves, with a number of cows to calve this fall. Mr. Mackie says Commodore 32943, by Cassio 11353, has proved a fine stock getter, and he has a fine lot of calves from him. Also a fine lot of heifers from his silver medal bull Cecil, which will be an acquisition to any herd. Cattle all in fine breeding condition. Farmers look out for bargains, as fancy prices are not expected. Sale on 15th of October, 1890. Catalogues will be mailed on application. See cut of cattle and notice of sale.

F. A. FLEMING, breeder of Herefords, Weston, Ont., writes: "Like the majority of Canadian breeders, I find times rather hard although I have made sales at fair prices for the times, but far below anything I have accepted in former years. I cannot understand why more farmers do not avail themselves of the present low prices to secure good cattle, for I believe that this depression in prices will not continue long. All my animals are in fine condition and have been so all winter. They have been out since the 15th May, and are all fat and thriving. My sales have been too numerous to give in detail. One of my latest was a two-year-old heifer and a bull calf to the Ontario Agricultural College, Guelph." Intending buyers would do well to examine Mr. Fleming's announcement in our advertising columns.

Maple Lodge Stock Farm, the property of James S. Smith, Maple Lodge P.O., Ont., is represented in the advertising columns of this issue, by an artistic engraving of Baron Constance 5th, 1378, that for four years has been at the head of the prime herd of Shorthorns at Maple Lodge. So uniformly has this bull impressed his good qualities on hisget that no difficulty is experienced in singling out those in the herd with any large percentage of his blood. He was chosen to head this herd because of his superior breeding and individual excellence, he being a richly-bred bull of the Constance Bates family. In appearance, he is a dark-ran, massive in conformation, on short legs that carry a body covered with a wealth of natural flesh, mellow and firm to the touch. He tips the beam at 2000 lbs. The illustration, though failing to reproduce the inimitable grace and style of the front of Baron Constance 5th, is otherwise a good representation of his qualities. A large percentage of the herd have a cross of this bull in their veins.

A. C. HALLMAN & Co., of Spring Brook Stock Farm, New Dundee P.O., Ont., writes: "We have four very valuable calves dropped just lately. A heifer calf from our fine show cow Dreamy Eyes. This is the first heifer calf she dropped for us, and we prize it very highly. The Dana, a very superior cow that never lost a price, gave thirteen pounds twelve ounces butter for us a three-year-old, on common feed, in one week. The sire of our noted young herd bull Netherland, Statesman's Cornelius, a grandson of Lady Fay, and Netherland Prince, the great butter bull. We have also a fine bull calf from the cow Mina Reaker 2nd, a daughter of Prince Imperial, he by Netherland Prince and granddam Carlotta, butter record twenty-two pounds ten and three-quarter ounces in a week; sire, African Prince, the bull we sold to the Ontario Agricultural College, Guelph, Ont. This is a very fine young bull, worthy of a place at the head of any herd. The other two are heifer calves sired by Netherland Statesman's Cornelius, and African Prince's dams, Phoebe, Ziemann, and Baillie 2nd. The calves are all gems of the breed. Our herd now numbers over fifty head of the richest strains in the country. We trust our numerous friends will remember and meet us at the Toronto Industrial this fall.

M. H. COCHRANE, Hillhurst Farm, Hillhurst P.O., writes: "The Aberdeen-Angus, Hereford, and Jersey herds are doing finely, and will be represented at the Fall shows, in as good specimens as in any previous year. Cassio 11353, at nine years, is as fresh and vigorous as ever, and retains his remarkable evenness unimpaired. Lord Hillhurst 3990, and Lord Advocate 6954, both have produce of superior quality in the two herds of Pells, which will compete for a share of this year's honors. We have just received from England an importation of 30 Shropshire shearing ewes, and a pair and two sows of the popular Large Yorkshire breed, per S.S. Lake Nepigon. Our standard-bred trotting stock are developing well, and in a few days time we hope to have our half-mile track finished, so as to be able to test their speed. Mona Medium, the Happy Medium 400 mare, purchased of Robert Steel, at the Kellogg sale in New York last spring, dropped a handsome bay colt on the 28th June, by Antevolo the \$35,000 son of Electioneer, which is growing finely, and already shows good trotting action. An equally promising colt is that of the Hackney mare, Gipsy 129 (by Primo 636, son of Triffid's Fireaway 249), a bay, dropped June 23rd, sired by Fordham 287. We have entered for exhibition and sale at Toronto, five saddle horses and ponies, by Fordham 287, and an imported Highland pony."

MESSRS. HALLMAN & Co., of New Dundee, Ontario, place an extra advertisement in our columns this issue, embellished with an engraving of their stock bull Prince Aggie. Besides this bull they have in their herd Netherland Statesman's Cornelius, H.F.H. 6327, a bull of rich breeding, as may be seen from the fact that his dam is Aggie Cornelia 2nd, 434, that has to her credit a record of 10 lbs. 6 oz. of butter in one week, with no grain. His sire Netherland Statesman, 3280, headed the first prize herd, took first prize for bull of three years old and upwards, and sweptstakes on best bull of any age at the Buffalo International Exhibition in 1889. His grand sire is the great butter bull, Netherland Prince, 716, that has four daughters and one g. daughter, three 3 year olds and one 2 year old, with records of 50 lbs. 11 3/4 oz. butter in seven days. Another young bull here is Royal Canadian Netherland, 14804, sired by Netherland Prince (the bull above mentioned). His half-sister,

Netherland Princess 4th, made 21 lbs. 10 3/4 oz., butter in one week as a two year old, and 80 lbs 6 oz., in thirty days. This bull will be at Toronto Exhibition, so those desiring to see him may have an opportunity to do so. This herd now numbers fifty head, of all ages and both sexes. It is especially strong in Aggie and Netherland families many being direct descendants of Netherland Prince, Old Rooker the fountain herd of the Aggie family, and they are also descendants of Billy Bolyn, Johanna, Lady Fay, Echo, Artis, and other noted strains.

BOLBERT, BRO., Maple Grove Stock Farm, Cassel, Ont., write us under date of August 18th, that they have received a letter from quarantine, stating that their stock is doing and looking very good. "The importation consists of seven head, being 3 cows, 2 yearling heifers and 2 calves. Most notable among them are the imported cow Heimke, and the heifer calf Aaltje Posch 4th. The Messrs. Lord, in their catalogue, say of Heimke, she has a milk record of 65 lbs. in a day this season (three years old), is not large, but a very promising young cow, and bids fair to make one of the very best. This opinion has been justified by Dr. Sage, of the New York Experimental Station, who made an analysis of her and Aaltje Posch's milk in August, 1889. In his report of the analyses, he states that the milk of these two cows showed a higher standard than the milk of any other cows of this breed he has ever analysed. Heimke has a very strong and fine bull calf by her side. We also lately bought of Jere Allis, of Isinours, Minn., the yearling bull Tritonia 2nd's Charles. As the name indicates he is of the world famous Tritonia family. Tritonia is known the world over, through her great performances at the pail and churn, and her numerous prize-winnings at the leading fairs. Tritonia 2nd is by Netherland Prince, and was as a yearling heifer, considered good enough by expert judges, to win sweepstakes prize against all ages, beating her famous dam. The sire of Charles is Clothilde 3rd's Neptune, showing that Charles directly combines the blood of Tritonia, Clothilde, Netherland, Aggie, and Egis. A half brother to Charles was last year sold for \$1,000 to a noted breeder, and Mr. Allis considers our bull the best of the two. With this addition to our already fine herd, we would ask, where will you find another to equal it? We also lately sold to H. L. Sulborn, Esq., Pleasant Forks, N.W.T., a young bull of extra quality, the first to enter that section of country."

Sheep.

Shorthorns and Shropshires, from the well known Eastwood herd and flock, are offered for sale in this number. See card.

W. B. COCKBURN, Greenhouse Farm, Aberfoyle, Ont., has recently sold a two shear Shropshire ram to George MacKerrow, Sussex, Wisconsin, and 3 ram lambs to Uriah Privett, Greensbury, Ind.

JOSEPH STRAFFORD, Brantford, Ontario, places a new advertisement with us this issue, drawing attention to the fact that he has on hand a number of Shropshire and also Dorset Horned sheep for disposal.

WILLIAM TREDWAY, of Port Union, Ont., has 12 ram lambs from recorded Shropshires for sale. As they must be sold for want of room those desiring sheep will find it desirable to note his advertisement.

MR. JOHN DYKE, Government Immigration Agent at Liverpool, England, has shipped the Shropshire ram offered by him as a prize for the best pen of ten sheep of any breed suitable for export, and owned by the exhibitor, at the coming Central Exhibition at Ottawa.

MR. DRYDEN of Brooklin, Ont. writes that he will not exhibit either sheep or cattle this season at any of the large exhibitions. Some will, however, be exhibited by others. Mr. F. Ward has lately bought eight show sheep—one ram, four lambs and three ewes. They are all pretty sure winners, and will be shown largely in York State.

C. T. GARBOTT, Maple Lane Stock Farm, Claremont, Ont., writes: "My Cotswolds never were in better condition, especially the lambs of which I have a number of choice pairs. My Yorkshire sow, Kinecroft Belle 130, bred by S. Spencer, St. Ives, England, farrowed August 5th and favored me with twelve fine long pigs from Kinecroft Justice 14."

Do you want any Dorset Horned sheep or Yorkshire pigs? If so, the advertisement of Messrs. Tazewell & Hector in this number cannot fail to interest you. They are the pioneer importers of Dorsets, and carry a large stock all of the very best breeding and individuality. The Dorset is advancing rapidly in favor owing to their fecundity and early maturity. See advertisement.

SMITH EVANS, of Gourock, writes: "I have received many enquiries for Oxford Downs. I have recently sold my three-year-old ram, Lord Evans, No. 2366, to Mr. J. L. Linn, of Kansas, to be shipped in October; also to J. H. McRoberts, of Lucan, 8 ram lambs and 4 ewe lambs." It is with pleasure that we direct attention to the fine engraving of a pen of prize-winning from the flock owned by Mr. Evans, that appears in our advertising columns.

W. S. HAWKSHAW of Glanworth, Ont. writes us: "I have sold to A. O. Fox, Wisconsin, all my lambs, all of which were imported in dam; they were an extra lot. Mr. Millson, of Glanworth, secured a choice lot to start his new flock with, and W. E. Wright, of Glanworth, has purchased several pair, some of which were prize winners in England. The demand being so heavy for first class stock, and my flock so reduced I intend starting for England after the shows, for a fresh importation."

In *The Shropshire (Eng.) Chronicle*, of recent date, we notice the following: "Mr. J. Campbell, jr., of Woodville, Ont., has again shipped per steamer 'Lake Superior,' a very choice selection of Shropshires from the following flocks: Mr. Bowen-Jones, Mr. Peter Everall, and Mr. Harry Williams. The shipment includes Mr. Bowen-Jones's prize ewes at the Bath, and West, and other more recent shows. We think the lot will sustain Mr. Campbell's reputation as an importer of the best class of Shropshires, and will also add to his already great reputation in the Canadian show ring."

Seekers after Shropshire sheep, Shorthorn cattle, Berkshire or Yorkshire swine, should not neglect to see the large advertisement of the Belvoir Stock Farm appearing in this issue. Mr. Richard Gibson of Delaware, the proprietor, has long been known as a skillful breeder of Shorthorn cattle, principally Bates, and at no time has his herd more reflected this than at present. An importation of Yorkshires, two boars and a number of sows, has been recently made from the far famed herd of Mr. Sanders Spencer. The Shropshire flock of Belvoir offers a rare chance for purchasers to select representatives with the highest individual attributes and breeding.

SMITH EVANS, Gourock, Ont., well known as a breeder of prime Oxford Downs, places with us in this issue a large advertisement of his flock. The success of this flock in the leading Canadian show-rings should be sufficient guarantee for the assertion that they are one of the foremost, if not the foremost, in point of merit in Canada to-day. This is also attested to by the great demand there has been lately for ram lambs and ewes, bred or descended from this flock. It is a pleasure to us to request our readers to be sure and see the large engraving appearing elsewhere, of some of the best representatives of this Oxford Down flock.

MESSRS. JOHN JACKSON & SON, Woodside Farm, Abingdon, Ont., write: "Our Southdowns have done well this season. Our show-flock will be superior to any we have yet shown. This year's importation are a fine lot, including shearing ram, ram lambs, ewes and ewe lambs. Among them are the ewes that won first prize at the Royal Show at Plymouth. These ewes also won first at Yarmouth, and the special champion prize, given by H.R.H., the Prince of Wales, for best pen of sheep of any breed, they were bred by J. J. Colman, Norwich. The demand for good registered Southdowns is steadily on the increase from year to year; no boom, but persistently keeping to the front on their merits."

Wm. TREDWAY of Port Union, Ontario, writes: "The demand for Shropshires has been very good this summer, have just sold ten one shear and two two shear rams. May the exodus not only continue but increase in volume. I have one shearing ram, a number of ram lambs, and a few breeding ewes still for sale. The shearing ram is a grand animal, was sired by 'Queeror' (5185), g.s. Gold Medal, (3790), and out of a ewe b. Lord Pollwarth, East Lothian, Scotland. He is a very large blocky fellow, stands wide apart on his legs, deep chested, has good hams, is extra well woolled, and fit company for the best, in the show ring or in the flock." Mr. Tredway appreciates the value of our JOURNAL as an advertising medium, and places with us an advertisement of his Shropshires to which we would refer our readers.

JAMES TOLTON, Springbank Farm, Walkerton, Ont., writes: "On the 24th inst., my son arrived home from England per S. S. Lake Superior. He has brought with him forty-four Oxford Down sheep; forty shearing ewes, one shearing ram, and three ram lambs. The shearing ram and three of the shearing ewes were bred by A. Beasley, Esq., Chipping Norton, Oxfordshire, and were awarded first prize for shearing ram and first for shearing ewe at the Royal Show, held at Plymouth. Also first in their respective classes at the Oxford show, and the first for shearing ram and first for shearing ewes against all other breeds. He also has the second prize pen of shearing ewes at the Royal and Oxford shows, bred by George Adams, Esq., Royal Prize Farm, Faringdon, Berks, and from the same gentleman thirty breeding ewes. We expect to have them on exhibition at the principal fall shows."

Fairview Flock, owned by Mr. John Campbell, jr., of Woodville, Ont., is now composed of imported ewes and rams, with only two exceptions; most of the ewes being from the flocks of Messrs. Bradlums, Williams, Evans, and Berry. The three stock rams that were used last year are still kept. Royal Patron 14496 (1492), one of them, was shown as a yearling in 1889, in the aged class, and succeeded in carrying off the first prizes at London and Hamilton. At the Toronto Industrial he was similarly entered, but owing to objections from exhibitors, he was not allowed to compete. Rector, the sire of this ram, is referred to by the *Shrewsbury Herald* as follows, in their account of Mr. Evans' sale: "An unusual amount of interest was this year attached to the sale, many of the shearlings being by the most celebrated ram ever bred both as a Royal winner himself and as a sire of Royal winners, and as having made in the sale-ring the highest price ever paid for a Shropshire ram. Certainly no ram of any breed has ever obtained so world-wide a reputation as The Rector (1766)." Royal Patron was a first selection previous to this sale. Another ram extensively used is the Duke of Wellington 14498 (4489), the winner of first premiums in England and Canada last year. His get have turned out very uniform and well up in all points. The third ram, Royalist 14497, which, as a lamb last season, was a winner of many honors on both sides of the sea, has developed in a large and excellently formed sheep, and is thought by his owner to be the best ram in all respects he has ever owned. The demand for ewes bred to these rams so reduced the flock that it was found necessary to make an importation this season, which reached Fairview in July in good condition. A selection from this flock may be seen at the leading Ontario fairs.

Three most important shipments of pedigree Shropshires were made on July 11th and 25th, by Mr. E. Goodwin Preece, live stock agent and exporter, Shrewsbury. The first lot comprised 120 head for Mr. W. C. Nichols, of Cresco, Ia., and 152 head for Mr. C. S. Bingham, of Vernon, Mich., which had been selected from the flocks of Messrs. J. Bowen-Jones (four show ewes and two show wethers), A. Tanner (five show ewes), J. Tetley Nichols (five show ewes and eight rams), W. Thomas, Beam House (two show ram lambs), R. Brown, Ruyton-xi-Towns (one show ram), R. Thomas, The Buildings (thirty shearing ewes), Thomas Cartwright (three 1st prize ewe lambs, and three prize ram lambs), Blantern (eight rams), Harry Williams (ten shearing ewes), J. Davies (five ram lambs), J. Jones, Brompton (50 shearing ewes), W. Nevett (eight rams and 30 ewes), W. B. Nevett (45 shearing ewes), R. Jones (30 shearing ewes), etc. These left per s.s. "Dominion," from Liverpool, on July 11th. The other shipment comprised 195 head of very choice sheep, selected from Messrs. T. and S. Bradburn (one prize shearing ram, five shearing ewes, which won first prize at Malvern Herefordshire Show, one ram lamb, winner of first prize at Bath and

Stock Notes.—Continued.

West of England Show, and 1st at Malvern, and seven ewe lambs, also prize winners; Mr. R. Brown (one shearing ram, h.c. at R.A.S.E., and winner at other shows), Mr. H. Williams (five shearing ewes, winners of 1st at Wellington, S. and W. M., and 1st at Crews, L.M. and N.L. Show, and two rams), Mr. W. Thomas (three prize winning ram lambs), Mr. E. Instone (40 shearing ewes and one ram), Mr. Thomas Cartwright (30 shearing ewes and one shearing ram, a prize winner), Mr. Timmis, Dryton (22 ewes), Mr. Henry Instone (19 ewes), Mr. Edward Frank (40 shearing ewes), Mr. Lee (13 ewes), etc. They were all carefully selected and shipped in excellent condition, under Mr. Goodwin Preece's personal superintendence, who, we understand, has further shipments in hand. Among Mr. Bingham's lot were some choice Hampshire Down and Dorset Horn rams and ewes, and Mr. Miller took out several very fine prize-winning Cotswolds.—*From the Shrewsbury Chronicle.*

Swine.

JASON ELLARS, Brookwater, Ohio, in this issue advertises a number of Berkshires for sale.

Yorkshires are advertised for sale in this number by Mr. Joseph Stratford, of Brantford, Ontario. See advertisement.

R. DELBRIDGE, Winchelsea, Ont., advertises for sale a choice lot of young Berkshire pigs, bred from some of his best imported boars. Notice card.

Young Berkshire boars and gilts are advertised for sale in this number by Arthur S. Gibson, of Nottingham, England. Do not fail to look up his card.

ROBERT BAIRD, of Chesterfield P.O., Ont., has a number of Improved Large Yorkshire boars and sows now ready to ship. New advertisement appears in this issue.

LEVI PIKE, Locust Hill, Ont., places with us a new advertisement calling attention to his herd of Large Yorkshire pigs, all of which trace direct to the famous herd of Sanders Spencer.

We notice in the reports of the R.A.S.E., held at Plymouth, that in the pig classes the Tamworths were considerably the most numerous. We notice also that both first prizes for sows went to Mr. John Norman. We think this worthy of mention since some of Mr. Norman's stock have been imported into Canada by our enterprising advertiser, Mr. Bell, of L'Amaroux.

MESSRS. GREEN BROTHERS, of Innerkip, report the following sales of Large Improved Yorkshire pigs. Boar, to A. Crozier, Beachburg; boar, to R. Carrick, Galt; boar, to Wortman, Latimer; boar, to W. Coldwell, Constance; sow, to J. Featherston, Springfield; sow, to J. Lawrence, Quebec; boar, to H. Gibson, Newcastle; boar, to David Evans, Beaverton; boar, to H. Willcox, Chatham.

LEVI PIKE, Locust Hill, Ontario, reports his herd of Yorkshires as follows: "Stock looking well, cannot supply the demand in sows. I have purchased one sow from Wm. Davies, Esq., Kinross Farm, making in all five sows. Have purchased from Ormsby & Chapman, one boar (Markham Physician 96,) to go at head of herd." Mr. Pike has a special advertisement in this issue which should be noted by those desiring anything in this line.

(Continued on page 308.)

Important Sale

26/764

ENGLISH HEREFORD CATTLE

Flock-book Shropshire Sheep.

Messrs. W. G. PREECE & SON, Pedigree and Live Stock Salesmen of Shrewsbury, England, have the honor to announce that they will sell by Public Auction on Friday, Oct. 17, at Berwick Grove, Ailingham, Salop, England, the whole of the celebrated Berwick Grove Herd of 100 Registered Pedigree Herefords and a large draft of Flock-book Shropshire Sheep.

Catalogues and Particulars may be had on application.

Address W. G. PREECE & SON, Pedigree and Live Stock Salesmen, Shrewsbury, England.

Advertisements of this Month.

Our readers and others will find our advertising columns exceedingly interesting this month. Those desiring to purchase any kind of live stock, etc., will find this an extremely valuable issue, as never before has such a full representation of the stock farms of Canada appeared in any publication. As we take great pride in the reliability of our advertising patrons, our readers will find it doubly valuable owing to the carefulness we have taken to exclude advertisements of a questionable character.

Advertisements.

To Advertisers.—Advertisements of an appropriate nature will be inserted in the JOURNAL at the following rates: For a single insertion, 18c. per line, nonpareil (12 lines make one inch); for three months, 15c. per line each insertion; for six months, 13c. per line each insertion; for one year, 10c. per line each insertion. Cards in Breeders' Directory, not exceeding five lines, \$1.50 per line per annum. Copy of advertisements should reach us not later than the 25th of each month (earlier, if possible). If later, it may be in time for insertion, but often too late for proper classification. Transient advertisements payable in advance. No advertisement inserted for less than 75c. Contracts broken by insolvency or otherwise will revert to the casual rate of 18c. per line each insertion. Advertisers desiring to obtain extra copies of the JOURNAL may do so at the following rates: Per dozen, \$1.00; per 100, \$7.50 (in lots of not less than 25). A reasonable number of copies will be sent at these rates to any address supplied by an advertiser, with the advertiser's own advertisement marked, and a notice on the wrapper calling attention to it. In this way the advertiser will be saved the trouble and expense of addressing and mailing.

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Hereford and Jersey Cattle,

Berkshire and Suffolk Pigs,

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HEREFORD CATTLE :

Three Imported Cows; Four Bulls, each one year old
Two two-year-old Heifers, and one Heifer Calf.

These animals will be sold very cheap—either in bulk or in individual lots, to suit purchasers. They are all registered in the Record of the American Hereford Cattle Breeders' Association.

JERSEY CATTLE :

One Jersey Bull, three years old, three-quarters St. Lambert's solid color. Also one Jersey Cow, St. Lambert's Strain. All my Jersey Cattle are registered in the Record of the A.J.C.C.

BERKSHIRE AND SUFFOLK PIGS :

I have at hand at all times and for sale a fine lot of Pure-bred Berkshire and Suffolk Pigs.

Full particulars sent on application. Address

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JERSEYDALE FARM,
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N.B.—Jerseydale Farm is close to the town, and within easy access of the Railway Station.

—Ready October First—

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—BY—

JAMES. MILLS, M.A.,

President Ontario Agricultural College

—AND—

THOMAS SHAW, ESQ.,

Professor of Agriculture in the same Institution.

Authorized by the Minister of Education of Ontario,
for use in all Public Schools.

This book, which has been so long in preparation, is at last nearly ready. It will be issued early in October. It will be found to satisfy all the expectations that have been raised concerning it.

It will embrace the following Chapters :

- I. DEFINITIONS AND EXPLANATIONS. By President Mills.
- II. THE PLANT. By President Mills.
- III. THE SOIL. By President Mills. Including : Composition of Soils, Formation of Soils, Deterioration of Soils, and Restoration of Soils.
- IV. TILLAGE. By Professor Shaw.
- V. THE IMPROVEMENT OF SOILS. By Professor Shaw. Including : Drainage, Manuring, Trenching, and Sub-soiling.
- VI. PREPARATION OF THE SOIL FOR THE SEED. By Prof. Shaw. Including : Plowing, Cultivating, Harrowing, and Rolling.
- VII. THE ROTATION OF CROPS. By Professor Shaw.
- VIII. THE CROPS OF THE FARM; THEIR GROWTH AND MANAGEMENT. By Professor Shaw. Including : Hay, Pastures, Wheat, Rye, Barley, Oats, Peas, Turnips, Mangels, Carrots, Potatoes, Rape, and Corn.
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- X. THE WEEDS OF THE FARM. By Professor Shaw.
- XI. DISEASES OF CROPS. By President Mills. Including : Causes of Diseases, and Remedies.
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- XIII. PRINCIPLES OF FEEDING. By Professor Shaw. Including : The Animal Body, Its Construction, The Animal Body, Its Composition ; Functions of Food, Constituents of the Feeding Stuffs, The Formation of Flesh, The Formation of Fat, Production of Milk, Production of Heat, Production of Muscular Exertion, The Feeding Stuffs, Analytical Table, Feeding Standards, Table of Feeding Standards, Practical Remarks, Inorganic Nutrients.
- XIV. THE FEEDING, CARE, AND MANAGEMENT OF HORSES, SHEEP, AND SWINE. By Professor Shaw. Including : Horses, Beef Cattle, Sheep, and Swine.
- XV. BREEDING. By Professor Shaw.
- XVI. THE BREEDS OF LIVE STOCK. By Professor Shaw. Including : (1) Horses : Thoroughbred, Standardbred, Cleveland Bay, Hackney, Clydesdale, Pure, Percheron, Suffolk Punch; (2) Breeding Cattle : Durham, Hereford, Aberdeen-Angus, Galloway, Devon, West Highland, and Sussex; (3) Dairy Cattle : Ayrshire, Friesian, Jersey, Guernsey, Red Poll, Kerry, and Dexter; (4) Sheep : Merino, Southdown, Dorset, Shropshire, Hampshire, Oxford Down, Cheviot, Leicester, Lincoln, Cotswold, and Black-faced Highland; (5) Swine : Small Yorkshire, Suffolk, Berkshire, Middle and Large Yorkshire, Tamworth, Duroc or Jersey Red, Chester White, and Poland China.
- XVII. THE DAIRY. By President Mills. Including : The Feeding, Care, and Management of Dairy Cattle, and the Making of Butter, and its Preparation for the Market.
- XVIII. THE SILK AND ENSILAGE. By Professor Shaw. Including : The Construction of the Silo, The Growth of Ensilage Crops, and The Preparation and Storage of Ensilage, and The Use of Ensilage as Fodder.
- XIX. THE CULTIVATION OF FOREST TREES FOR SHADE, ORNAMENT, AND PROTECTION.

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255 & 257 James St. North,

16/476

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Its columns are cheerful, progressive, independent, clear.

The daily and weekly editions of the London Advertiser permeate Western Ontario, circulating among the people of all Canada most capable of appreciating a well-written, truthful advertisement, and with the simplest means to become desirable purchasers.

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Fence Machines for Sale. 221 River Street, Toronto, Ontario.

BELVOIR STOCK FARM.

The Belvoir Herd of Shorthorns is too well-known to need comment.

The Proprietor considers a good Shorthorn a good Animal, no matter how descended, and is sufficiently liberal minded to breed and offer all the leading strains of blood, and leaves the preference of such to his patrons.

The Bates portion will be found to contain big roomy specimens of

Waterloos, Constances, Darlings, Charmers, Filligrees, &c.

And is headed by the celebrated Imported 7th DUKE OF LEICESTER.

The Booth portion contains Torr Waterloos, so successfully shown of late by Lord Polwarth, also, the Duke of Northumberland's Roses.

There are also a number of low down blocky Scotch Shorthorns.

SHROPSHIRE SHEEP are also bred. A number of imported ewes are for sale as well as ewe and ram lambs.

BERKSHIRE SWINE are also bred and for sale. Newport Maid, a prize winner in England, was imported last year, and young stock from her as well as from my old favorite "Souvenirs" family can be obtained at very satisfactory prices.

YORKSHIRES have been added this year from the celebrated herd of Sanders Spencer, and young stock is offered for sale.

RICHARD GIBSON, - DELAWARE, ONT.

To sell lambs or sheep, or any other species of live stock at the highest obtainable prices should be the aim of every farmer. You cannot secure the highest prices unless you breed the finest qualities. You cannot breed the finest qualities unless you know how. To know how you must keep abreast with the times. To keep abreast with the times you must read THE CANADIAN LIVE STOCK AND FARM JOURNAL.

FOR SALE OR EXCHANGE: The Holstein Friesian Bull Calf, Cele Barber, seven months old. Dam Annabelle No. 451, A. J. C. N. H. Herd Book. Sire DePrins No. 106, A. J. C. N. H. Herd Book. Both dam and sire are imported from Holland by J. C. Mahon, Truro, N.S. The calf is registered in the American Branch N. H. Herd Book. Will exchange for registered Holstein Heifer Calf of good strains or sell for twenty-five dollars cash.
JOHN SETTLE, Dartmouth, N.S., Canada.

Stock Notes.—Continued.

MR. CECIL FRENCH, of Truro, U.S., informs us that he hopes to have some of his herd on exhibition at St. John this fall. Mr. French was the first to import Improved Large White Yorkshire swine into the Maritime Provinces. All his breeding stock were direct importations from the herds of F. Walker Jones, N. I. Hine, and George Charnock, England. A special advertisement of this herd and also of the black Chinese Langshans, the breeding of which is made a specialty, appears in this issue.

MESSRS. R. & J. GURNETT, of Ancaster, Ont., write: "The sale of Ohio Improved Chester White Pigs has been excellent as we have sold nearly all our early spring pigs already, but have some just farrowed, and expect more every day. Among our last sales was a boar, Edward W. (5189, vol. 4), sold to J. T. Williamson, of Chillewack, B.C. He is sired by our imported boar, Edward B. (3889), and from imported sow, Sallie G. (6978). The easy-keeping qualities and early maturity of these pigs are bringing them more and more into popular favor. We have now three imported boars, and intend to breed between fifteen and twenty sows this fall. By this means we expect to be able to supply the increasing demand for these pigs, which we have been unable to do in the past, losing orders because we had not the pigs wanted."

H. J. DAVIS, of Maplewood Stock Farm, of Woodstock, Ont., informs us of the following sales: "One boar and three sows to J. H. Holmes, Norwich, Ontario, one boar and sow to Philip Dawson, Cannington, Ont.; one boar to J. C. Macdonald, Watford, Ont.; one boar to Henry Arkell, Arkell, Ont.; one boar to J. C. Carrick, Roseville, P.O., Ont.; one boar and sow to Henry Shadwick, Strathallan, Ont.; one boar and sow to James Dorrance, Seaford, Ont." Those desiring to secure either Shorthorns or Berkshires will do well to look up Mr. Davis' large advertisement and engraving appearing in the same. He has decided, owing to the desirability of a change of blood, to dispose of his stock bull, Roan Prince (54293). This bull was bred by Mr. S. Campbell, of Kinnellar, Scotland, and is of the Nonpareil strain, being by Vermont. This is a good chance for some one to get a richly-bred and valuable stock-getter.

MR. JOHN BELL, L'Amaroux P.O., Ont., who places with us this issue a very interesting advertisement respecting his Tamworth pigs and Clydesdale horses, reports the following recent sales: To Henry Phippen, Parkhill, Ont., one boar and one sow; to David Holmes, Willowdale, one boar and one sow; to Samuel Hughes, Newtonbrook, one boar; to Charles Lee, Newtonbrook, one sow; to William Macklen, Milliken, one sow; to Matthew Risebrow, Mount Albert, one boar; to James Calvert, Thedford, one boar; and to F. Morgan, Agincourt, two sows. Mr. Bell also reports a very brisk trade in Clydesdales. Among his sales may be mentioned: To Thompson Bros., Pine Grove, the famous stallion Pride of Perth; to Mr. Beech, of Manitoba, a grand horse, Campsie Lad; and to Robert Watson, Maple, a first-rate two-year-old named Warwick. Also a large number of Canadian bred colts, as Mr. Bell says too numerous to mention.

J. E. BRETHOUR, of Oak Lodge Farm, of Burford P.O., begs to report the following sales of imported Large White Yorkshires: J. B. Geer, Canning, one boar; W. E. Martin, Welcome, one boar; Jas. Little, Trenton, one boar and two sows; James C. Wood, Florence, one boar and one sow; Wm. Thirlwell, Kentville, N.S., one boar and two sows; Duncan McEwin, Mohawk, one boar; John Kinney, Brantford, one boar and sow; Godf. Beaudet, Valley Field, P. Quebec, one sow; J. G. Tufford, Beamsville, one boar. My recent importations of Yorkshires are doing well, all the sows having farrowed and had good success. Some of the young stock are bred from Mr. Sanders Spencer's champion boar, and are extra good ones. The Yorkshire sows have the reputation of being very prolific, and as an illustration I might mention the performance of one of my sows which was imported last year. She is not two years old until November 8th next, and she has produced a total of forty-one pigs.

S. COXWORTH, of Silver Spring Dairy Farm, Claremont, Ont., writes: I report sales of the spring trade of Berkshires as follows: To Mr. B. Wilson, Greenriver, Ont., one boar; Joseph Evans, Claremont, Ont., one sow; J. C. King, Uxbridge, Ont., two sows; Wm. McKee, Woodville, Ont., two sows; P. R. Hoover, Greenriver, Ont., one boar; Brown Bros., Springfield, Ont., one boar; W. H. Corworth, Claremont, Ont., one sow; B. H. Frink, Napanee, Ont., one boar; D. E. Kidd, Picton, Ont., one boar and one sow; A. Coxworth, Hensall, Ont., one boar and one sow; Robert Hannah, Lindsay, Ont., one boar; M. E. Sanderson, Selwyn, Ont., one boar; George Waugh, Edgington, Ont., one boar and two sows; Isaac Hunt, Barrie, Ont., one boar and one sow; J. P. Saddler, Kinsale, Ont., one boar and one sow; W. M. Isaac, Fencelon Falls, Ont., one boar; J. A. Jones, Greenwood, Ont., one sow; also nine others to home purchasers. I have a few choice boars four months old for the fall trade, also a few sows, and a handsome litter just farrowed out of Lady Swindon (1615) by Star (727).

MESSRS. H. GEORGE & SONS, Crampton, Ont., write: We have lately made the following sales of pedigreed Ohio Improved Chester White Swine: To the Model Farm, New Brunswick, one boar and sow; to Calvin Blair, Manitowish P.O., one boar; to A. E. Riddell, Mohr Corners P.O., one boar and sow; to W. M. Singleton, Crosby P.O., one boar and sow; to Thomas A. Bowles, Springfield P.O., one boar; to R. C. Nixon, Esquimaux P.O., one boar; to Joseph Rightmyer, Wooler P.O., one boar and sow; to T. W. Horton, New Dublin P.O., one boar; to Peter Cochran, Almonte P.O., one boar and sow; to Chris Weiler, Formosa P.O., two boars and one sow; to George Christian, Keenansville P.O., one boar; to J. H. Burnett, Brunner P.O., one boar; to W. J. Campbell, Campbell's Cross P.O., one boar and sow. We also sold to the Model Farm, New Brunswick, one boar and sow, Berkshire, and one boar to P. G. Walker, Westwood. Our sales for Improved Chester Whites, have been uncommon good. We will show at Toronto and London fairs this fall.

Poultry.

Poultry of all kinds advertised for sale in this issue by Mr. Jason Ellars, Brookwater, Ohio.

Ontario Agricultural College



(Reprinted from the CANADIAN LIVE STOCK AND FARM JOURNAL, for August, 1888.)

THIS COLLEGE furnishes an education specially adapted to the wants of young men who intend to work on the farm. Lectures begin on the 1st October and continue till 20th June, with a vacation of one month at Christmas. Within this period a student can complete one year's lectures, and get home in time for haying and harvest. Full courses of lectures on:—

I. AGRICULTURE, LIVE STOCK, DAIRYING.

Eight breeds of cattle, six of sheep, and three of pigs, kept to illustrate lectures.
Animals brought into class room.

II. NATURAL SCIENCE.

Chemistry, Geology, Botany, and Study of Insects.

III. VETERINARY SCIENCE AND PRACTICE.

Study of the Anatomy, Diseases, and Treatment of Cattle, Sheep, and Horses.
Animals brought into class room.

IV. ENGLISH LITERATURE AND COMPOSITION.

Only what farmers require.

V. MATHEMATICS AND BOOK-KEEPING.

Farm Book-Keeping, Arithmetic, Mensuration, and Mechanics.

Cost to an Ontario Farmer's son, who is willing to work, need not exceed \$50 to \$65 a year for Board, Washing, and Tuition. To County Students it is \$20 less. For Circular giving full information, apply to

GUELPH, AUGUST, 1890.

JAMES MILLS, M.A., President.

EIGHTH SEMI-ANNUAL AUCTION SALE OF HOLSTEIN-FRIESIAN CATTLE

—BY THE—

WYTON STOCK BREEDERS' ASSOCIATION,

On Friday, October 3rd, 1890, at 2 p.m.

SALE WILL BE HELD AT WYTON, ONTARIO, CANADA.

There will be offered for sale Thirty-Five Head of Purebred CALVES, HEIFERS, COWS AND BULLS. All animals guaranteed.

TERMS.—Twenty-Five Per Cent. down, balance three and six months, notes.

Day of Sale, 2 p.m. Trains arrive at Wyton from London at 8 a.m. and 2.30 p.m., from St. Mary's and Stratford 11 a.m. Trains leave Wyton for London at 5.30 p.m., for Stratford and St. Mary's 6.30 p.m. The entire herd can be seen upon the day of sale.

For further particulars address—

W. B. SCATCHERD, Secretary, WYTON, ONT.



Tamworth Pigs

This famous breed is fast coming to the front. It now occupies the foremost place in England among all breeds in its capacity to produce the finest quality of the choicest lean meat. For a full description of the Tamworth breed see first page of THE CANADIAN LIVE STOCK JOURNAL for August last. During the last five months since I have advertised these pigs I have received enquiries and made sales in all parts of Canada from Prince Edward Island to Sarnia. Am now all sold out except my breeding stock, but shall have plenty of young stock for sale shortly. Correspondence solicited.



Clydesdale Horses

FARMERS: If you want to get some first-class Canadian pure-bred Clydesdales, I can suit you. My stud stallions AIRDLETHAN BOY and LORD FIRZERSKINE are out of the best stock in Scotland. My breeding mares are prize-winners, and of the best strains.

My young stock comprises both colts and fillies, among them several very choice yearlings. My prices are right. I shall be glad either to correspond with you, or to show you what I have in person.

JOHN BELL

Clydesdale Farm

L'Amaroux P.O.

Milliken Station, G.T.R. (Midland Division), Ontario, Canada.

748

GRAND'S REPOSITORY



47, 49, 51, AND 53 ADELAIDE ST., TORONTO

—OUR—

GREAT ANNUAL FALL SALE

Will take place this year

SEPTEMBER 23, 24, 25, AND 26

When we shall offer for public competition upwards of

300 HORSES including choice Carriage Horses and Saddlers, high stepping Dog and T Cart Horses, Roadsters, Trotters, and Drivers; heavy draught Mares and Geldings, suitable for Manitoba markets. We have also received instructions to sell at this sale

80 YOUNG WORK HORSES, 1,200 TO 1,600 LBS.

These horses have been working on the City Water Carts since April. The contractors having no further use for them they will be sold positively without any reserve. They are all choice, low set, blocky horses, in good condition, many of them suitable for the lumber woods. Entry book still open. Sale each day at 11 o'clock sharp.

W. D. GRAND

Scientific farming is a profession, and THE CANADIAN LIVE STOCK AND FARM JOURNAL is the Canadian Farmer's professional journal. He cannot do without it.

No other paper published in Canada or out of it gives the farmer such value for his money as The Live Stock Journal.

The "CONCISE IMPERIAL DICTIONARY" is superior to all other dictionaries published. Write to the publishers of this paper for prospectus.

Dorset Horned Sheep

Our Dorsets are imported from the best flocks in England.

We spare no expense in making our selections, as our principle is

TO BREED ONLY FROM THE BEST

Tazewell & Hector

Breeders and Importers of Dorset Horned Sheep and Improved Large Yorkshire Pigs.

No Stock Fattened for Show.

Improved Yorkshire Pigs

Our Yorkshires are all bred from the best strains of imported blood representing such herds as

SANDERS SPENCER,
C. J. DUCKERING,

and other noted English Breeders.

ADDRESS,

JOHN TAZEWEILL,

Indian Village Farm,

PORT CREDIT, ONT.

or,

THOS. HECTOR,

The Cottage,

SPRINGFIELD-ON-THE-CREDIT, ONT.

STATIONS.—Port Credit on G. T. R., and Streetsville on C. P. R.



Important



Auction Sale



DISPERSION OF MOULTONDALE HERD OF

Shorthorn Cattle, Clydesdale Horses, Shropshire Sheep, and Berkshire and Suffolk Pigs.

The undersigned, who intends to sell by Public Auction, **ON WEDNESDAY, OCTOBER 22, 1890.** 30 head of Pure Bred Shorthorn Cows, Heifers, and Calves; 25 head of Pure Bred Shropshire Sheep, Ewes, Ewe Lambs, Rams and Ram Lambs. Some of the Ewes are imported, balance bred from imported stock. 8 Pure Bred Clydesdale Mares and Fillies, either registered or eligible. 2 Fillies with two crosses; 1 Heavy Draft Mare, one cross; 2 Colts, one Heavy Draft, one Roadster; 1 Span Work Horses; 1 Holstein Cow, 4 years old, from Imported Cow and Lord Barrington, eligible for registration in American Holstein Herd Book; 1 Holstein Bull, 14 months old, eligible for registration in American Holstein Herd Book; 1 Holstein Heifer Calf, also a few grade Short Horns; 40 head of Pure Bred Suffolk and Berkshire Sows and Boars. The Shorthorns are mostly pure Bates, got by an Imported Bates Bull, and are now mostly in call to Baron Constance 9th, (bred by Jno. Gibson, Dentfield,) who now stands at head of Herd. My herd is especially noted for their extra good Milking qualities. Sale of Stock will commence at 12 o'clock sharp. Terms, twelve months credit on approved notes. Catalogues ready after Sept. 15th, will be sent on application.

Dunnville on Buffalo and Goderich Branch, G. T. Railway. 40 miles east of Brantford.

F. J. RAMSEY, Dunnville, Ont., Co. Haldimand.

THE CANADIAN Mutual Aid Association.

(ASSESSMENT SYSTEM.)

This old reliable Life Insurance Company stands at the head yet.

**Large Reserve Fund,
Prompt Payment of Claims,
Good Pay and Good Agents.**

8, 10, 12 King St. East, Toronto.

and see us, or address the Head Office,

24/700 W. PEMBERTON PAGE, Manager.

QUEEN BEES! ITALIANS

	EACH	PER THREE	PER 1/2 DOZ
Virgin Queen,.....	\$ 40	\$1 00	\$1 75
Untested,.....	1 00	2 75	5 00
Tested,.....	1 50	3 75	7 00
Select Tested,.....	2 00	6 00	10 00

R. F. HOLTERMANN,

Romney, Kent Co., Ont.

Stock Farm For Sale.

Nearly 200 Acres. Good buildings and well fenced. Water Power Grist Mill on the property. Good farm for grain stock. Address, WM. B. SCOTT, Milford, Ont.

FRUIT AND ORNAMENTAL TREES

Largest Stock in Canada of Strictly Graded GRAPE VINES.

Norway Spruce at unrivalled rates. A general line of nursery stock, guaranteed true to name by the undersigned who is responsible. Has a reputation at stake and is a practical commercial fruit and plant grower. Buy direct, fellow farmers, if you would save money, risk and annoyance. Send a list of your wants for next season at once and get my prices.

HELDERLEIGH FARMS NURSERY,

E. D. SMITH, Prop.

Winona, Ont.

DR. WILFORD HALL'S HEALTH PAMPHLET ON HEALTH AND LONGEVITY. TESTIMONIAL.

MATROQUE, B.C., July 17, 1890.

C. C. POMEROV, Toronto.

Dear Sir,—For several years I have been troubled with heart disease, attended with terrible headache. I have consulted the best Doctors I could hear of, all stated that there was no cure for me. I have used Dr. Hall's remedy for three months, the headache has left me, also the attacks of heart disease, I am better in health than I have been for years, and have gained in weight several pounds. My acquaintances say that I look fifteen years younger and I certainly feel so. Yours truly,

MRS. FRITHWEY, P.M.

Price of Pamphlet \$4. For further particulars and pamphlet address

C. C. POMEROV, Gen. Agt.

49 1/2 King St. W. Toronto.

IMPORTANT DISPERSION SALE

ALEX. WOOD, ST. MARYS, ONTARIO, begs to announce that as he intends to give up farming, he will hold a Sale about the last week of October, for the dispersion of his Stock and Farm Implements. His Farm is on lot 28, con. 8, East Nissouri, 5 miles due south of St. Marys.

His Stock consists of Ten Horses, all young and mostly all registered in Dominion Stud Book, three young Stallions and some promising Fillies. Forty Head of Cattle, including Twenty-Five Pure Bred Shorthorns.

Mr. Wood has been breeding from bulls from the following herds:—

H. Thompson, St. Marys; James Brown, Galt; J. & R. Hunter, Alma; Wm. Laing, St. Marys, and G. Reast, St. Ives.

The Herd is now headed by a Strathallan Bull by "VICE-CONSUL," bred by John Miller, Brougham.

Twenty-Five well bred Sheep and Twenty Pedigreed Berkshire Pigs will also be offered for sale.

Good Stock. Good Milkers, Sure Breeders, and all thriving.

Catalogue on application. From

ALEX. WOOD,
St. Marys, Ont.

LEAVING THE FARM

The undersigned will sell by Auction, in October next, all his Shorthorns, Shropshires, Berkshires, and Horses, Implements and Growing Grain, etc., etc.

Catalogues on application, as soon as ready.

26/7524 GEO. BALLACHEY

Brantford, Ont.

Shropshire and Leicester Rams,

SHORTHORN BULLS.

LORD POLWARTH'S celebrated flocks of Border Leicester and Shropshire Sheep and Herd of Shorthorn

Cattle having considerably increased, to meet the Colonial demand a number of first-class Rams from each flock and young Bulls are offered for sale as well as several young Clydesdale Horses and Berkshire and Tamworth Pigs.

John Thornton & Co. will receive orders for these animals, select, ship, and consign them to the nearest ports.

Address,

7 Princes Street, Hanover Square, London.

TELEGRAPH—"Shorthorn," London.

SELECTED FARMS

(WESTERN ONTARIO)

FROM \$1,500 TO \$25,000. Address:—

EDWARD HARRIS, 23 Toronto St., Toronto.

MAPLE LODGE STOCK FARM.

SHORTHORN CATTLE, LEICESTER SHEEP, AND BERKSHIRE PIGS.



We have for sale now, a splendid lot of Cows, Heifers, and Bull Calves, a number from our best Milking Strains. Also, a few Leicester Ram Lambs.

Stables one mile west of Incan Crossing Station, on Grand Trunk Ry. Come and see our Stock.

JAS. S. SMITH.

Maple Lodge P. O. Ontario.

Shorthorn Bulls.

1 Bull, aged 5 years; 1 Bull, aged 19 months; 1 Bull, aged 14 months; 1 Bull, aged 12 months. All of Dom. S. H. B. registry, except the bull aged 19 months, which is eligible to N. S. H. B.

A. C. BELL,

TROUT BROOK FARM, New Glasgow, N.S.

FINE YOUNG HOLSTEIN BULL

ELEVEN MONTHS OLD.

For Sale on Reasonable Terms.

Address:—

WELLINGTON MUISINER, Port Robinson.

FOR SALE

The Imported Yorkshire Coaching Stallion,

"PREMIER" (1138)

He is a rich bay with black points; 7 years old; sixteen and a quarter hands high, and weighs 1300 lbs. He was shown six times in England and gained five first and one second prize. He is perfectly sound and a sure foal getter. Also well bred Shire stallions. For particulars and price apply to,

GEO. TWEEDY,

Charlottetown, P.E. Island.

BALLACHEY, Brantford, Breeder of Percheron, Short-horn, Shropshires and Berkshires. Stock for Sale.

To those importing stock from Scotland. For Forage and other supplies address

JAMES CLARK,

Hay, Grain and Straw Merchant (Forage Contractor), 401 Parliamentary Road, GLASGOW, Scotland.

One Hundred yards from Buchanan and Queen Street Stations. Forage of best quality supplied to shippers of stock on short-notice. References by permission to MR. JOSEPH VANCE, New Hamburg, Ont., and other Canadian Importers.

TELEGRAPH, "FODDER," GLASGOW.

SHORTHORN BULL

"PRINCE CHARLES"



I now offer for sale the above grand show bull, calved Nov. 30th, 1888, winner of 4 firsts and 4 specials at four shows last fall in strong competition.

Also Plymouth Rocks, Light Brahmas, and Pekin Ducks.

W. B. COCKBURN, Aberfoyle, Ont.

BELVOIR HERD

Pure-Bred Shorthorns.



The Bates portion of herd is headed by imported 8th Duke of Leicester 9279 and consists of the following families:

Waterloo Constances
Princess Charmers
Darlington Filigees
Garlands Scaphinas

There are some imported Booth Cattle and Scotch strains also included.

Purchases depend upon fair treatment and liberal usage.

KOMOKA STATION
3 MILES

Richard Gibson - Delaware P. O.

Belvedere Stock Farm!

3½ Miles from Allsa Craig on G.T.R. Line.



We Breed:—PURE BATES SHORTHORNS, AND LEICESTER SHEEP.

Our herd of Shorthorns is headed by Rosy Prince 6th, and it consists of the following families:—Corisandes, Tilly, Chesterfields, Bertha, Robert, and Darlington. We have for sale a choice lot of young bulls. Also a number of young heifers bred to Imported Duke of Salisbury, and they, like the bull, are descendants of good milking strains. Any person looking for stock is always welcome and will be met at depot if notice is given when they are coming. Prices and Terms Easy.

GRAHAM BROS., Allsa Craig P.O.

"THE BRIARS,"

Sutton West, Ont.

Over 50 Head of Registered Shorthorns.

Including 12 bulls of various ages, incorporating the best blood of the Sittion, Kinellar, and Killerry Herds. Also Horses and Pigs.

INSPECTION INVITED.

F. O. SIBBALD.

CLAREVILLE STOCK FARM

Lying between Canada Southern Railway, and Grand Trunk Air Line. Cayuga Stations.

I breed and have FOR SALE

A-1 SHORTHORNS

Marquis of Linwood and Lord Chesterfield 5th.

Leicester and Cotswold Sheep, Berkshire Pigs. Thorough-bred and Heavy Horses of all kinds.

Young Bulls a specialty. Supply always on hand. Come and see.

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FARM ACCOUNTS Rogers' Farm Account Book is the best ever published. Price prepaid 50 cents each, \$4.00 per dozen. Address, G. A. ROCKES, North Andover Depot, Mass., U.S.A.

CANADA'S

International Exhibition,

—AND—

INDUSTRIAL AND AGRICULTURAL FAIR

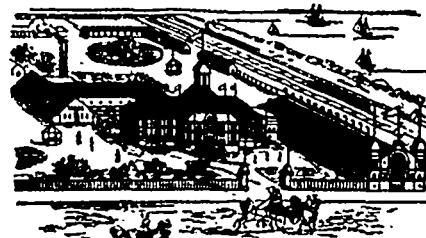
To be held under the auspices of the Exhibition Association of the City and County of St. John, from

WEDNESDAY, SEPT. 24th,

—TO—

SATURDAY, OCTOBER 4th, 1890,

ST. JOHN, N.B., CANADA.



A FEW OF THE LEADING FEATURES:

Competition Open to the World.

Space and Power Free of Charge.

About \$12,000 in Premiums.

Finest Summer Climate on the Continent of America. The largest Building Accommodation, and the largest and most conveniently situated grounds in the Maritime Provinces, on which over \$40,000 has lately been expended.

A Large and Comprehensive Display of the Products of the West India Islands,

the first ever shown in Canada, made under the auspices of the various Governments of those Islands, as well as by individual Exhibitors.

A Large Display of the Products of the Sea Fisheries of the Maritime Provinces,

also an opportunity of testing the various Products of the Sea, fresh from their native element.

A large display of Exhibits from Great Britain, the United States, and elsewhere, including some Fine Exhibits that were shown at the Paris Exhibition of 1889. A large array of special attractions, both on the grounds and throughout the City, including an Extensive Programme of Racing Competition, for which Prizes of about \$2,000 are offered by the Moosepath Driving Park Association. The Great Maritime Butter Competition, for which prizes amounting to about \$800, including \$500.00 offered by Messrs. Manchester, Robertson and Allison, of St. John, will be offered. Attractive Poultry and Bench Show Competition, including about \$1,200 in Prizes. A Great Carriage Competition, including the McCaskill Varnish Prizes of \$200 and medals. A Large and Comprehensive School Exhibit, under the auspices of the Educational Department of the Province of New Brunswick. A Large Collection of Machinery in motion, including some attractive Novelties in the processes of manufacturing. An attractive Electrical Illumination. Additional Novelties are being added daily, particulars of which will be announced later.

Ample accommodation for visitors at reasonable rates during the Fair. Special Excursion rates for passengers and reduced rates for exhibits by all railway lines.

For full information and particulars address,

IRA CORNWALL, Secretary,

Exhibition Association of the City and County of St. John, N.B.

N.B.—The Moosepath Driving Park Association hold their annual meeting during the time of the Exhibition, and offer about \$2,000 in Prizes for the racing competition. Every horseman should write to W. P. FLEWELLING, Secretary of the New Brunswick Trotting Circuit, Fredericton, N.B., for the list of the purses, amounting to about \$4,000, offered for competition this season.

CANADA COACH HORSE BREEDERS SOCIETY

Organized Feb. 6, 1889.

For the registration of Coach Horse stock. Full particulars as to the standard of registration and entry blanks can be had on application to the Secretary.

This is the only Stud Book for Coach Horses in Canada.

A meeting of the Society and all interested in the Breeding of Horses will be held in the Grounds of the Industrial Fair, Toronto, on Thursday, September 1st, at 8 p.m.; and in the Board Room of the Western Fair, London, on Tuesday evening, Sept. 23rd, at 8 p.m. These meetings will be held for the reading of papers, and discussion of the subject of Coach Horse Breeding, and a good programme is promised to all who may attend.

ARCH. WILSON, President,
Paris Station.
JAMES MITCHELL, Sec'y.,
Goderich, Ont.



REGISTERED SHROPS. REGISTERED MEDIUM YORKSHIRE. REGISTERED DORSET SHEEP.

Also Registered Shetland Ponies and Jersey Stock.
221 AGES.

Joseph Stratford, Brantford, Canada.

STOCK SUPERIOR. PRICES MODERATE.

References: Bank British North America, Brantford
and Mercantile Agency or Wholesale Merchant

ELLARS' CHAMPION WHITE HOLLANDS.

Heaviest Weights, Greatest Prize Winning Strain of White Holland Turkeys in America. Also English White Dorkings, White Wyandottes, White Guineas, Pekin Ducks, English Berkshire Swine. Choice stock for sale. Prices reasonable.
687 Address, JASON ELLARS, Bookwalter, Ohio.

MAKE YOUR POULTRY PAY.

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The Best Poultry Paper Published.

Send One Dollar and get it for one full year.

227

CHAS. BONNICK,
Toronto, Ont.

T. H. SCOTT, St. Thomas, Ont. Golden Wyandotte Eggs for sale. First Premium at Detroit.
112

5 Grand Young Bulls 5

I have five Grand Young Shorthorn Bulls for sale, Sired by my Imported Scotch Bull, "Gold Finder."

These are A-1 Bulls individually, and have from one to four top crosses of Imported Scotch blood.

I can and will sell these bulls at prices that will pay any farmer, even though they are hard.

If you want a Bull, write, or come and see me.

William Wilson,

Box 192, Brampton P.O., Ont. - Hadden Hill Farm.

Our Cutting Cylinder. THE TORNADO

Feed and Ensilage CUTTER.



W. W. HARRISON & CO.,
M'RS. CANTON, OHIO.

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Pays good interest and is continually increasing in value.

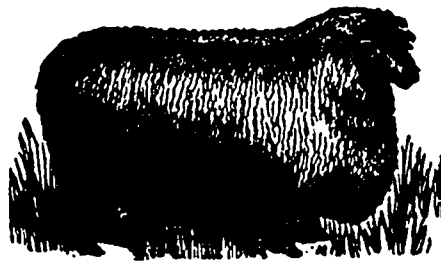
We can usually exchange farm property, if unencumbered, for productive Toronto Real Estate. Clients' interests carefully guarded. Address

Campbell & Gilbert, Successors to—

J. B. BOUSTEAD & CO.,

12 ADELAIDE ST. E., TORONTO.

MAPLE LAKE STOCK FARM.



One and a half miles north of Claremont Station, P.R.



Pure-bred Cotswold Sheep. Improved Large Yorkshire Whites. Pure-bred Berkshires.

A few Choice Show Lambs for sale—either sex. Our Herds Won, in the years 1888 and 1889, Seventy-five First, and Forty-five Second Prizes; besides Three Diplomas and Three Silver Medals. All Stock Registered, and Guaranteed as represented.

C. T. GARBUTT, Proprietor, Claremont, Ont.

MANUFACTURERS' LIFE INSURANCE COMPANY. TORONTO.

SIR JOHN A. MACDONALD, P.C., G.C.B., PRESIDENT.

JOHN F. ELLIS, MANAGING DIRECTOR.

Insures lives on all approved plans. Rates lower than any other Company. Policies the most liberal. Claims settled immediately on proof of death.

Live Agents Wanted in every Village and Town in the Dominion.

THE GLEN STOCK FARM

Innerkip, Oxford Co., Ont.,

SCOTCH SHORTHORNS

SHIRE HORSES

Improved Large (White) Yorkshire Pigs.



A few young heifers and bulls for sale at reasonable prices. Our herd of Improved Large (White) Yorkshire pigs are imported from the Prize-winning Herds of Sanders Spencer, Ashforth, Charnock, and F. Walker-Jones, who won upwards of \$10,000 in Prizes in three years. Orders booked for young pigs. P.O. and Telegraph Office at Innerkip. Farm is one mile from Innerkip station on the C. P. R. (Ont. div.), and a short distance from Woodstock station on the Canadian Pacific and Grand Trunk R. R.

GREEN BROS., THE GLEN, INNERKIP.

HILLHURST HERDS.

HEREFORD,

Aberdeen-Angus and Jersey

Heifers, Cows and Young Bulls for Sale

At reasonable prices. Send for new Catalogue.

M. H. COCHRANE, Hillhurst, Que., Can.



ONTARIO LODGE STOCK FARM

SHIRE AND CLYDE HORSES

IMPROVED LARGE YORKSHIRE PIGS.

Herd headed by Imported Boars, Holywell Physician, (38) and

Jumbo (62).



Orders promptly attended to. Send your orders for Spring Pigs. Stock all pedigreed.

E. M. JARVIS, Proprietor, OAKVILLE, or CLARKSON'S P.O. on G. T. R., Ont.

ON 40 DAYS TRIAL THE GREAT HERNAL TRUSS

The Pad is different from all others. It closes Hernia as if your extended hand was drawn together and one finger pointed in the centre. Rupture is held positive day and night with the slightest pressure, and healed same as broken leg. You will be allowed three exchanges during the 40 days. There is no duty to pay when received. Returned, which many Canadians found more expedient than the truss. It is the easiest, most durable, and cheap truss. Sent by mail. Send stamp for illustrated book. CHAS. CLUTCH, Surgical Machinist, 124 King St. W., Toronto.

Don't forget that this is the Canadian farmer's "best hold," and that the L.S.J. recognizes this.

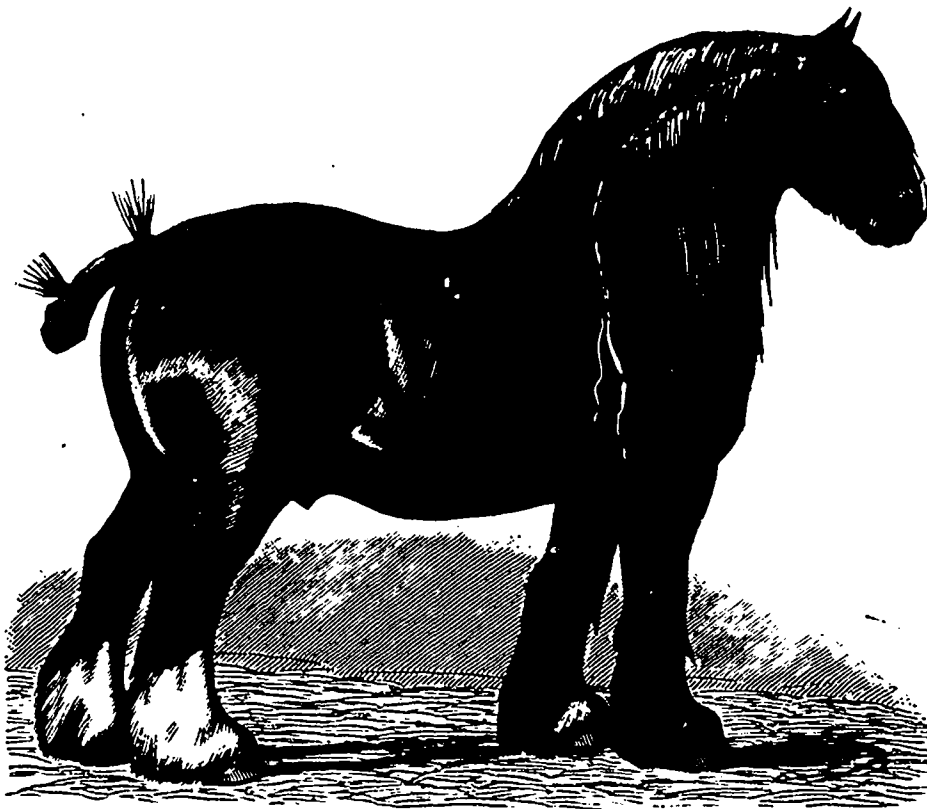
ERTEL'S VICTOR



HAY PRESS

Most rapid, durable and economical. So warranted or no sale. Capacity ONE to TWO tons per hour. Descriptive circulars free. GEO. ERTEL & CO., Manufacturers, LONDON, ONT.

THE BLAGDON SHIRE STALLIONS.



THE BOY 3.358 (SHIRE HORSE STUD BOOK).

The Best Draught Horse in the World is the "Shire." Wherever he has made his appearance he has supplanted the Clydesdale, the Suffolk, the Percheron, and the Norman. He is the most powerful horse in existence, and is proved to be the best for crossing—hence his pre-eminence.

NOTE.—The nearest Stud to London is that of CLEMENT KEEVIL'S BLAGDON STUD FARM, MALDEN, SURREY, which is only Ten Miles from London—book from Waterloo Station to Malden, one mile from the Stud. (Over 30 Trains daily.)

N.B.—Stallions from this stud are Prize-winners at the Principal Shows in England, Germany, Holland, and at the State Fairs in America. Choice animals of both sexes and the best of blood always on hand.

LETTERS AND TELEGRAMS:

KEEVIL, New Malden, England.

Gentlemen who visit England to purchase draught horses are invited to inspect this stud, where will be found several young stallions, mares, and fillies, of the best blood, the right stamp, and good hard colors, many of which are prize winners, and every animal registered.

During the past two years the best English breeders have replenished their studs from Blagdon, amongst which are Lord Ellesmere, Lord Hothfield, Lord Calthorpe, Lord Tredegar, the Earl of Bradford, etc., etc. Stallions now on offer from £50 to £500.

N.B.—All Horses purchased for exportation delivered at any of the London Docks free of charge, and purchasers will be assisted to get the best terms for shipping, etc.

How Shall I Fence My Farm ?

OUR SYSTEM.



Properly Constructed Hedges are the Most Enduring, the Cheapest, and the Best Fences.

A proper understanding of our process will convince the most skeptical of its practicability and value. The above cut represents the various conditions of the hedge as trained by our process. 1st, On the left, the plants grown to the proper size for plashing. 2nd, Side trimmed, the earth removed around the roots and ready to plash. 3rd, Plashed, the plants bent in the roots, inclined in the proper position and secured by four heavy wires stapled to their bodies. 4th, Summer pruned in pyramidal form and complete.

We have for years past been thoroughly investigating the adaptability of the Honey Locust plant to the soil and climate of this latitude for Hedging purposes, and with results so far satisfactory that we feel no hesitancy in guaranteeing our patrons stock-proof Hedges wherever our skill and experience are applied and our instructions followed.

Pledging to our patrons the faithful performance of our work, we are, very truly,

THE ONTARIO HEDGE AND WIRE FENCE CO.,

Niagara Falls, Ont.

Great Public Sale
OF
PURE BRED STOCK,
AT THE
EXHIBITION GROUNDS,
GUELPH, - - - ONTARIO,
— CANADA, —
ON WEDNESDAY AND THURSDAY, 8th & 9th
OCTOBER, 1890.

MR. FREDERICK WM. STONE, of Guelph, one of the Oldest Importers and Stock Breeders in America, having decided owing to advancing years, to reduce his Farming operations, will offer for sale, by **PUBLIC AUCTION**, a large part of the Celebrated Moreton Lodge Herds and Flocks, consisting of Purebred Hereford and Shorthorn Cattle,



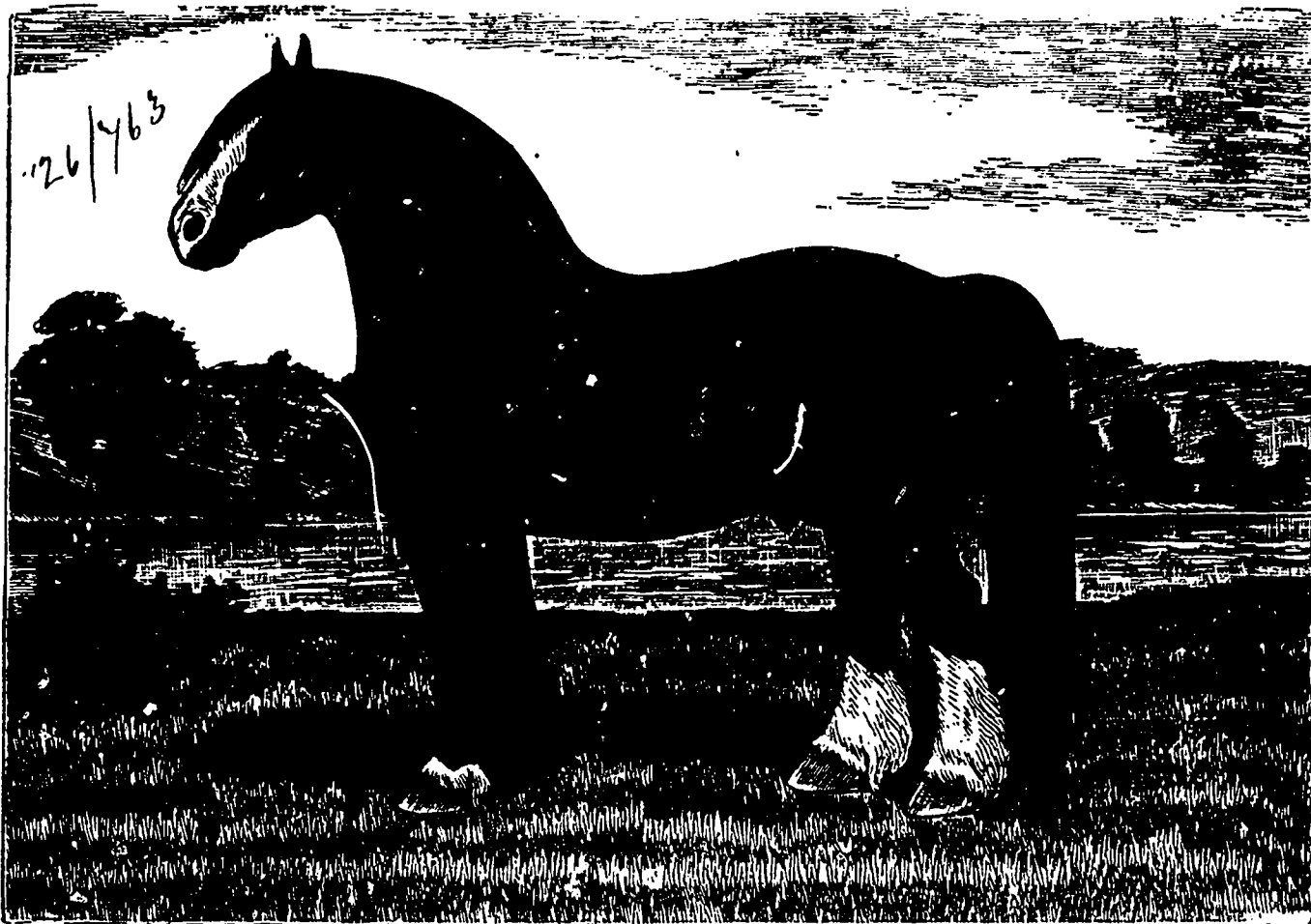
SIR CHARLES, 543. (3434). Bred by F. W. Stone, (weighed 2,850 lbs. and dressed 73 lbs. to 100 lbs.)

150 to 200 head. Also, about 200 head of Cotswold and Southdown Sheep and Berkshire Pigs. Sale at 12 o'clock, noon, sharp, October 8th.

For Catalogues giving particulars of Breeding, Order of Sale, Terms, etc., Apply to **FRED. WM. STONE**, 42 Gordon Street, Guelph, Canada.

N. B.—Two Stock and Grain Farms for sale of 200 and 250 Acres, each.

The Ontario Agricultural College, Guelph, will hold their Annual Sale of Stock, Seed Grain, &c., on 7th October, 1890.



Clydesdale Stallion, "Boydston Boy" formerly owned by MESSRS. D. & O. SORBY, Guelph, Ontario. (See Advt. below.)
Reprinted from the CANADIAN LIVE STOCK AND FARM JOURNAL for April, 1884.

Moultondale Stock Farm,

FOR SALE OR TO RENT.

Contains 124 acres, 104 clear, 10 Timber, fine Brick House, large Barn and Sheds, Piggery, Hen House, Root House, three Wells and Cistern, Wind Mill and Orchard, good wheat farm. Over 600 bushels of fall wheat have been annually raised on it. The land is in a high state of cultivation owing to the large stock that has been always kept on it. The Farm is one and a half miles from the flourishing town of Dunnville, of 2,500 inhabitants, County of Haldimand, Ontario. Soil black loam, clay bottom. Stock and Implements for sale on 22nd October. Address,

F. J. RAMSEY,
Dunnville, Ont.

THE Canadian Velvet Chaff FALL WHEAT.

This new variety possesses all the requisites of a first-class wheat; being early, hardy, stiff in the straw, free from rust, very productive with excellent milling properties; and is undoubtedly the most promising variety of recent introduction that has been thoroughly tested.

Mr. T. B. STONE, Norham, Ont., the introducer, writes, under date of the 13th August:—"Two acres of the Velvet Chaff wheat on the farm of Mr. James Wood, near Codrington, gave a yield of 108 bushels."

Our circular, giving full information, will be mailed to applicants.

PRICES:—1 lb., postpaid, 25c.; 5 lbs., postpaid, \$1.00; per peck, \$1.25; half bushel, \$2.00; 1 bushel \$3.75; two bushels and over at \$3.50. New cotton bags, 25 cents each.

JOHN A. BRUCE & CO.,
Seed Merchants, - - - - - Hamilton.

THE Woodlands Clydesdales.

MESSRS. D. & O. SORBY,

GUELPH, - - - - - ONTARIO,

ANNOUNCE that they have recently added to their already excellent stock of pure-bred Clydesdales, a large importation of the leading strains of Clydesdales to be found in the principal studs of Great Britain. These have all been personally selected by our Mr. Oswald Sorby, and include a large number of three year old Stallions, two year old Stallions and yearling Stallions, as well as a number of well-bred Mares. Amongst these will be found descendants of the following well-known horses:

Prince of Wales, Old Times, Macgregor,
Lord Erskine, Flashwood, Darnley,
Prince of Airds, &c.

We also have pleasure in stating that our business during the past season has been greatly extended, and our sales have reached all parts of the Continent; but nevertheless we think we are in a position to do for our customers even better than ever before.

Please send for our Catalogues, and full information.

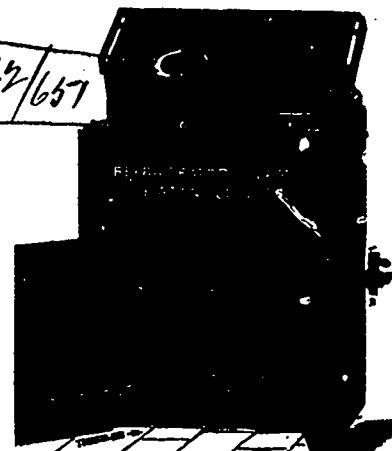
D. & O. SORBY,
Guelph, Ontario.

A CHOICE LOT OF IMPORTED Large White Yorkshire Boars & Sows for Sale.

Canadian bred and imported in dam. Pairs not akin.

J. E. BRETHOUR,
Barford, Ont.

**AWARDED SILVER MEDAL AT TORONTO
INDUSTRIAL, 1888 and 1889.**



Send for circular to **CREAMER CO.,**
Box 552, Brampton, Ont. 651

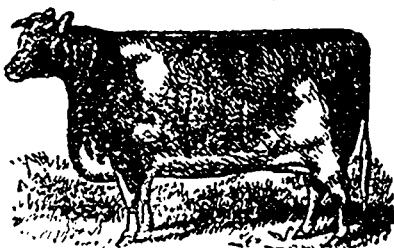
ONE HUNDRED THOUSAND NORWAY SPRUCE,
home grown, ten to fourteen inches, three to four dollars per hundred. All kinds of Nursery Stock.

CAMPBELL BROS.
Simcoe, Ont.



The Kinellar Shorthorn Bull, "Roan Prince" (54293), the property of H. J. DAVIS, Maplewood Stock Farm, Woodstock, Ont. See Advt below.
Reprinted from the CANADIAN LIVE STOCK AND FARM JOURNAL for May, 1889.

Arthur Johnston GREENWOOD, ONT., CAN.



Announces to his customers, and the public, that he is still doing business at the old stand, and has for sale the finest lot of young animals, of both sexes, ever offered by him. The yearlings of both sexes are exceedingly good—all by imported bulls, and mostly out of imported dams.

Intending exhibitors can be supplied with first-class show animals of either sex and of various ages. New catalogues will be ready by January 20th, 1890. Send for one.

Claremont Sta'n, C.P.R., or Pickering Sta'n, G.T.R.
Write or wire me, when and at which station to meet you.
No business, no harm.

A GREAT BARGAIN

We have decided to offer for sale

Our Entire Herd of Shorthorns,

Including (and bred by such breeders as J. Bruce, A. Cruickshank, Aberdeen Scotland, and of such strains as Imp. Minnies, Imp. Wimpies, Imp. Columbies, Imp. Princesses, Imp. Pansies and Imp. Maybirds and their daughters. Also im-



ported and home-bred Bulls and Heifers. A grand lot from Silver Medal Bull, owned by J. Russel, bred by me, and also some from Imp. Goldfinder, bred by J. Bruce. The bull I have been lately using is a well bred Cruickshank

TERMS VERY EASY.

Joseph Redmond & Sons, Peterboro.
Two trains daily, C.P.R. and G.T.R. Send for Catalogue.

Shorthorn Cattle.

I HAVE A CHOICE COLLECTION OF

Bull and Heifer Calves

to be sold at reasonable prices during the coming season. They are all reds and are a splendid lot in every way. A number being from Kinellar bull, Roan Prince (54293), shown in the above engraving. Owing to a need of change I have decided also to sell Roan Prince: (54293). He is an excellent stock-getter of quiet disposition and exceedingly well bred.

BERKSHIRE PIGS



For the fall trade I have a number of young Boars fit for service, and also some Sows of splendid breeding, and by an imported Boar and out of Imported Sows. Orders for the fall trade now booked. Registered pedigree furnished. Special reduction for taking pairs. Write me or come and see my Stock.

H. J. DAVIS,

Maplewood Farm,

Woodstock, Ont.



Sussex, 56625.

Maple Shade Shropshires

—OWNED BY—

JOHN DRYDEN, Brooklin, Ont.

FOR SALE—A few Shearling Rams and Ewes, and an Opportunity for Selection from Seventy Choice Lambs. Also a Select Bunch of Shorthorn Bulls and Heifers.

TERMS MODERATE—Call or write.

Dairyman's Exchange.

L. E. DAVIS, EDITOR.

PUBLISHED SEMI-MONTHLY. SUBSCRIPTION
PRICE 50 CENTS PER YEAR.

THE DAIRYMAN'S EXCHANGE is an eight page 4 column paper, devoted to the interests of the dairymen and stockmen of Wisconsin in particular, and the world in general.

Address for terms of advertising, etc. to

THE DAIRYMAN'S EXCHANGE,
Berlin, Wisconsin.



Shorthorn Bull "Baron Constance 5th," = 2189 =, the property of MR. J. S. SMITH, "Maple Lodge Stock Farm," Maple Lodge P. O., Ont. (See Advt below.)
 Reprinted from the CANADIAN LIVE STOCK AND FARM JOURNAL for April, 1887.

BOW PARK HERD

21/604



PURE-BRED SHORTHORNS

We have on hand eighteen young bulls fit for service, good animals and well bred, which we offer at reasonable prices and on liberal terms. Address,

JOHN HOPE, Manager,
 Bow Park, Brantford, Ont.

BATES' SHORTHORNS

-AT-

HAZELRIDGE FARM
 SANDWICH, ONT.



THE undersigned desires to call the attention of Shorthorn Breeders to his very choice herd of finely-bred Bates Cattle, comprising the following well-known families, viz.: Duchess, Oxford, Thorndale Rose, Barrington, Kirklevington, Wild Eyes and Red Rose; headed by that grand imported bull, Grand Duke of Connaught (56303).

Several very choice young bulls of the above families, fit for service, for sale on reasonable terms. For particulars write to or call on

WM. WRIGHT, -or- WM. WRIGHT,
 38 Port St. West, Detroit, Petit Cote, Sandwich, Ont.

Maple Lodge Stock Farm,

Established 1854

And maintained with a successful endeavour to establish uniform excellence of the Herds and Flocks.

SHORTHORN CATTLE

Of uniformly high individual merit and the best breeding. The superb young Cruickshank Bull "Conqueror" = 12912, = in service.

A Grand lot of

HEIFERS AND YOUNG COWS,

Got by "Duke of Colonius" = 9282, = and in Calf to "Conqueror," for sale now at very reasonable prices.

ALSO, 10 PROMISING BULL CALVES.

— LEICESTER SHEEP, —

A few Ram Lambs got by "Monarch"—first prize Ram three years in succession at London and Toronto.

BERKSHIRE PIGS

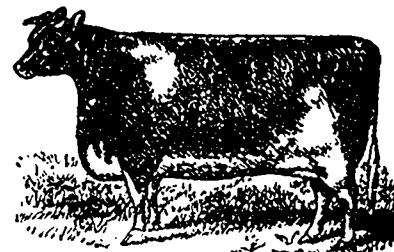
A few young Sows and Boars on hand yet for Sale.

R. R. Station, Lucan Crossing, (1 mile from Stables,) on Grand Trunk Ry., Main Line, 16 miles north of London; 20 west of Stratford.

JAS. S. SMITH,

Maple Lodge P. O., Middlesex County, Ont.

Shorthorns for Sale.



ARTHUR JOHNSTON,

OF

GREENWOOD, - - ONTARIO,

OFFERS FOR SALE

Nine very superior yearling Shorthorn Heifers, of the very highest class breeding, and the best individual merit.

THEY are mostly Reds. Also, a number of two year olds and three year olds. They will be sold at very moderate prices in lots or singly.

FARMS JOS. POLLARD, JR. LANDS

Washington, Iowa. Has bargains in Iowa, Southern and Western States.



Hereford Cow, "Miss Broady 23852," owned by F. A. FLEMING, "The Park," Weston, Ont.
 Reprinted from the CANADIAN LIVE STOCK AND FARM JOURNAL for April, 1893.

THE
 TUSHINGHAM
 HEREFORDS



THIS herd is remarkable for the number and uniformity of the good calves that it produces. It has taken all the Medals given in the Province of Quebec, at leading exhibitions the last three years. Breeders who are anxious to get bulls or females with plenty of hair and of good quality and good milk producers, should see this herd before purchasing elsewhere.

J. WALTER M. VERNON,

TUSHINGHAM HOUSE. **Waterville, N. B.**
 Waterville is on the main line of G. T. R., 41 miles east of Montreal.



W. J. RUDD,

EDEN MILLS P.O., Ont.
 Breeder of Choice Devon Cattle. During the past five years, at the leading Exhibitions in Canada, my herd has stood first whenever shown, winning five Diplomas, one Gold, three Silvers and one Bronze Medal. Stock for Sale including Berkshire Pigs, Cotswold Sheep, and Plymouth Rock Fowls.

SHORTHORN BULL for Sale, of the Nonpareil Family of Kinellar—is a good color and a good animal. Shropshire Rams for sale, sired by the ram imported for the Ontario Experimental Farm, in 1884. Are eligible for registration. Address, **JAMES ROWAT,** Hilldale, Ont.

THE HEREFORD COW,

MISS BROADY 23852

Shown in above illustration, is the property of F. A. Fleming, Weston, Ont. She won the first prize in her class for three years in succession and never shown.

Also she, for three years, won the Diploma at the Ontario Provincial Exhibition for the best Hereford female exhibited, thus proving herself to be the best specimen of a Hereford cow in the Dominion.

MISS BROADY, with eleven other fine Herefords, all bred at Weston, will be on exhibition at the Toronto Industrial Fair and the Western Fair, London.

Farmers desiring first-class animals should not fail to see these Herefords.

Hereford Bulls and Females always on hand for sale at prices to suit the times.

Address,

F. A. FLEMING,

Weston, Ont.

Oak Hall

For the month of **SEPTEMBER** we are showing **SPECIAL VALUE IN**

Men's and Boys' Clothing.

Visitors to the Exhibition should not fail to visit our Store while in the city.

Men's Suits in all the latest styles. Our Boy's two and three price suits are the nobbiest in the city.

OAK HALL,

The Great One Price Clothing House, 261 76a

115 to 121 King-st. east, Toronto.

WM. RUTHERFORD,

MANAGER.



Prize Winning Herefords, the property of R. J. MACKIE, Oshawa, Ont. Reprinted from the CANADIAN LIVE STOCK AND FARM JOURNAL for Jan., 1887

Horses For Sale. Thoroughbred Stock.

The following Imported Stock must be sold by Oct. 1st., owing to the owner having to return to England.

The Imported Pure Bred Yorkshire Coach Stallion,
PRINCE OF ORANGE, No. 1250, Y.C.H.S.B., 4 years old, 16.2 h. h., 1330 lbs., dark brown, clear of white, a stylish Carriage Stallion with good looks, combined with substance and good action, broken to harness and a sure foal getter.

The Imported Pure Bred Cleveland Bay Stallion,
INGMANTHORPE MONARCH, No. 853, C.B.S.B., 3 years old, 16.2 h. h., 1330 lbs., Bay, clear of white, a stylish General Purpose Stallion, likely to make a horse suitable to cross with small mares, a good mover with very strong bone and good feet, broken to drive and a good stock getter.

The Imported Pure Bred Shire Stallion,
MELTON IV., No. 7703, S.H.S.B., 4 years old, 16.2 h. h., 1600 lbs., dark brown, clear of white, a very blocky wide set horse, showing quality and good action and a fast walker. Winner of two 1st prizes at Midland Central and Bay of Quinte Fairs in 1889, broken to harness and a good stock getter.

The Imported Pure Bred Yorkshire Coach Mare,
VICTORIA, No. 15, Y.C.H.S.B., 3 years old, 16 hands high, 1200 lbs., Bay, clear of white. A model carriage mare with style, action and symmetry combined, good enough to show and win in any company, with bay mare colt at foot, foaled April 20th, by Monarch and in foal to him again, broken, and quiet to ride or drive, winner of two 1st prizes and two diplomas at Midland Central and Bay of Quinte Fairs.

The above described horses are offered for sale very cheap and on easy terms as they must be sold by October 1st. Full pedigrees and all additional information can be had by applying to the owner and importer.

W. H. HUTCHINSON,
Woodlands,
Portsmouth P. O. Ont.

Prize - Winning - Herefords CECIL AND VELVET,

—THE PROPERTY OF—

R. J. Mackie, Oshawa, Ont.

DISPERSION SALE

OF THE

Springdale Herd of Herefords.

MR. R. J. MACKIE, Oshawa, Ont., being about to retire from farming, having leased his farm, will sell by

PUBLIC AUCTION,

On the 15th October, 1890, at his Farm.

His entire herd of valuable breeding Hereford Cattle. The owner of this herd believing it to be injurious to breeding animals to fit them for Exhibition, has not fitted his herd since the fall of 1886 when they won over \$500.00 in prizes against the strongest competition there has ever been in this breed, and there are still retained in the herd many of the prize animals; among others the noted Bull "Cecil" 18469, by "Charity" 3rd, 9728, he by "Grove, 3rd," 5051. "Cecil" stood at the head of the 1st prize herd at Toronto and Provincial and won 1st prize at Toronto and 1st prize and Silver Medal at the Provincial at Guelph as best Bull any age. The females "Cinnamon" 2nd, 18457, "Silk," 18470, "Velvet," 16802, "Albania," 18457, and many other prize winners, are still in the herd. Also, "Commodore," 32943, by the celebrated "Cassio," 11353, bred by Mr. Cochrane, of Compton, Que., "Commodore" won 1st prize in yearling class, at all the principal fairs, in 1888, and bids fair to rival his sire. There are in all 53 head, all recorded in the American Hereford Record, 40 Females and 13 Bulls, all in good breeding condition. The Farmers of Ontario should not miss this rare opportunity to improve their herds as there are no better bred Herefords in America than will be offered at this sale.

TERMS OF SALE.—12 months credit on approved notes. Catalogues will be mailed on application.

Address:
R. J. MACKIE,
Springdale Farm, Oshawa, Ont.

THE PARK HERD OF HEREFORDS.

This herd embraces over

60 Head of Choice Animals.

All registered. Catalogues sent on application.

F. A. FLEMING,
Weston, Co. York, Ont.

Farm, half a mile from C. P. R. and G. T. R. Stations, eight miles from Toronto.



22/

BROWN BROS.,

SPRINGVILLE, ONT.

BREEDERS OF

SHROPSHIRE DOWN SHEEP

AND BERKSHIRE SWINE.

We have on hand and for sale young animals, male and female, which have been bred from carefully selected stock. Our prices will be found reasonable. Write or come and see us.

739 Station, Peterboro' C.P.R. and G.T.R.

BOYS FOR FARM HELP!

The Managers of DR. BARNARDO'S HOMES desires 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 over 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,
214 Farley Avenue, Toronto.



Group of Aberdeen-Angus Polls, bred by and the property of HON. M. H. COCHRANE, Hillhurst, Que. (See Advt below.)

Reprinted from the CANADIAN LIVE STOCK AND FARM JOURNAL for February, 1887.

HEREFORD AND ABERDEEN ANGUS BULLS AND HEIFERS.

WE have on hand for sale a number of Hereford Cows, Young Bulls and Heifers of the best of breeding. They are all from imported stock of the highest merit. The bulls are a robust, vigorous lot and cannot fail to get prime feeders. We also hold for sale a choice collection of young Aberdeen Angus Bulls from the best strains of the breed and they are all imported or from imported stock. A rare chance is afforded to get a superior sire of sturdy constitution.

Prices Reasonable and Animals Right.

DAWES & CO.,
LACHINE, QUE.,

Importers of Herefords, Aberdeen Angus and Jersey Cattle.

SHORTHORNS

I have for sale
Six female Shorthorns from 8
to 20 months old, also
Three Bulls.

These animals have been all bred
by me from imported stock.

D. ALEXANDER,
Brigden, Ont.

FOR SALE.—12 Head of Short Horns, 30 Leicester and
South Down, Ram Lamb and about 30 Berkshire Pigs.
Send for prices.

EDWARD JEFFS,
Bond Head

M. H. COCHRANE,

Hillhurst Farm ::

Hillhurst, Que.

ABERDEEN-ANGUS, HEREFORD,

—AND—

A.J.C.C. JERSEY CATTLE.

—AND—
STANDARD

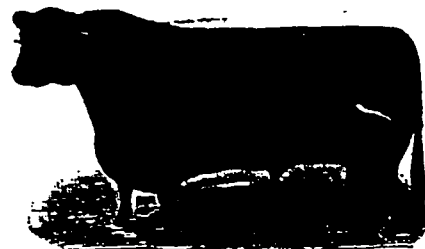
TROTGING AND HACKNEY HORSES,

Shropshire Sheep

—AND—

Yorkshire Swine.

HAY & PATON. KINNOUL PARK STOCK FARM, NEW LOWELL, ONT.



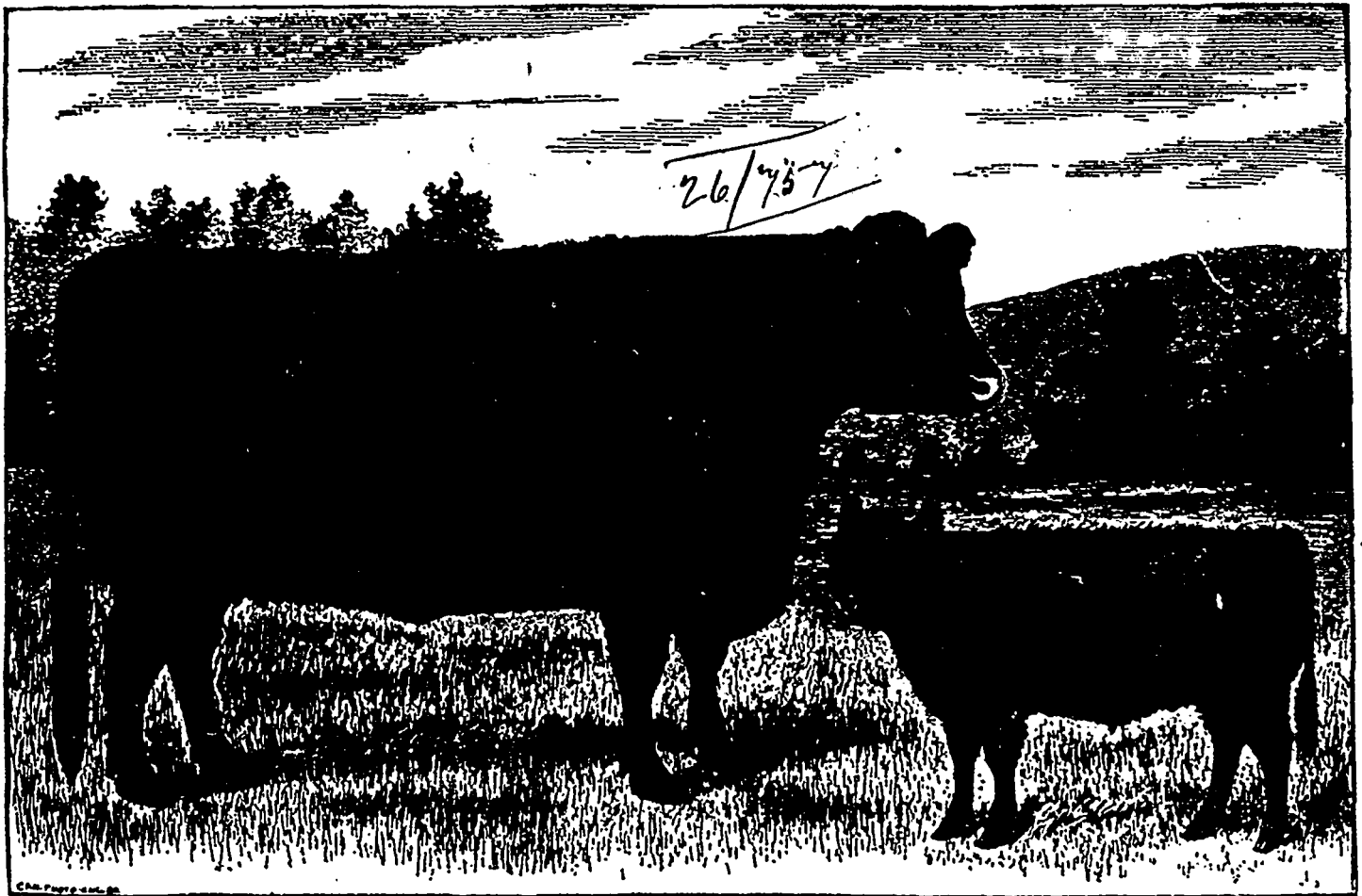
BREEDERS AND IMPORTERS OF CHOICE ABERDEEN-ANGUS POLLS.

We have reserved from the sale of our champion herd of Polls, some 17 excellent females, with that splendidly-bred Ruth bull, Runnymede and, at their head, and have started afresh to breed the comely doddie with individual merit (as before) the guiding star of our efforts. We are at present sold out, with the exception of two or three yearling bulls.

We have also a flock of over a hundred head of fine Shropshire sheep, the ram lambs and shearlings of which are now for sale at reasonable prices. Send postal card for terms.

J. & W. B. WATT,
BREEDERS OF SHORTHORNS
CLYDESDALES AND
OXFORD DOWN SHEEP and
BERKSHIRE PIGS

SALEM, ONT.



Prize Galloways owned by MR. THOMAS McCRAE, Guelph, Ont. Reprinted from the CANADIAN LIVE STOCK AND FARM JOURNAL for June, 1887.

IT IS A FACT THAT
50 PER CENT. MORE
 can be made by the Breeder and Feeder.

Marbled Beef of the finest quality is made
 from the get of a

GALLOWAY BULL

—ON—

Shorthorn Cows, Grade Cows, Scrub Cows

producing Polled Cattle that can be fed for 25 per
 cent. less money and will bring 25 per
 cent. more per pound than
 any other Cattle.

.....All Breeders and Feeders.....
 should see the

Exhibits of Galloway Cattle,

Made by W. Kough, of Owen Sound, at the Toronto
 and London Shows this month.

Owen Sound, Ont.

W. KOUGH.

NOTICE TO IMPORTERS!

CHARLES CHABOUDEZ,

Hotel de France, et de Suisse, 1 Rue de
 Strasbourg, Paris, France,

Agent for the National Line. Information of all the horse dis-
 tricts given at the office. Charges strictly moderate. Corres-
 pondence solicited.

CHARLES CHABOUDEZ,
 Proprietor.

Galloways

—Hardy Beef Cattle—

Best beef breed for the Farmer.

Best breed for the Northwest.

Best rustlers on the ranche.

Best beef for British Market.

For crossing try the Galloways.

In Liverpool and London Markets
 Galloways are the favorites.

Buy them! Try them! Good Feed-
 ers! Good Shippers! The very best
 on the block.

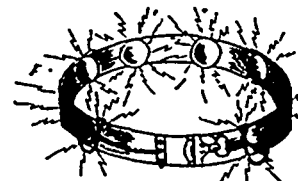
Rich, juicy, marbled meat, pleasant
 and palatable.

THOS. McCRAE,
 Guelph, Canada.

The oldest established Galloway Herd in
 America. Good Animals, good Pedigrees.
 Send for circular.

Farm close to Ontario Agricultural
 College.

The Dorenwend Electric Belt and Attachments



—RELIEVE AND CURE—

Indigestion, Rheumatism, Kidney and Liver Complaints, Heart
 Disease, Nervous Debility, Spinal Disease, Lamé Back, Muscu-
 lar Weakness, Paralysis, St. Vitus Dance, Female Complaints,
 Seminal Weakness, Impotence, and all Diseases of the Nervous
 System, Sprains, Stiffness of Joints, etc.

By the Dorenwend appliances a mild energizing current (with-
 out shocks) is sent through the diseased parts to the nerve cen-
 tres, toning the nerves, exciting and equalizing the circulation
 of the blood, and inducing every organ to perform its proper
 functions. This treatment is perfect and sure. No consultation
 with doctors necessary; no drugs to take and pay for. Elec-
 tricity does all—the current can be regulated to suit the patient.
 Our appliances are the best in the world.

Read what the Manager of the Toronto Electric Light Co.
 writes:

Toronto, August 20, 1890.

Dorenwend Electric Belt Co.:

In compliance with your request I have examined the battery
 and belt which you sent me. I consider the construction is
 practical and scientific, and the method of applying and con-
 trolling the amount of current shows great ingenuity and skill
 on the part of the designer. When subjected to standard tests
 I was surprised at the amount of Electricity the Battery was
 able to generate when all the cells were in action, but of course
 this can be reduced by the regulator to any amount necessary.
 I should think it would prove of value where Electricity is re-
 quired for medical purposes. Yours, J. J. WRIGHT.

EXPLANATION UNNECESSARY.

Our System of Body Electrical Application is endorsed by all
 who examine it.

SEND FOR BOOK.

**Dorenwend Electric Belt and
 Attachment Co.,**

103 YONGE STREET TORONTO, CANADA.
 Mention this paper.



A Prize Winning Ayrshire Herd, Owned by JAMES DRUMMOND & SONS, Petite Cote, Montreal, P. Q. (See Advt below.)
 Reprinted from the CANADIAN LIVE STOCK AND FARM JOURNAL for November, 1889.

Herefords and Shropshires.

Sale of one of the Best Herds in the Kingdom.

The Great Old Benthall Herd of 150 Bulls, Cows and Heifers will in consequence of the decease of the proprietor be unreservedly sold by auction

at Benthall, near Shrewsbury, England,

—ON—

FRIDAY, SEPTEMBER 26th, 1890.

By order of Mr. John Crane, the appointed Judge of Hereford Cattle by the Council of the Royal Agricultural Society of England in the years 1878, 1879, 1881, 1885 and 1888.

The Herd which is duly registered in the English Hereford Herd Book is by "Prizeeman" 4051, a grandson of the Royal winner, "Albert Edward" 859 and "Walford" 871. "Assistant" 6788, brother of the renowned R.A.S.E. prize, "Archibald" 6290, "Myrmidon" 10221, by the R.A.S.E. Champion "Good Boy" 5942 and "Standard Bearer" 14195, a Grandson of The Grove 3rd 501. It is one of the most profitable herds in the universe and its absolute disposition will afford a peculiar opportunity to breeders and exporters.

The noted flock of 300 Shropshire Sheep of Shropshire Flock Book Pedigree and Crane's renowned R.A.S.E. prize blood will be unreservedly sold on the same occasion.

Foreign Commissions executed by E. GOODWIN PREECE, Live Stock Agent and Exporter, Oak St., Shrewsbury, England, and Catalogues of the Auctioneers,

W. G. PREECE & SON,
 Shrewsbury, England.

AYRSHIRES.

PEDIGREE

—AND—

PERFORMANCE.

This herd, including sixty-five superior Pure-bred Ayrshires, is headed by the well-known Prize Winner, "Rob Roy" 3971, an imported Bull, combining in his breeding the very best milking strains of Ayrshires, and of form that from a dairy point of view is seldom equalled. His get show to a marvellous extent the good features of the sire. A number of vigorous well-bred Bulls and Heifers are now ready for disposal, offering an opportunity seldom given for the securing of the best Dairy foundation Stock.

James Drummond & Sons,
 Petite Cote, - - - Montreal.
 24/705

Haras National Company.

Over 50 Norman, Breton and Percheron Stallions now in our stables, all thoroughly acclimated.

Pure blood Percherons for sale from \$500.

No cash required. Two years time.

Horses insured against death, when sold, for a small annual charge.

The Company of the Haras National.

Office—30 ST. JAMES ST., MONTREAL.

Stables, OUTREMONT near Montreal.

ELM GROVE FARM.



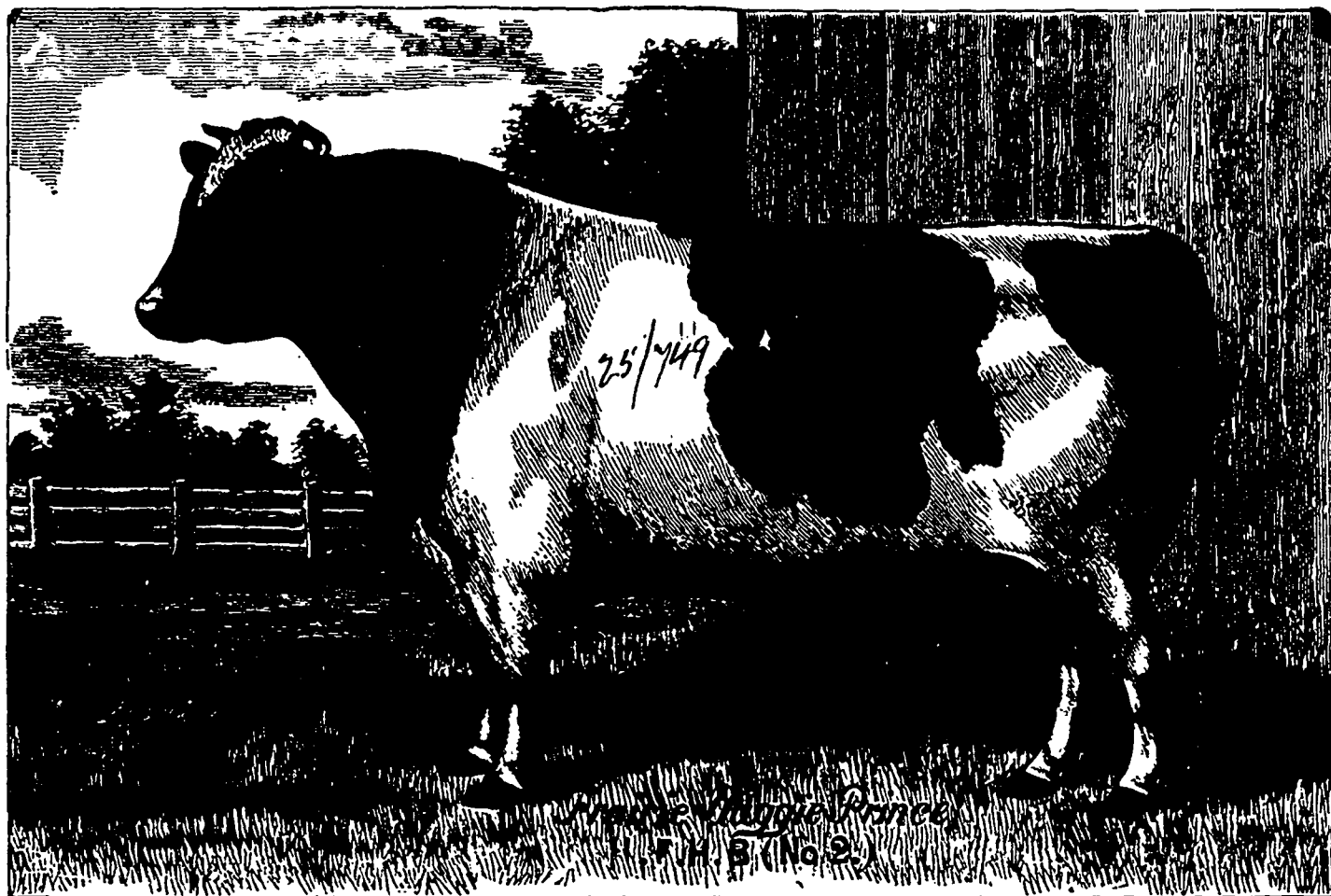
Do you want to buy a Choice Berkshire or Improved Large Yorkshire Boar or Sow? If you do, we wish to inform you that we are giving specially low prices for the next thirty days, in order to reduce stock for our large number of litters. Write for prices, or see our stock. We are ashamed to show it to any.

W. H. & C. H. McNISH, Elm Grove Farm,
 759 Lyn, Ontario.

JERSEYS FOR SALE.

Several fine Jersey Heifers choicest strains. Prices low. Write: G. M. BEEMAN, NAPANEE, ONT.

24/691



Holstein Bull "Prairie Aaggie Prince" H. F. B., No. 2, Imported by and the property of A. C. HALLMAN & Co., New Dundee, Ont. (See Advt below.)
 Reprinted from the CANADIAN LIVE STOCK AND FARM JOURNAL for June, 1888.

WILLIAM DAVIES

IMPORTER AND BREEDER OF

Guernsey Cattle

And Improved Large Yorkshire Pigs,
 Kinocroft, - Markham, Ont.

Advertiser desires to call the attention of Farmers to the great satisfaction purchasers of above have expressed as per unsolicited testimonials below:

The calf is a much better animal than I expected to get and certainly all that you represented him to be.
 Halifax, N.S., Nov. 12th, '89. W. J. KNITH.

We are pleased to say the young bull has proved satisfactory.
 Popcum, B.C., July 29th, '90. KNIGHT BROS.

Pigs received in good shape and truly Mr. Davis I was very much pleased with them. They were past my expectations, if you have another old enough send it to me for one of my neighbours.
 Simcoe, Dec. 17th, '89. J. W. LEE.

He is a fine pig.
 Manchester, Mar. 17th, '90. W. C. HEARD.

I am very well pleased with the pig.
 Carlingford, Feb. 22nd, '90. GEO. LIVERSAGE.

I received pig all right. Am well pleased with him, so is every one who has seen him.
 Raglan, June 26th, '90. WM. BREAT.

I like the boar very much.
 Compton, July 29th, '90. A. M. TYLER.

Pig arrived in good form and am pleased to say he exceeded my expectations.
 Chatham, July 24th, '90. JAS. S. WAUGH.

I am very much pleased with the Yorkshire Pig I got of you a year ago. He has done well and I have never regretted that I got him. I have made \$40.00 out of him and won two first prizes.
 Mountain View P. O. W. C. HUFF.

YOUNG Holstein-Friesian Bulls FOR SALE.

We have on hand a number of vigorous young Bulls, many of which have been sired by the Bull appearing in the above illustration.

PRAIRIE AAGGIE PRINCE.

Although the sketch shows a fine massive form and rare combination of individual qualities, yet his richness and quality can only be appreciated by personal inspection. Those who have not seen him will have a good opportunity to do so at the Toronto International Exhibition. That he is of royal lineage may be seen in his superior individual quality, a glance at his pedigree, and the quality of stock he produces. His sire, Royal Aaggie H. B. 3463 A. R. 3, stands at a service fee of \$500 at the head of the noted butter herd of T. G. Youmans & Sons. His dam DeShut 500 H. H. B. gave 82 lbs., 8 oz., milk in one day and made 23 lbs., 8 oz., butter in seven days. The dam of Prince Aaggie was Prairie Flower H. H. B. 962, and she gave 20 lbs., 1 oz., unsalted butter in seven days. He has close connections with such noted cows as Aaggie 2nd, two years old, record 17,746 lbs., 8 oz., in a year, and 20,763 lbs. as a one-year-old, and made 105 lbs., 10½ oz., butter in seven days, and also a host of others with records from 16,000 to 20,000 lbs. and upwards. Be sure and see our Stock if you want anything in Holstein-Friesians.

A. C. HALLMAN & CO.,
 New Dundee, Ont.

= FURS =

EARLY in September, during Toronto's Great Exhibition, our large Show Rooms will be thrown open to the public. Visitors are invited to look through

Furs of Every Description

For - Ladies - and - Gentlemen.

Fur Mantles,

Fur Lined Garments,

Fur Capes,

Muffs,

Storm Collars,

Boat, etc., etc.

MEN'S FUR COATS.

ROBES, GLOVES, CAPS, ETC.

Prices Low - - Large Variety.

Call and see

W. & D. DINEEN.
 Corner King and Yonge Streets, Toronto.

THE GREAT MILK AND BUTTER HERD OF HOLSTEIN-FRIESIAN CATTLE



MINK 402

[The above illustration represents MINK, the dam of MINK'S MERCEDES BARON, THE STOCK BULL OF OUR HERD.]

MILK RECORDS in our herd (2 year olds included) run from 6,000 to 13,021 lbs. in a year.
 BUTTER RECORDS run from 13½ to 19 lbs., in a week of all that have yet been tested.
 Our herd have taken most 1st prizes at the Industrial and Provincial Exhibitions, 1888 and 1889.
 All the best strains represented in our herd.
 Plain feeding and ordinary care is our motto.
 Prices right, and within range of all farmers.
 Over 75 head in our herd which have been carefully selected and bred for butter and milk.
 Catalogues free, and visitors always welcome.

24/7/11

SMITH BROS.

CREDIT VALLEY STOCK FARM

CHURCHVILLE (PEEL CO.), ONT.

-PURE-BRED-

AYRSHIRE CATTLE



"Red Key" 2971 at head of herd

Young Stock for Sale at all Times.

James Drummond & Sons,

Petite Cote, Montreal, Que.

English Pedigree Live Stock.

Shire Horses, Shorthorn and Hereford Cattle,
 Shropshire, Dorset, Hampshire and other Sheep,
 Berkshire, and Yorkshire pigs, etc.

E. G. PREECE.

LIVE STOCK AGENT,

SHREWSBURY, - ENGLAND.

HAS Choice registered stock for sale at moderate prices, from the best studs, herds and flocks. Foreign buyers assisted in the purchase and shipment of stock. Choice animals of various breeds bought on commission. Special low freights. Highest references. Terms for buying 2½ per cent. All importers should communicate.

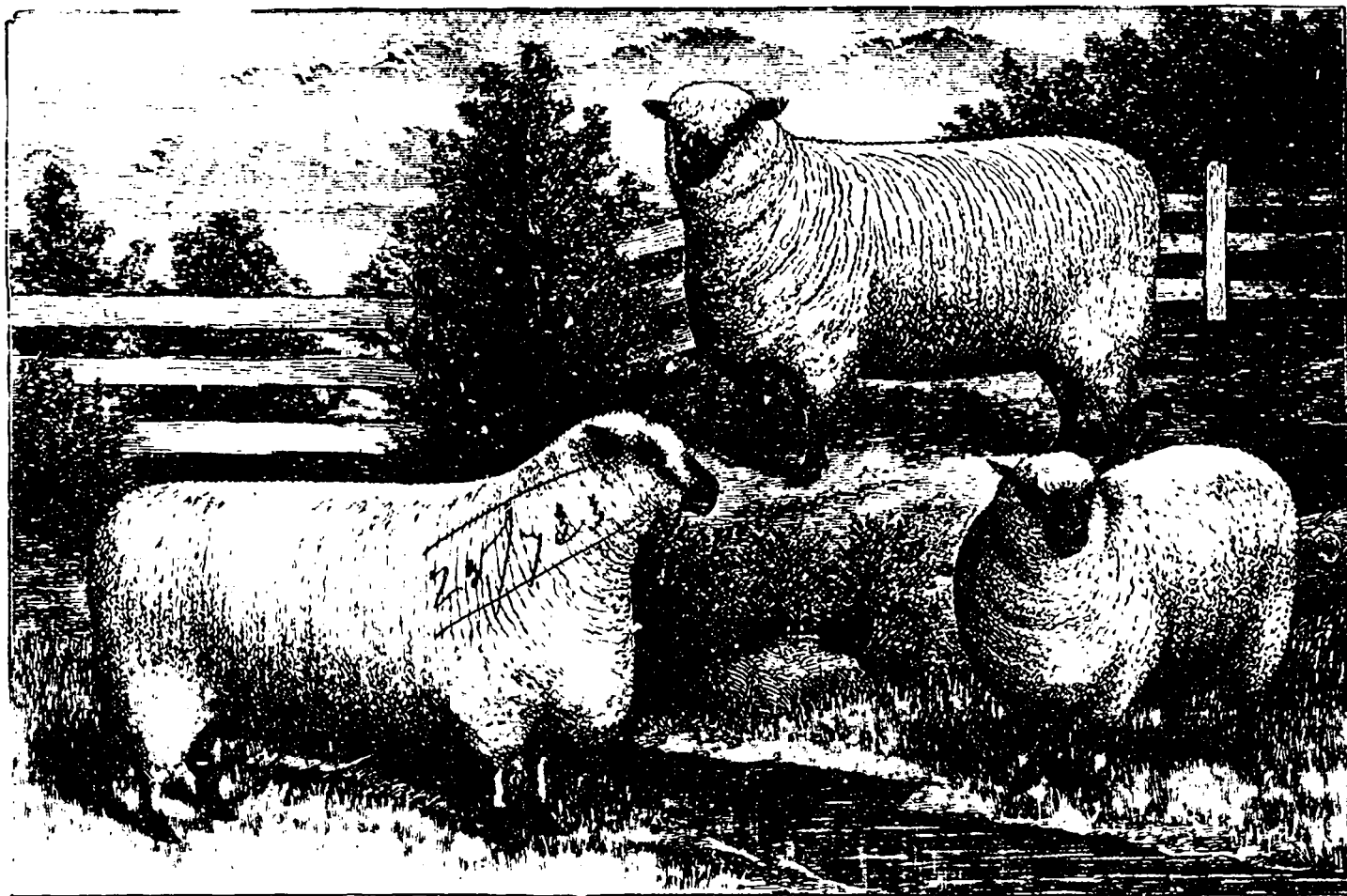
IMPORTED AND CANADIAN-BRED SHROP-
 SHIRE SHEEP FOR SALE, also Imported Clyde
 Station. All registered pedigrees. Agent for Dana's Sheep
 and Cattle labels. JOHN DUNKIN,
 Brucefield, Ont.

SPR 4G BROOK STOCK FARM.
 A. C. HALLMAN & CO.,
 New Dundee, Waterloo Co., Ont.



IMPORTERS AND BREEDERS OF
 PURE-BRED, REGISTERED
 HOLSTEIN-FRIESIAN CATTLE.

The choicest and most uniform herd in Canada. Upwards of 40 head to select from. Only choice stock of highest milk and butter production selected from. Individual merit and pedigree a special object. Direct descendants of Aaggie, Aris, Northland, Johanna and Billy Bolyn. Stock of all Ages and both sexes for sale from above Families. Prices reasonable considering quality. Send for Catalogue.



Group of Shropshire Down Sheep, Imported and Owned by MR. JOHN DRYDEN, M.P.F., Brooklin, Ontario. (See Advt. below.)
Reprinted from the CANADIAN LIVE STOCK AND FARM JOURNAL for November, 1887.

Eastwood Herd and Flock.

Some excellent Shorthorn heifers, Bow Park Stock. Imported Shropshire Sheep. Registered Rams and Bulls cheap.

Address, T. C. PATTESON, Postmaster,

N. B.—Eastwood is next station east of Woodstock on G. W. R.

Recorded Shropshires For Sale.

One Shearling Ram—"The Conqueror (18797)." 25/738
17 Ram Lambs and a few breeding ewes.
Must be sold for want of room.

WM. TREDWAY, Port Union.

FOR SALE ENGLISH THOROUGHBRED HORSES

(Registered in English Stud Book.)

SHROPSHIRE SHEEP,

Address, JOHN HARRISON, Prop.,
Sprucedale Farm, Owen Sound, Ont.

SHEARLING AND EWE LAMBS FOR SALE.

I have Twenty-five splendid Southdown Shearling and Ewe Lambs bred from imported rams and first-class ewes, and will sell them cheap to make room for winter. I have also for sale a few good Oxford and Southdown rams and ram lambs.
Come and see them or write for prices to

S. LEXON,
Poplar Lodge, Kettleby, Ont.

WATKINS STOCK FARM.

Shetland Ponies, Exmoor Ponies, High Grade Jersey Cattle, Small Yorkshire and Poland China Swine. Pure Bred Poultry. Stock For Sale.
G. A. WATKINS, Detroit, Mich.

Maple Shade Shropshires.

The above cut represents the Splendid Flock of Shropshire Sheep owned by John Dryden of Brooklin, Ont. They were all imported by him in 1887, and two, the ram and the ewe, standing on higher ground, are still in the flock. This Ewe, which was a 1st Prize Winner at the Royal Show of England, and in Canada as well, is a regular breeder, and her progeny are being used to replenish the Flock at Maple Shade. The ram, called by the Royal name, Prince of Wales, has distinguished himself both as a prize-winner and as a stock-getter. Among his best premiums may be mentioned: 1st at Provincial, at Ottawa, and head of best pen, winning Prince of Wales' prize of \$60; Winner of English Shropshire Association, \$50; Silver Cup at Toronto Industrial, for best ram, and five of his lambs. He possesses great strength of constitution and much vigour. The balance of the Flock are also imported, being purchased from the best Breeders in England. The cattle at Maple Shade are no less renowned, the Herd having a reputation over the entire continent. Representatives from it may be found in New York, Ohio, Kansas, Missouri, Iowa, Illinois, Michigan, Quebec, Manitoba, and British Columbia. The Cattle are uniformly good, and are good copies of the ideal, kept always before that veteran breeder, Amos Cruickshank, upon whose Herd they are founded. They are low to the ground, having broad backs, deep bodies, with shoulders, ribs, and hips, well covered with deep flesh.

LITTLE'S PATENT FLUID NON-POISONOUS SHEEP DIP AND CATTLE WASH.

CHEAP * CONVENIENT * AND * EFFECTIVE.

The best Non-poisonous Sheep Dip and Cattle Wash in the world.

A "CHEMICAL FOOD" FOR THE WOOL.
Rapidly increases the quantity and improves the quality.

IT IS EASY TO USE.

Requires very little preparation, mixes instantly with cold water, leaves no sediment, no scum, no waste.

CERTAIN DEATH TO LICE, MANGE,

And all insects upon Horses, Cattle, Calves, Pigs, Dogs, etc.
Superior to Carbolic Acid for Ulcers, Wounds, Sores, Saddle-Galls, Sore Udders, etc.

EXTRACTS FROM SOME OF OUR NUMEROUS CANADIAN TESTIMONIALS.

"We think a great deal of it."—Prof. Brown, late of Agricultural College, Guelph.

"Sure death to lice on cattle and colts."—Robt. Marsh, Lorridge Farm, Richmond Hill.

"Gives great satisfaction."—W. Whitelaw, Guelph.

"Best ever used."—Jas. Russell, Richmond Hill.

17 GOLD, SILVER AND OTHER PRIZE MEDALS have been awarded to Little's Patent Fluid Dip in all parts of the world. Sold in large tins at \$1.00.

Special terms to Breeders, Ranchmen, and others requiring large quantities.

MANUFACTURERS AND PROPRIETORS,

Morris, Little & Son, Doncaster, Eng.

Ask your nearest druggist to obtain it for you, or write for it, with pamphlet, etc., to

ROBT. WIGHTMAN, DRUGGIST,

OWEN SOUND, ONT.

Sole agent for the Dominion.



From
Silver Medal Pen
of
Mr Smith Evans
Provincial 89.

Group of Oxford Downs, Owned by SMITH EVANS, Gourock, Ontario. (See Advt. below.)
Reprinted from the CANADIAN LIVE STOCK AND FARM JOURNAL for October, 1889.

SHROPSHIRE DOWN RAM LAMBS.

I have for sale a number of Shropshire Down Ram Lambs from imported stock. Very cheap. Address,
J. W. McDONALD,
Porter's Hill, Ont.

LORRIDGE FARM. SOUTHDOWN SHEEP.

Flock first established 1887. Commenced exhibiting 1889. Since then have taken 6 or 7 first prizes, including a large number of medals and diplomas.

Imported Rams used only.
Stock for Sale.

ROBERT MARSH, PROPRIETOR.
Richmond Hill, Ont.

Improved Large Yorkshire Pigs.

YOUNG Boars and Sows now ready to ship. Price very reasonable. Address,
ROBT. BAIRD,
Chesterfield, P.O., Ont.

BROOKSIDE FARM,

New Glasgow, Pictou Co., N.S.

Standard-Bred Trotters,

AMERICAN

CATTLE-CLUB JERSEYS.

OXFORD DOWN LAMBS.

I have still on hand for sale a few Lambs of both sexes of pure merit and breeding, many of them being descended from those shown in the above engraving. Some of them are the get of "Lord Evans," 2366, appearing in the engraving, a Ram that has never yet been beaten in the Show Ring though exhibited for the last two years at the leading Canadian Fairs. I have also a few from the imported Ram "Champion" of Gourock, 2524.

Parties desiring vigorous young stock of high quality both as regards appearance and breeding will find a rare lot here from which to make a selection.

SMITH EVANS,
GOUROCK, ONT.

SPRINGHILL HERD of Pedigree

BERKSHIRE PIGS.—Young BOARS and GILTS of the choicest quality for SALE at reasonable prices. In size, hair, and true Berkshire character they are unsurpassed. Correspondence solicited.

ARTHUR S. GIBSON,
Springhill, Bulwell, Nottingham, Eng.

IMPORTED

Large Yorkshire White Pigs

Levi Pike, Locust Hill, Ont.,

Breeder of Registered Imported large Yorkshire White Pigs. Has a few choice Boars six months old for sale. Now booking orders for fall pigs. All animals trace direct to the famous herd of Sanders Spencer. Write for prices.

A. FRANK & SONS

The Grange P.O., Ont.

Cheltenham Station, C.P.R. and G.T. Railways.

The Centennial Sweepstakes herd of Suffolk Pigs, greatly improved. All registered.

THOROUGHbred HORSES,

Shorthorns of Cruickshank blood, and Southdown Sheep from Webb's stock. Young stock of all the above for sale. All orders promptly attended to.

REGISTERED Improved large Yorkshires. Imported Boars, Holywell. Wonder II, heads the herd. Young stock for

JAMES FIELDS,

Castle Hill Farm, ANCASTER, Ont.

REGISTERED Improved Large Yorkshire Hogs. Shropshire Sheep. Registered in A.M. Shrop. Record. All bred from Imported Stock. Young stock for sale.

JAMES HALL, Edmonton P.O., Ont.



Group of Prize Winning Shropshires, the property of Mr. J. CAMPBELL, JR., Woodville, Ontario. (See Advt. below.)

Reprinted from the CANADIAN LIVE STOCK AND FARM JOURNAL for October, 1886.

Improved Large Berkshires.



R. DELBRIDGE, Winchelsea, Ont.,

Has for sale a choice lot of young pigs from 9 months old and down. All from prize winning stock, and bred from such strains as imp. "Lass Link"; "The Premier" (401); imp. "Real Briton" (403), and others equally as good. I can ship to order and guarantee satisfaction. Write for prices, or if convenient come and see my stock. Exeter Station, 12 1/2 mi. N. of Granton, G.T.R.

CECIL FRENCH,

Ightham Court Farm, Truro, N. S.
Importer and Breeder of



IMPROVED LARGE WHITE YORKSHIRE SWINE.

We were the first importers of this breed into New Brunswick and Nova Scotia. All our breeding stock is registered and imported, and especially selected from the herds of N. J. Hine, F. Walker Jones, and George Charnock, England Stock for sale at all times. Orders now booked for young registered pigs.

Also Black Chinese Langshans (Pure Croad Strain.)

S. COXWORTH,

Claremont,
Ont.



Breeder of
Pure
Berkshire
Swine.

HAS for sale a choice lot of young pigs, all from prize-winning stock, and from such sires as Royal Hero (591) and Star (727). I can ship to order and guarantee satisfaction. Write for prices, or if convenient, come and see my stock. Book for CLAREMONT STATION, C.P.R.

Imported Shropshires A CHOICE COLLECTION



— ALSO —

Home-bred Ram & Ewe Lambs.

23/682

A Number of good Shearling Rams,

BRED BY

H. WILLIAMS and P. EVERALL.

Shearling Ewes from Messrs. J. Bowen Jones,
H. Williams, P. and G. Evans
and P. Everall.

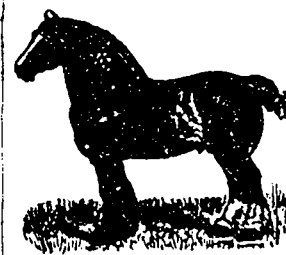
— AND —

A FEW HOME-BRED YEARLING EWES.

INTENDING Purchasers are invited to inspect the Flock at Fairview, or representatives from it at the leading Shows this Fall. Prices moderate considering quality.

JOHN CAMPBELL, Jr.

Woodville, Victoria County, Ontario, Canada.



Imported Clydesdales
FOR SALE.

A CHOICE collection of Clydesdale Stallions, Mares and Colts of both sexes, from such noted sires as "Macgregor" (1487), "Darnley" (222), "Prince of Wales" (672), "Sir Wm. Wallace" (803), "The Montgomery" (325), and "Little Jock Elliot" (3768), &c., &c. Mares are in foal to "Little Jock Elliot" and "Sir Wm. Wallace" (2486). Also on hand and for sale, Shorthorn Cattle, South Down Sheep, Berkshire Swine, and Scotch Collie Dogs. Buyers don't fail to see my stock. Prices low. Quality first-class. Address

**THOS. GOOD, Shamrock Avenue Stock Farm,
RICHMOND P. O., ONT.**

8 miles from Stittsville Station, C. P. R.



**E. D. GEORGE,
PUTNAM, - - ONT.**

IMPORTER AND BREEDER

Ohio Improved Chester White Swine.

I have bred 14 choice Sows for Spring trade and have used 4 (imp.) boars. Orders booked for spring pigs in pairs not akin. PEDIGREE FURNISHED. Special rates by express.

H. GEORGE & SONS,

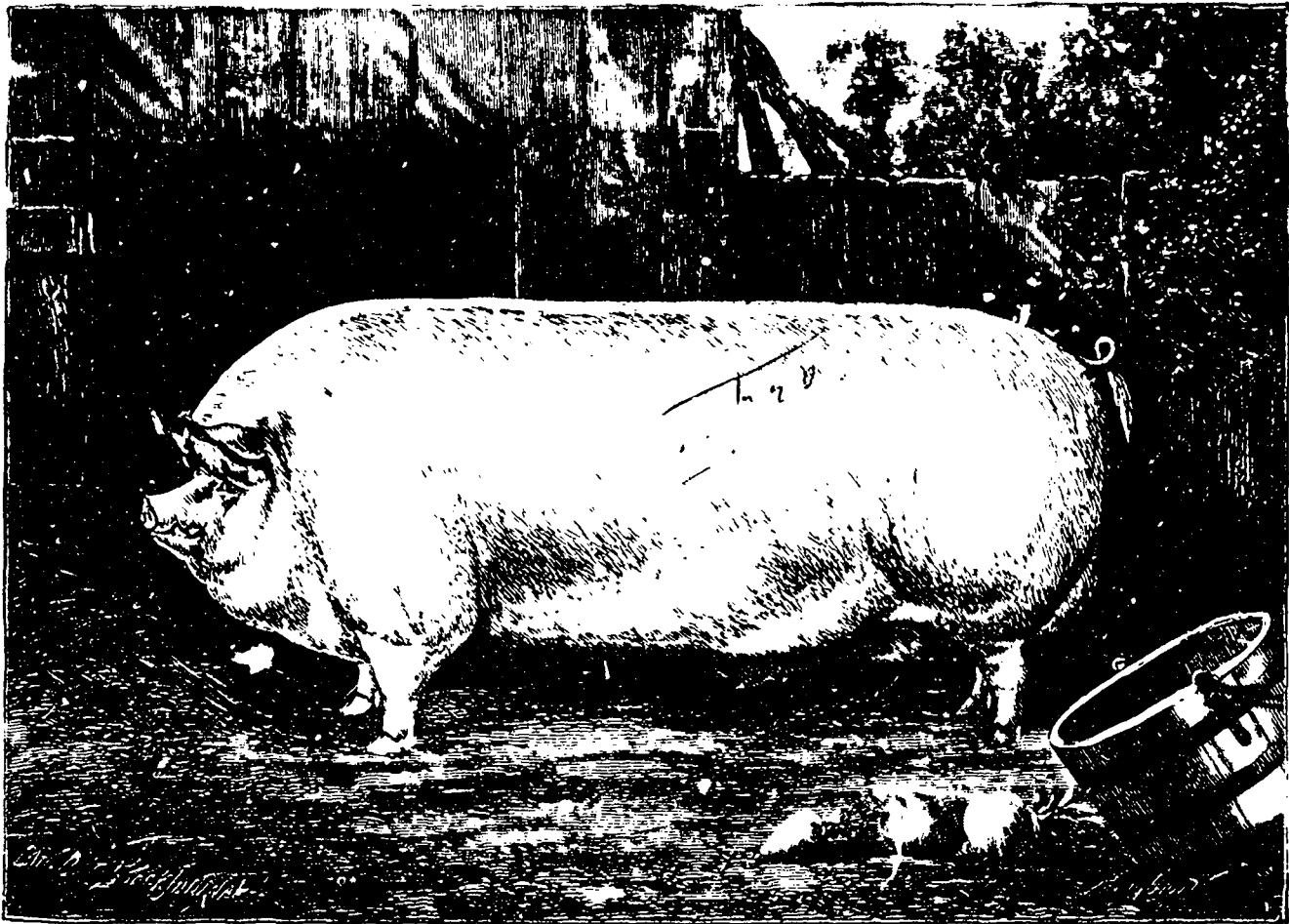
CRAMPTON
ONT.



IMPORTERS
AND
BREEDERS

OF OHIO IMPROVED CHESTER WHITE SWINE.

Also Suffolk and Berkshire Swine. We have over 100 pigs for spring trade, sired by four noted imported boars. Orders booked for spring pigs in pairs not akin. All breeding stock registered. Correspondence solicited. Single rate by express.



Messrs. Ormsby & Chapman's Improved Yorkshire Boar, "Pat." Reprinted from the CANADIAN LIVE STOCK AND FARM JOURNAL for March, 1890.

THE GRANGE FARM SHIRES, CLYDES AND HACKNEYS,

All selected from the best Stud in England. Stallions and
Mares always on hand for sale at lowest prices.

NO HORSES FATTENED FOR SHOW.

CATALOGUE ON APPLICATION.

STATIONS

SPRINGFIELD-ON-THE-CREDIT, ONTARIO.

ORMSBY & CHAPMAN,

Breeders and Importers of

SHIRES, CLYDES AND HACKNEYS,

SHROPSHIRE SHEEP,

and Improved Large Yorkshire Pigs.

IMPROVED LARGE YORKSHIRES

The Largest Herd in America

The Oldest Herd in America

No expense spared in making our selection. All Pigs
guaranteed as represented. All Pedigrees guaranteed. No
Stock fattened for show.

PRICE LIST ON APPLICATION.

STREETSVILLE ON C.P.R., PORT CREDIT ON G.T.R.

IMPORTED CLYDESDALES FOR SALE

FROM one to four years
old, stallions and fillies
from the best studs in
Scotland, including gets
from Macgregor, Harold,
Knight of Snowdon, Sovereign
Crown Jewel,
McMaster, What-Care-I,
Clyde, Scott's, Land
Craford, etc., etc.
The stock is selected
by myself with great care.
Parties wishing to purchase
should do well to inspect
personally before deciding.

Also a few **SHETLAND PONIES**
Correspondence Solicited. Howick Station, C. P. R., on
the farm. (G. T. R. one mile from Howick also.)
Address,

ROBERT NESS,
Woodside Farm,
Howick P.O., Prov. of Que.

R. & J. GURNETT,

IMPORTERS AND BREEDERS OF

**IMPROVED
CHESTER WHITE PIGS.**

Young stock for sale. Send for prices.
R. & J. GURNETT, Ancaster, Ont.

CLYDESDALE HORSES AND RED TAMWORTH PIGS

IMPORTED AND
CANADIAN-BRED

For Sale at all times, several
Imported Tamworth Pigs Bred by
John Norman, Jr., P.-S., Stafford-
shire, England, of the very best
quality.

**CANADIAN CLYDESDALE
COLTS AND FILLIES**

Got by the most noted Sires con-
stantly on hand. A few superior
Clydesdale Stallions
Kept constantly for service on the
farm. Correspondence solicited. Vis-
itors always welcome whether on
business or not.

JOHN BELL, Clydesdale Farm, L'Amaroux P.O.,
Milliken Station, G. T. R. (Midland Division), Ont., Canada

CHESTER WHITES origi-
nated in Chester County, Pa. If you
send to me I can give you stock that
will please you and benefit you. My
stock make hogs weighing 800
lbs. at maturity. Write me. I guarantee my stock and satis-
faction. C. E. MORRISON, Londonderry, Pa., U.S.A.

La Compagnie Du Haras National

30 St. James St., Montreal, Canada.

Just received 4th Importation
from France, 25 Horses,
Stable, Outremont near Mont-
real. Medway breeding and
sale farm, Perche, France.
Splendid PERCHERONS
(stallions and mares), French
Coach Horses (Normans), all
with first-class pedigrees.
Our connections in France
enable us to import cheaper
than anyone else. For terms
of sale and for our catalogue apply to the office.

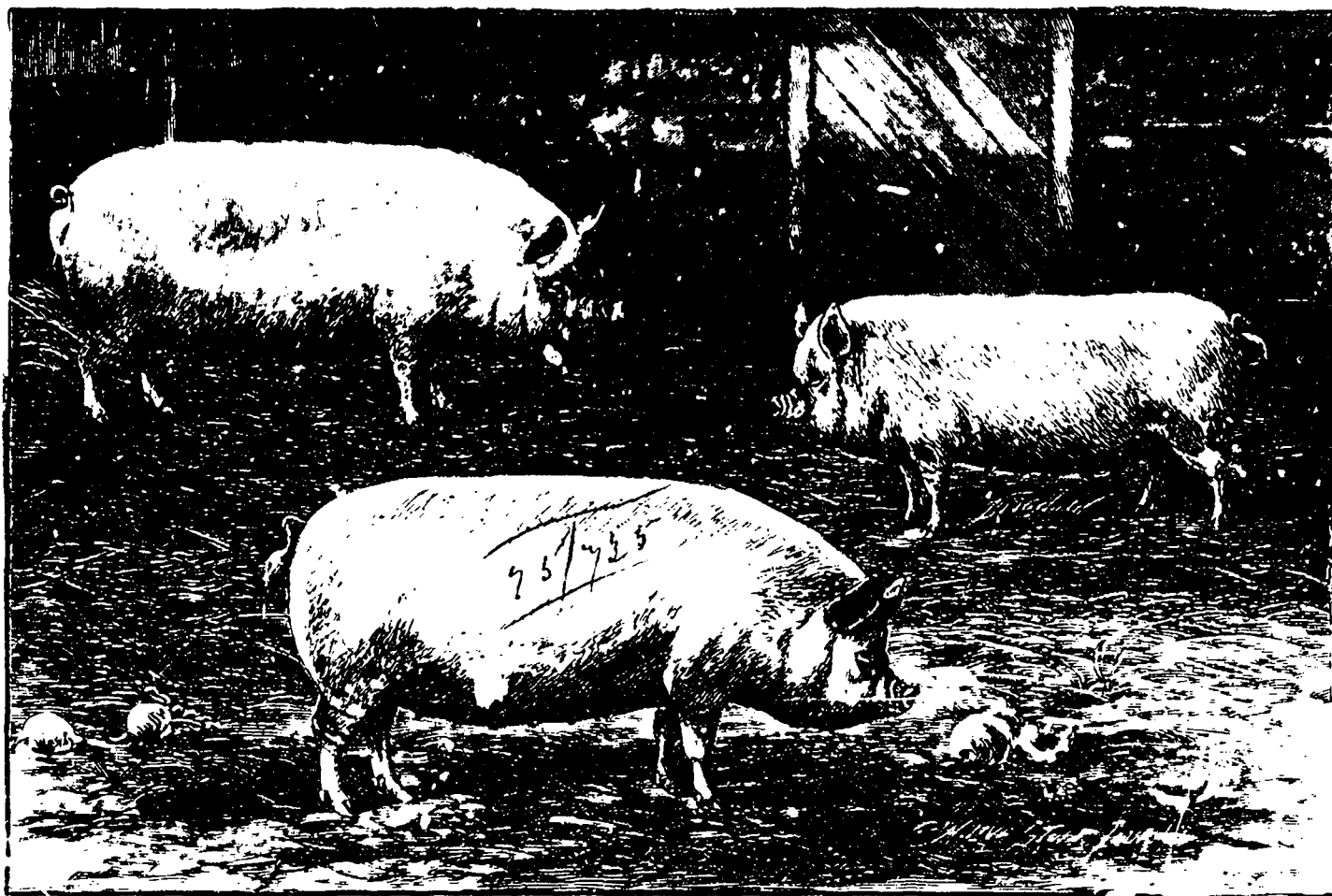
HON. L. BEAUBIEN,
President, Montreal, Canada.

R. AUZIAS-TURENNE,
Manager.

BARON F. DEMANDAT GRANCY
Vice-President, 322 5 Au Friedland, Paris, France.

DANIEL DeCOURCY,
BORNHOLM, ONT.,
IMPORTER AND BREEDER
OF
**OHIO IMPROVED
CHESTER
WHITE SWINE**

Stock for sale. Regis-
tered pedigrees.



Group of Improved Large Yorkshires, Imported and Owned by THE ONTARIO AGRICULTURAL COLLEGE, Guelph. (See Advt below.)
 Reprinted from the CANADIAN LIVE STOCK AND FARM JOURNAL for July, 1890.

IMPROVED LARGE YORKSHIRES.

Young Pigs of the Improved Yorkshire Breed, the offspring of Imported Sows, bred by F. Walker Jones, Geo. Charnock and Jos. Ashworth, England, will be sold at any time by private sale when these are on hand and not otherwise advertised.

Berkshire Pigs

From sows of the most approved breeding—

Also Young Stock of the following breeds of cattle—

Shorthorn, Hereford,

Aberdeen-Angus-Poll,

Galloway, Devon, Ayrshire,

Holstein, and Jersey.

Heavy Draught Foals of the Clydesdale Breed,

Thomas Shaw.

Ontario Agricultural College,
 25th August, 1890.

Annual Sale of Live Stock and Seed Grain

At the EXPERIMENTAL FARM, GUELPH,

This Sale will be held on the Farm on **TUESDAY, OCTOBER 7, 1890,**

when the following Pure Bred Stock will be sold by Public Auction, viz:

HORSES.

CLYDESDALE FILLY FOAL (Pedigreed).

CATTLE.

SHORTHORNS—1 Bull Calf, 2 Heifer Calves
 HEREFORDS—1 Bull Calf, 1 Heifer Calf.
 ABERDEEN-ANGUS POLLS—2 Bull Calves.
 GALLOWAYS—1 Heifer Calf
 DEVONS—1 Aged Bull (Imp.), 1 Heifer Calf.
 HOLSTEINS—1 Aged Bull (Imp.), 1 Aged Cow (Imp.), 1 Bull Calf.
 AYRSHIRES—1 Aged Bull (Imp.), 1 Bull Calf.

SHEEP.

SHROPSHIRE DOWNS—3 Shearling Ewes.
 OXFORD DOWNS—4 Shearling Ewes, 1 Shearling Ram.
 SOUTH DOWNS—1 Shearling Ewe.
 LEICESTERS—2 Shearling Rams, 1 Shearling Ewe.

PIGS.

IMPROVED YORKSHIRES—12 Young Boars, 17 Young Sows, nearly all imported in dams.
 BERKSHIRES—1 Two-year Boar, 1 Aged Sow, with pig, 7 Young Boars, 11 Young Sows.

There will also be sold the same day Seed Grains and Potatoes grown upon the farm, of the following varieties:

SPRING WHEAT.—Red Fern, Rio Grande.
 BARLEY.—Carter's Prize Prolific (England), Cheyne (Germany), O'Brien (Germany), Phoenix von Shirlari (Germany), Probsteler (Germany), Bestehorn (Germany), English Rice (Germany), Scotch Improved.
 PEAS.—The Mummy.
 POTATOES.—Early Puritan, Crown Jewel, Rural No. 2, Early Sunrise, Holton's Seedling, Early Ohio and several other varieties.

OATS.—Vick's American Banner, Bavarian, White Bonanza, Early Calder, New Zealand, Oberbrucker (Germany), Dambrog (Germany), Improved Bestehorn (Germany), Probsteler (Germany), Waterloo (Germany), White Abundance (France), Poland White (France), Black Etampes (Germany), Flying Scotchman (England), White Tartarian (Scotland and England).
 The above grains will be put up in bags in lots of from five pounds to two bushels and carefully labelled, with the price of each lot on the label. They will be exposed for sale in the experimental barn from 10 A.M. to 4 P.M., on the day of the sale, and competent persons will be in attendance to give all necessary information.

Lunch will be given on the grounds at 12 o'clock noon, and the sale of live stock will commence at 1 P.M.
 TERMS:—Twelve months credit will be given to parties who furnish approved notes on all sums of twenty dollars and over, under that amount the terms are cash. A discount of six per cent. will be allowed for cash on all sums of twenty dollars and over.

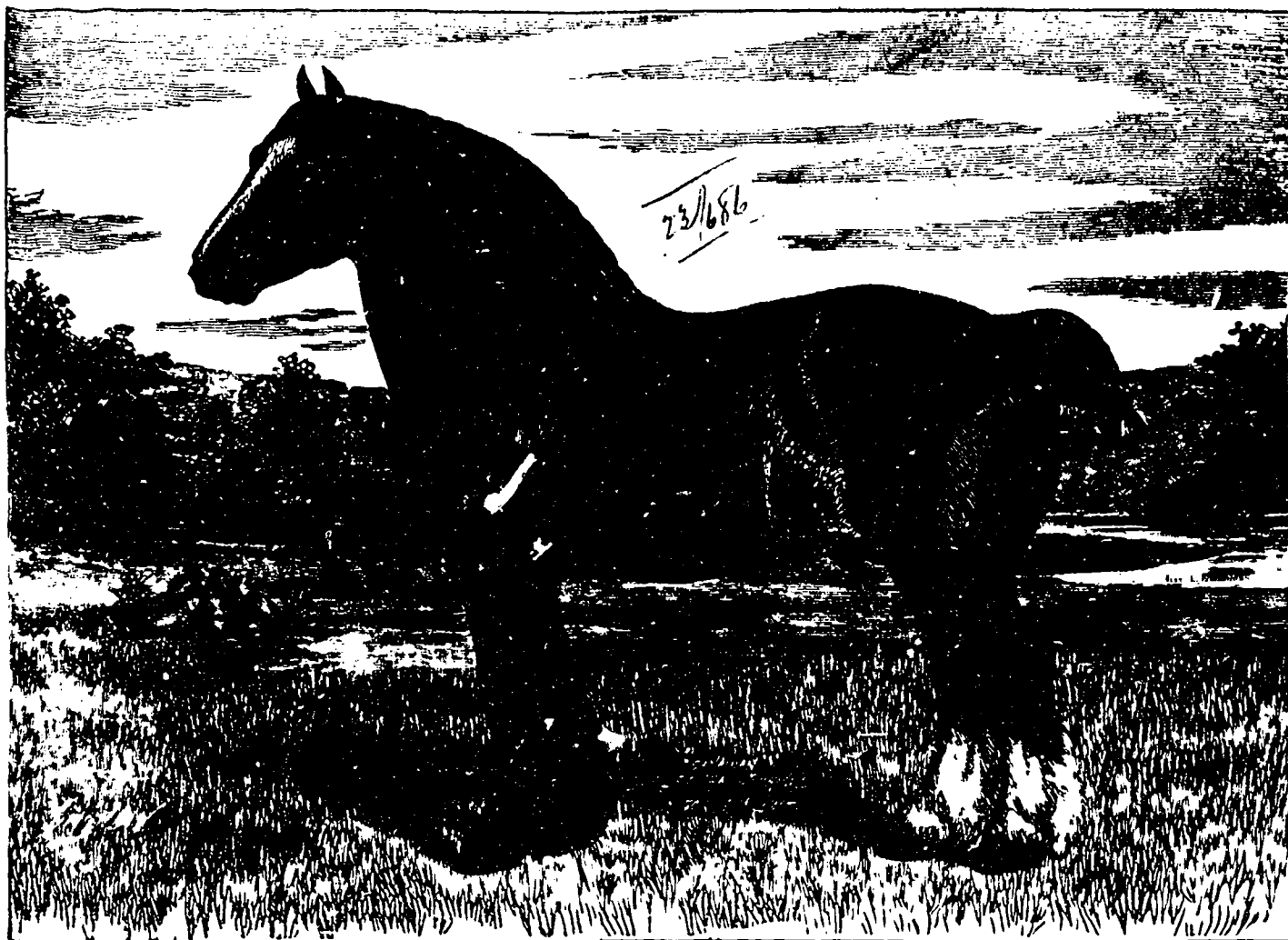
A rebate of freight will be given on sales of live stock to the extent of one-third the amount of the freight when carried more than 100 miles, and to the extent of one-half the amount of the freight when carried more than 200 miles.
 Arrangements have been made with the Canadian Pacific Railway for reduced rates of travel to parties attending the sale, and it is expected that similar arrangements will be made with the Grand Trunk Railway, of which full particulars will be given in the catalogue.

Catalogues mailed free after Sept. 10th. These will furnish all necessary particulars regarding the pedigrees of the stock and the disposal of the grain.

JOSEPH HEFFERNAN, Auctioneer.

THOMAS SHAW.

An extensive sale of live stock consisting of Hereford Cattle, Cotswold Sheep, etc., will be held by F. W. Stone, of Guelph, on the 8th and 9th of the same month.



Clydesdale Stallion "Little Jock Elliot" (3768), Owned by MR. THOS. GOOD, Shamrock Avenue Stock Farm, Richmond, P.O., Ont. (See Advt. below.)
 Reprinted from the CANADIAN LIVE STOCK AND FARM JOURNAL for November, 1886.

D. & O. SORBY,

Guelph, Ont.,

Breeders and Importers of

Clydesdales,

37 PURE-BREDS on hand and for sale, including gets of the following sires: Boydston Boy (111), Lord Erskine (1744), Macgregor (1487), Maclellan (4564), The Granite City (5397), Macpherson (3825), Knight of Lothian (4489), McCann (3818), Sir Maurice (4721), Darnley King (2717), Knight of Ellerslie (3737), St. Clair Erskine (4690), Douglas Chief (2603), Prince Charlie (629), What Care I (912), Macneilage (2992), and Gallant Lad (2781); many of our horses are descendants of Darnley (222) and Prince of Wales (673), and 23 of them are stallions and sires. Several of our mares are supposed to be in foal to our Boydston Boy (111) and Bold Boy (457).

Stables 4 miles from Guelph on G. T. R. and C. P. R., and 1/2 mile from Gourock, flag station, on Wellington, and Bruce division of G. T. R.

IMPORTED CLYDESDALE STALLIONS FOR SALE from three to six years old. We have just received a fresh importation, including the winners of several prizes in Scotland. Also a few Canadian bred Colts and Fillies on hand.

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BREEDERS ATTENTION I guarantee I can give you a plan that you may cause your stock to come either male or female, as you desire. Send stamp for particulars.
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On This Continent.

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I have a Stock of Clydesdales of superior merit, at the head of which stand the celebrated Macgregor's son, "Little Jock Elliot" (3768). This grand Horse was twice a winner of first honors at the Royal Show in England, and also Winner of First Prize at the Centenary and Highland Show, the greatest honor that could be conferred on any horse in Scotland. He was also a winner of many other prizes at Glasgow, and other exhibitions, and on this side of the Atlantic was an easy winner of 1st, as a three-year-old, 1st in the open class, and gold medal as best horse of any breed at Sherbrooke. I have several grand stallion colts, got by him, for sale, also a choice lot of Imported and Canadian Bred Animals of both sexes for sale, including the celebrated three-year-old mare, "Queen Vic," Winner of 1st and Diploma at Ottawa, last year, in a strong ring of imported animals of all ages. Among the Stallions, I might particularly mention "Sir Wm. Wallace," and the grand two year-old "Sir Walter," a First Prize Winner at Ottawa, last year. In Cattle, Sheep, and Hogs, I have some very choice animals for sale. For particulars address,

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Group of Clydesdales, Owned by Mr. JAMES HUNTER, Sunnyside, Alma, Ont. (See Advt. below.)
Reprinted from the CANADIAN LIVE STOCK AND FARM JOURNAL for April, 1889.

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Bulls which it has produced. The young animals are mostly
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Consisting of mares and fillies of different ages; and a one-
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by the Famous Stock Horse, "Gambetta," by "Prince of Wales"
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These include several Prize-winners at leading shows, and
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Also a number of—

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will remove all signs of fever, and
consequently prevent any disease
that may be going about from
taking a firm hold on their con-
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now used, as it keeps the hide,
enabling the animal to cast its
hair, and is also an unfailing
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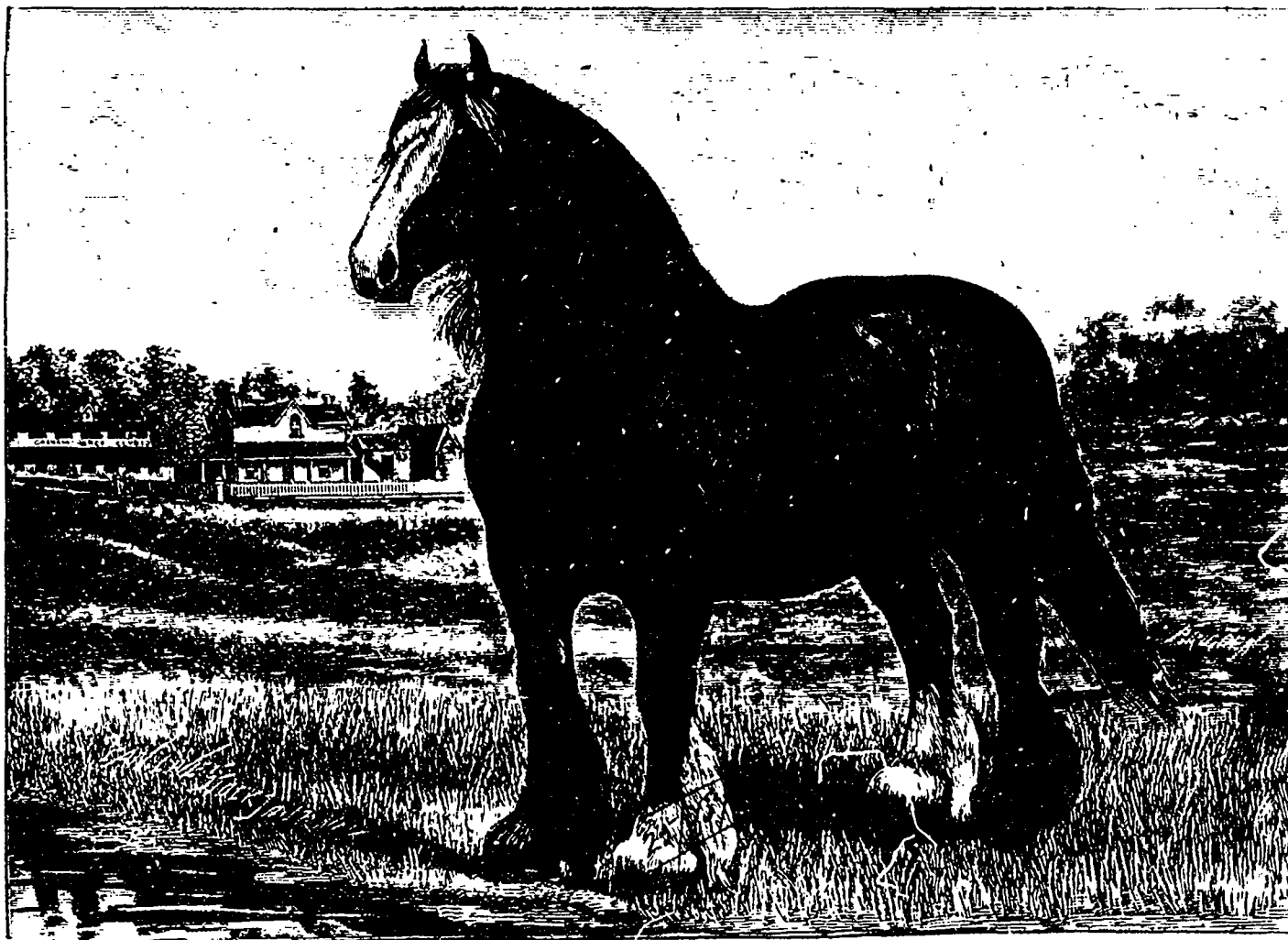
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lection of prize-winning animals of
the above breeds. The Clydes-
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quality. The Shorthorns are of
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superior individual merit.

Particular attention is called to our Stallions
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Reprinted from the THE CANADIAN LIVE STOCK AND FARM JOURNAL for February, 1890

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Prices reasonable. Catalogues furnished on application.

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Howick, Chateauguay Co., Province of Que.,

Offers on reasonable terms CHOICE Pedigreed
Clydesdale

Stallions and Fillies



Amongst them are: Lord
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Prize winners in Scotland,
freshly imported, all from fa-
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and registered in the British
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Correspondence solicited,
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Cards under this head inserted for one year at the rate of \$1.50 per line when not exceeding five lines. No card accepted under two lines nor for less than 6 months.

Parties desiring to purchase Live-Stock will find in this Directory the names of the most reliable breeders in Canada.

BRITISH.

T. S. MINTON, Montford, Shrewsbury, England, Breeder of English Pedigree Stock. Shire Horses, Hereford Cattle, Shropshire Sheep, and Berkshire Pigs. 508

HORSES

JOHN BELL, L'Amaroux, Ont., Breeder of Clydesdale Horses and Tamworth Pigs. See large adv. in Journal. 519

A. & J. BELL, Athelstone P. O., P.Q., importers and breeders of recorded Clydesdale horses, Ayrshire cattle, Cotswold sheep and Berkshire pigs. Stock for sale. 535

THOS. BLANCHARD, Appleby, Ont., breeder of Shire horses, Shorthorn cattle and Leicester sheep. 534

R. C. BRANDON & CO. Clydesdale specialty. 4 registered brood mares. Stock for sale. Pearlside Farm, Cayuga, Ont. 478

E. W. & G. CHARLTON, Duncreef, Ont., importers and breeders of pedigree Clydesdale and Coach horses. 535

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H. H. SPENCER, Brooklin, Ont., importer and breeder of Clydesdale, Scotch Shorthorns, choice recorded Shropshires, and Berkshires of good length and well harned. 537

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SAMUEL HARPER, Cobourg, breeder of Devon cattle, Leicester sheep and Carriage horses. Stock for sale. 544

AYRSHIRES

W. C. EDWARDS & CO., North Nation Mills, P.Q., breeders of pure-bred Ayrshire cattle and Berkshire pigs. Young stock for sale. 543

A. GERRARD, Hamilton, Ont., breeder of pure Ayrshire Bull calves sold young and cheap. Write or call. 545

T. GUY, Sydenham Farm, Oshawa, Ont., breeder of Ayrshire cattle, Southdown and Leicester sheep. 482

THOMAS IRVING, Montreal, importer and breeder of Ayrshire cattle, Berkshire pigs and Clydesdale horses. 483

J. McCORMICK, Rockton, Ont., breeder of Ayrshire cattle, Toulouse geese and Colored and Silver-Grey Dorking chickens. 430

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