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AND HOME MAGAZINE

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

Vol. XXXVII. WINNIPEG. FEBRUARY 20, 1902. MANITOBA. No. 544

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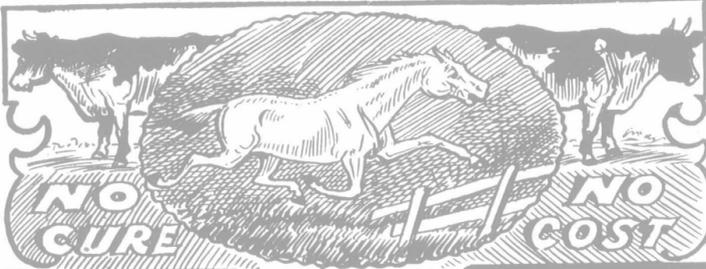
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VOL. XXXVII.

WINNIPEG, MANITOBA, FEBRUARY 20, 1902.

No. 544

## Gives Satisfaction Everywhere.

Angus Mackay, Superintendent Experimental Farm, Indian Head, Assa.:—"I do not at present know how you can make the 'Farmer's Advocate' better than it is. It gives satisfaction everywhere."

## The Remount Question.

The ventilation of the scandal regarding the purchasing of army remounts for the motherland, which took place recently in the British House of Commons, may be productive of good to Canada. During the discussion, Secretary of War Broderick stated that 446,088 horses had been purchased, of which 77,101 came from the U. S., and 11,364 from Canada. It will at once be noticed what a small percentage of those horses came from Canada, and of that number only a few thousand came from Western Canada. Only a short time ago the "Advocate" chronicled the statement of Mr. J. D. McGregor, of Brandon, descriptive of the class of Montana stock he saw being purchased for the British army, mere cayuses at \$10 apiece, for which no veterinary examination was held. In marked contrast was the purchase and stringent examination of what few were bought by Col. Dent in the West. The European purchases seem to have been an opportunity for a rich dip into the British treasury, and, from information the writer has at first hand from a prominent Chicago veterinarian, the same has been the case to the south of us. That gentleman was offered the job of inspecting and passing a large number of these horses (of course, they were all to pass), but refused, as it was a job which savored strongly of crookedness. He had witnessed a large number of such horses passed some time before, and, while not expressing any sorrow, said "it was a fat thing for the contractors, and a big steal from the British Government!" The following letter in the Toronto Globe, of recent date, gets at the kernel of the matter with regard to the dilatoriness in purchasing army horses in Canada:

### ARMY REMOUNTS.

To the Editor of The Globe: It is not altogether pleasant reading for Canadian farmers that the "English War Office is buying 10,000 horses in Prussia for use in South Africa." I see it is also stated that "American contractors for the War Office are purchasing remounts right along the British Columbia frontier in large numbers, while the British officers examine a great number of the same sort every day just ten miles further north, and now and then descend to pick out one or two from a fairly large mob." I submit that other but equally fastidious gentlemen are perpetrating exactly that sort of folly in Ontario. Instead of taking what serviceable animals up to general specifications are offered to them in Toronto and elsewhere, they go on as if they were judging at a horse show, criticising a horse's ears or tail, saying his back is an inch too long for symmetry, or that he is calf-kneed or goes too wide behind. These and similar fanciful objections, which would make the Boers laugh, are the reasons for thousands more horses not being shipped from Ontario. Is it not about time to call a halt in this senseless mode of procedure? Should not the Minister of Agriculture for this Province, himself a good judge of what is wanted, make representations to the War Office, with a view to having all this tomfoolery stopped? A Canadian dealer, gifted with common sense, free of War Office red tape and of English fads and prejudices, could deliver in two months at the ship's side more horses than the English officers have bought in two years, even if as suitable for the service to be rendered by them, and in the aggregate quite as good looking a lot. The difference of the two systems was illustrated when the horses for the contingent just

started from Halifax were bought by a Canadian contractor. What is wanted in the English system is a rather more liberal use of good temper and—

Many Westerners ate humble pie, and to little purpose, because it was duly impressed upon them by various officials that if the British purchasing officer was favorably impressed he might be induced to buy horses out West again and again. The annual ridding of the country of the type of horses termed army remounts—the misfits of horse-breeding—would certainly be a good thing.

In this connection, the "Advocate" has steadily advised its readers against attempting to breed the army horse; such a horse results from our efforts at breeding only too readily. "Breed the best possible and dispose of the culls!"

Hon. Mr. Fisher could doubtless draw the attention of the British Government again, as he has managed to get them to buy large quantities of grain, flour and fodder, and the supply of horses of the army-remount type in the West is a large one, all statements to the contrary notwithstanding. As proof of this statement, 80 horses were picked up in the vicinity of Brandon in a few days for the last contingent.

## Why Does Loose Soil Produce Rank Soft Straw?

Our failures, as well as our successes, have lessons for us if we will but learn from them. A noticeable feature about last year's crop in many localities, especially in the eastern part of Manitoba, was the extraordinary growth of rank soft straw, much of which was badly rusted and which lodged badly and did not produce the yield or quality of grain promised by the early prospects. While in many sections wheat was affected by this softness of straw, the oat crop was most seriously damaged, in some cases ruined. While late sowing and indifferent preparation of the soil had much to do with these conditions, we must look for other reasons. A noticeable fact is that on loose, mellow soil the straw was more rank and soft than on firmly packed soil or on the heavy clay spots.

The eastern portion of Manitoba, from the Pembina Mountains and Portage la Prairie eastward, was visited during the growing season by two weeks of excessively hot, moist weather, which was not so marked on the higher lands westward of the line indicated, and the further westward the less these conditions prevailed. Just why such hothouse conditions of the weather should produce a rank soft growth of straw on loose soil and not on firm, well packed soil is a problem a complete answer to which would lead to a better understanding of the principles of soil cultivation. In endeavoring to find the correct solution we have consulted some eminent authorities, as quoted below.

To the Editor "Farmer's Advocate":

Replying to your letter, will say that it would hardly be prudent for me to give off-hand an explanation of the conditions to which you refer without knowing more details than you could well give in a letter. If your lands are exceptionally rich and there is a tendency to maintain generally an abundance of soil moisture for the crop, the loose condition, as compared with the compact one, would have the tendency to make the moisture go further and, as a result, the conditions that generally result in a moist season which is other things being equal, crop production, leading to produce a rank soft growth of straw and to a greater extent of lodging. The rank growth produced under such conditions is a part of a general prevalence of woodiness in the

stem. On the other hand, if such rich soils are left firmer, so that more moisture is lost by evaporation, your crop is brought nearer to dry-weather conditions, less straw is developed, less shade results, and you have stiffer stems with more grain. (PROF.) F. H. KING.

Director of the Division of Soils, Department of Agriculture, Washington, D. C.

To the Editor "Farmer's Advocate":

Your interesting letter received. It presents to me, for the first time, information regarding the effect of rolling upon the growth of straw and yield of grain as existing in Manitoba and the Northwest Territories. This is evidently a very important question, and I should like, if possible, to be in possession of further facts respecting it before deciding as to the cause or causes of the phenomena you mention. As an interim opinion, I might say that the ranker growth of straw on the loose land is possibly due to a larger amount of soil moisture and its concomitant of nitrates. You will remember that our experiments at Brandon and Indian Head last year showed that the fallowed land contained much more moisture than that which was not fallowed. (See Report of Farms for 1900, p. 154.) If this is the explanation, I should expect that the rolled land would give the better results when a dry season prevailed during the germination and early growth of grain, and that the loose soil would be more satisfactory when this period was excessively wet.

The ranker growth of straw and softer grain are no doubt the result of a too vigorous and too prolonged vegetative growth, brought about by the conjunction of a soil rich in nitrogen and an excessive amount of moisture, which latter may induce, if the showers be intermittent and the weather hot, a large production of nitrates. This would delay the maturing of the grain.

Rolling has the effect of "firming" or compacting the loose soil, and so rendering it more suitable for the germination of fine seeds. It, further, tends to increase the amount of water in the surface layer by setting up capillarity, which favors the drawing up of the moisture from below. This, it will be observed, does not mean any distinct gain in moisture to the soil, but merely a transference to the upper or surface layer from the deeper portions. A more rapid evaporation sets in after rolling, and, therefore, it has been recommended that a slight mulch be formed by lightly harrowing with a chain or brush harrow, thus preserving from loss the water drawn from below by compacting the surface soil. (Sgd.) FRANK T. SHUTT, Chemist, Exp. Farm.

To the Editor "Farmer's Advocate":

I am not able to explain the reason why grain does not turn out as well on loose, unpacked soil as on firmer land. I have often thought the reason was on account of there being so much loose soil on top that when a dry, hot spell comes the heat and wind strike down to the roots and the grain does not fill. Loose soil induces rank growth and this induces rust when the weather favors it, which, of course, is against large yields. This year in this section some of the big yields have grown on loose fallows, but after the grain started to grow there was no check until ripe, and it filled perfectly, even when the growth of straw was extra rank. Some few fallows were lodged in places and rust injured the grain somewhat, but, except these, the grain was as good on loose soil as on well-packed. I have always been against two plowings for fallows, for the reason that it induces too rank growth, which is liable to be frozen, struck with rust or some other drawback happen to it, in addition to bringing a lot of weed seeds to the surface ready for germination.

ANGUS MACKAY, Superintendent, Indian Head Experimental Farm.

The importance of a firm soil is very evident in a moist season to prevent excessive growth of straw, with its consequent tendency to rust and lodge, and in a dry season to assist in the re-

## THE FARMER'S ADVOCATE AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN MANITOBA  
AND N.-W. T.

PUBLISHED SEMI-MONTHLY BY  
THE WILLIAM WELD COMPANY (LIMITED).

WESTERN OFFICE:  
MCINTYRE BLOCK, MAIN STREET, WINNIPEG, MAN.

EASTERN OFFICE:  
CARLING STREET, LONDON, ONT.

LONDON (ENGLAND) OFFICE:  
W. W. CHAPMAN, Agent, Fitzalan House, Strand,  
London, W. C., England.

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2. TERMS OF SUBSCRIPTION—\$1.00 per year *in advance*; \$1.25 if in arrears; sample copy free. European subscriptions, 6s. 2d., or \$1.50. New subscriptions can commence with any month.
3. ADVERTISING RATES—Single insertion, 10 cents per line, *agate*. Contract rates furnished on application.
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tention of soil moisture and ensure the growth of sufficient straw to produce a crop.

A firm soil does not mean a condition approaching hard-pan nor a baked clay, but a well-worked, thoroughly-pulverized soil, made firm by skillful plowing and subsequent cultivation.

Right here there is room for much study regarding the principles of plowing and cultivation and the particular make of implement best calculated to accomplish the desired object.

No matter how skillful the operator may be, however, his work cannot be as successful as it should if the soil he is operating upon is in bad mechanical condition or devoid of humus. Humus, decayed vegetable matter, grass roots or manure in the soil is beneficial, on account of the following, among other reasons:

- Prevents soil drifting.
- Prevents clay soils baking.
- Absorbs and retains moisture, affording the growing plants a more regular and uniform supply of moisture throughout the season.
- Encourages seed germination by taking up and retaining warmth.
- Reduces labor; plows clean and do better work, as do other implements of tillage.
- Permits of a firm seed-bed, without danger of packing or baking.
- Ensures better crops and greater profits.
- Therefore, get humus into the soil.

### An Unmerited Accusation.

In "Farm Siftings," of January 20th issue, appears a reference to the Alberta oat question, which, while championing the cause of the Albertans, has also reflected on the integrity of the Commercial, which, through an oversight, was allowed to creep through, and which is, we believe, entirely unmerited. The publication referred to is a reliable trade paper and endeavors to further the agricultural interests by quoting liberally from up-to-date agricultural literature, so that its constituents may be well informed as to what is going on in the agricultural world. As the policy of the "Advocate" is "to build up and not tear down," we deplore the statement referred to.

Harold D. Buchanan, Cottonwood, Assa. "Your Christmas number was perfect this year, the illustrations being most natural." January 30th, 1902.

### The Western Cattle Business.

Last season's transactions in cattle were not too satisfactory to the Western rancher, for which many reasons have been advanced. The buyer was blamed, who, hating to unveil the rancher's eyes, blamed the railway company, who in turn blamed the existing conditions on the season. No one was honest with the other in the matter, because each was averse to hurting the other's feelings, although all suffered in pocket.

The time has come for heart-to-heart talks in the matter, and while the railroad rates and accommodations are yet far from perfection and the cattle buyer looks the hardest after his own interests, we might say briefly that "it's up to the rancher" to make the required and necessary change—that is, if he wishes to get any share of the British markets for his products. So long as he will buy inferior stockers, so long as he will buy inferior bulls (even pure-breds), because they are cheap, so long will continue dissatisfaction in the cattle business. Coupled with the above causes are the putting of unfinished stuff on the market and a lack of knowledge of what really constitutes a good animal. Texas has made a name for herself with cattle, but did not do it with the help of the \$50 or \$100 bull; the Texans stayed the limit even if it reached the \$1,000 mark, and to-day they reap the benefit. The sooner the rancher buys the best stuff and stops being the dumping ground of the culls of even pure-bred herds, the better for himself. We often hear it said that "\$100 is all a rancher will go for a bull," which is only too true. Again, the West has been the dumping ground of Ontario- and Manitoba-bred stockers, the former often the get of a dairy bull, the latter in many cases only a little better. If the rancher insists on a better class of stockers and a better class of pure-bred bulls, he will get them if he pays the price. He holds the key to the whole situation. Some of the ranchers know that the above statements are only too true; in fact, it was left to one of them to stem the tide of the thin-beef heresy at the late Fat Stock Show at Guelph, and protest most emphatically against applying the bacon-hog standard to export steers. A campaign of education along live-stock lines is the need of the hour, if Canada ever hopes to be as well known for her beef as for her cheese. In this connection, the rancher must fight shy of the Ayrshire-Shorthorn crosses, as however valuable the female product of such a cross may be for the dairy, the steers will never make first-class export cattle. If people do not know a good bull or a good steer when they see one, paying high prices for poor stuff will not help them out; the fellows that know are rarely guilty of buying a poor bull because he is cheap.

### Farm Siftings

A neighbor showed me a circular letter he received recently, in which a city friend (!) advises him to ship his own wheat. The captivating bait is also thrown out to get him to take a bite at speculating in options. We sometimes hear of a wheat-man winning a few thousands in the wheat pits of Chicago or St. Paul, but we seldom hear of the fellows who dropped their pile at the same game. A shrewd farmer said recently: "We are bled by the wheat buyers, from three cents a bushel up, so that they may reimburse themselves for their losses in speculating in Chicago wheat." Is he correct?

Judging by the reports I read of the fat-stock shows, cattle and other live stock are getting too well fed these times. Isn't that exaggerated? From the appearance of my neighbors' cattle, their owners are guilty of the sin of omission (of feed) instead of commission. Average Canadian farm stock never suffers from too much feed or too much flesh or fat. An occasional hog or sheep or even hen may get that way, but for every one overfed there are thousands underfed.

Good stallions seem to be coming to the country, according to the "Advocate's" Gossip columns. In addition, good brood mares are what are wanted to help along the breeding of horses.

Now is the time to study the seed catalogues, and select your garden and field seeds. Be careful from whom you get flax. It is usually accompanied by mustard or other foul seeds. Corn, roots, and grass should be on your list of things to plant the coming spring.

Speaking of seed, the grain to be planted should be clean, sound and large. Remember, bluestone and don't agree well, and for that matter, the black fungus of oats has little

use for formalin. The selection of large seed from the heaviest-yielding grain, year by year, will mean a better sample and increased yield.

It is in order to decide now whether you will purchase a bull for that grade herd of cows. Select a good pure-bred and do it soon, as the ranchmen will soon be culling the Manitoba herds.

Manure piles steam this winter, showing that fermentation and rotting are going on. Mix the manure from the horse and cow stables, one helps the other. A hide is often used to draw out the manure from the stables, one winter usually sufficing to wear it out. A small stick riveted on each end of the hide will help it last.

What a comfort and convenience a workbench and a few tools is to a farmer, especially during the rush periods of work. A good plan to follow is to have boxes arranged with an assortment of nails, bolts and nuts, etc., so that they can be secured without loss of time.

One of the unfortunate signs of the times is that some farmers will allow a few professional agitators from the cities to come out and tell them they are not doing well and make them feel blue generally. Whereas, if the truth was known, very few farmers want for a good living, and those of them that observe business principles are increasing their bank accounts or their investments on the farm, live stock, etc. We want more farmers to do their own thinking, and not let the demagogues act as their guide-posts.

INTER PRIMOS.

### A Westerner Promoted.

Dr. J. G. Rutherford, the newly-appointed Dominion Veterinarian, is a Western man, making his home at Portage la Prairie, Manitoba, for many years.

The Doctor is a Scotchman, having been born in 1857, at Mountain Cross, Peebleshire, his father, Rev. A. Rutherford, M. A., of Edinburgh, having been for fifty years minister of that place (Mountain Cross). He came to Canada in 1875, spent one year at the Ontario Agricultural College, Guelph, taking first prize for practical agriculture, and one year at Bow Park Stock Farm, Brantford, with the late Mr. John Hope. He graduated from the Toronto Veterinary College, where he was a gold medalist; practiced in Woodstock, Ont., where he was Government Inspector for Oxford County, and at Saratoga, N. Y., where he was veterinarian to a prominent racing stable. Settling in Portage la Prairie, Manitoba, in 1882, he was appointed, in 1884, by the Provincial Government, district veterinarian, which position he held until 1892. He served as veterinary surgeon to the Northwest field force under Middleton in 1885, and was present at Fish Creek and Batoche, receiving the medal and clasp. He married, in 1887, Edith, daughter of Washington Boulbee, Esq., of Ancaster, Ontario. He has been president of the Portage and Lakeside Agricultural Society, of the Driving Park Association, of St. Andrew's Society, and repeatedly president of the Veterinary Association of Manitoba, and president of the Horse Breeders' Association of Manitoba for the last five years, and chairman of the Portage la Prairie General Hospital since its inception.

His early training in agriculture caused him to take part in matters of interest to farmers, and he labored earnestly in the local Farmers' Institutes, and brought to his town the well-known Thoroughbred, "Kilburn." His efforts for the advancement of the veterinary profession in Manitoba were, in a great measure, the source from which the present Veterinary Medical Association and well-constructed Act sprung, and at the hands of the Association he has received the highest honor it can confer, by being made its president; later, he was elected to the Local Legislature for Lakeside, which constituency he represented from 1892 to 1896, when he resigned to enter the larger field of Dominion politics. His public record has been a good one, and has shown him to be animated by patriotic motives and sound common sense. His interest in horse-breeding was not confined to himself, as he fathered the Manitoba Horse Breeders' Lien Act, than which a better measure is not to be found on any statute book to-day, as is shown by the request of the Ontario horsemen, who are now asking for similar legislation. As president of the Horse Breeders' Association of Manitoba, he used his influence to get the British Government officer to purchase army horses in the West. About a year ago he was appointed by the Dominion Government to look after the testing of cattle in Great Britain for importation to Canada. For this work he was stationed at Glasgow, where he resided until the close of the season for shipping live stock to Canadian ports. A practical live-stock man and a successful veterinarian, we feel the Dominion veterinary interests are now placed in safe hands, and look for the Dominion Veterinary Department to get in closer touch with the live-stock interests of Canada than heretofore.

### The President of the Grain Exchange on Flax.

Mr. Wm. Martin, the proprietor of the Hope Farm, St. Jean, and ex-president of the Winnipeg Grain Exchange, in his retiring address at the annual meeting of the Exchange, referred thus to the subject of flax-growing:

Flax is a crop that is deserving of more attention than it has received in the past. It is a crop that is considered the money-making crop in North Dakota and Minnesota. Hitherto it has been grown chiefly in the Mennonite settlements of Manitoba, but during the past year it has been introduced into other districts by our friends who have come from the American side to settle here. Flax is the only crop that can be grown successfully on new breaking, and on that it often gives results equal to the best crop from older cultivated land. It is one of the staple crops in all climates, doing equally as well in India and Argentina as in America. It commands a price double the price of wheat, and is likely to continue for some time to hold its value. In the United States it is the one article which the farmer produces on which he realizes the benefit of a protective tariff, the high duty guaranteeing the American grower a price induced by the excellent home market and the inability of the home product on some occasions to supply the demand. In Canada flax is on the free list, while all other grain products have a tariff, and flax is the only farm product in which a tariff would do good. If our farmers had the same protection that the American farmer has, flax would be the most remunerative crop that the Northwest could produce. This matter ought to be taken up by our farmers, friends, and grain-trade critics. This is one line of the grain business where they could do the country some good. Here is an article that can be produced most successfully by our farmers; it is the basis of an important line of manufacture, which would find a large home market, and yet flax is on the free list and linseed oil has only a nominal duty, while wheat and flour, which are produced in excess of home requirements, and have to seek an outside market, are guarded by a heavy duty against foreign competition. The flax crop of Manitoba has, as yet, been a trifle, but when one looks at the strides it has made in Dakota, and how important a part it forms in the crop statistics of that State, one does not need to be a prophet to foretell that with fair treatment it will soon amount to an important factor in the productions of this country. It, too, like wheat, is trekking north. Beginning in Kansas, the flax crop of the United States has steadily marched north, making in turn, Kansas, Iowa, Minnesota and Dakota the banner flax State of America.

### Ventilation Principles.

The best location for the ventilator shaft is near the center of the stable, where it will interfere with the work in the smallest degree; in case the arrangement of the building will not permit, other locations can be made to serve the purpose. If horse fork or sheaf carrier interferes above, place it at end.

#### EXITS FOR BREATHED AIR.

The impurity of breathed air, carbon dioxide, although warm, is heavier than the remainder of the air in the stable, and the cold air is also at the floor; therefore, especially in winter, the effort should be to remove the impure and cold air, which is done by having the exit shaft open near the stable floor. In the illustration of King's system (see our Feb. 5th issue), an opening is provided at the ceiling (at B) for warm air to escape when the stable is too warm and when it is felt necessary to force the ventilation; both openings, the one at the floor and that at the ceiling, should have registers, so that the draft may be regulated.

#### FRESH-AIR ENTRANCES.

The construction of a stable should be such as to have it warm and free from drafts, and if a constant stream of warm fresh air takes the place of the impure and cold air nothing more remains to be desired in the scheme of ventilation. The bringing in of fresh air should be done so as to even up its temperature before bringing it in contact with the animals. In order to do so, fresh air must be brought in at the ceiling, and thus use the waste heat to warm up the newly-entered air; as the breathed air is being constantly removed, the fresh air falls to the level of the animals, who thus do not lie in a zone of cold air. The inlet into the stable is at the ceiling; the outside inlet is, however, four or more feet below that, in order to avoid the warm air being drawn out, as might happen through a direct opening in the wall. In the matter of inlets, they should be on all sides of the stables, small in size and fairly numerous, thus lessening chances of drafts in addition to distributing the air better. The ordinary hot-air registers can be used for the exits, while the inlet openings could be provided with a wooden slide on the outside, to be closed if the wind was blowing on that side of the building.

### Contagious Abortion Again.

Dr. Peters, of the Nebraska Experiment Station, has the following to say regarding the stamping out of this serious menace to the stock-breeder:

It was suggested several years ago by some veterinarians that the bull might be the originator of the contamination, but for a great number of years the most stress was laid on the fluid that exuded from the vagina. It was thought that the contamination took place in this way to the stable, but it was known that cows aborted that had never been in the stable and could not have been contaminated very easily in that way. In Denmark, where the disease has been prevalent, it was found that the bull was the animal that carried the infectious germs. When this fact was thoroughly established, there was a campaign made against the bull and he was thoroughly disinfected before serving the cow, then thoroughly disinfected after serving, and since this practice has been in vogue it has reduced abortion in a great measure. Alongside of the disinfection of the bull, the cow that aborts must be taken care of immediately; the afterbirth burnt—not buried, but burnt—the premises where the cow aborted thoroughly disinfected with slaked lime and the cow immediately disinfected with a five-per-cent. solution of chloro-naphtholeum and lukewarm water. This is best applied with a common fountain syringe. The rubber syringe is inserted into the uterus with the hand, which has been previously oiled; then the solution filled into this fountain syringe and the entire vagina irrigated in that way. After two or three quarts or probably a gallon of water has been allowed to flow into the uterus, the tube is disconnected from the fountain and it is allowed to siphon out

### Thermometers for Farmers.

One of the useful articles which should be in the possession of every stock-breeder is a clinical thermometer. This delicate little instrument may be obtained for \$1.50 to \$2. The temperature of farm animals is averaged at 100 degrees Fahrenheit by most persons. The following temperatures will, however, show the variation in different animals: In the horse, while in health and at rest the normal temperature is 100 degrees Fahr., in cattle 102 degrees, in the pig 102.5 degrees, and in the sheep 103 degrees. Any material variation from these figures should always be regarded as indicative of constitutional disturbance. When the temperature in either of the animals referred to is more than a degree above or below the figures given it may be taken as a certain indication that the health of the animal is not what it ought to be. With regard to the method of using the clinical thermometer, we quote from Hopkins' "Veterinary Elements": "The temperature of animals is usually taken in the rectum, where the thermometer is allowed to remain from 1 to 3 minutes. Always shake the mercury down in the thermometer before using it. To do so, place the instrument bulb down between the finger and thumb, then with a wrist movement shake the thermometer in a downward direction. The bulb of the thermometer should have a little vaseline put on it before introducing it into the rectum. It should be introduced slowly, and if any obstruction is met with, should be turned between the fingers and its direction changed slightly."

Geo. C. Currie, Boissevain, Man.: "I esteem your paper highly."  
January 30th, 1902.



ROYAL INFIRMARY FLOCK, EDINBURGH.

### Good Mares Wanted.

All will agree that the horse-breeding business promises to be fairly remunerative in the West for some time to come. The demand for range-bred drafters is good and prices are fairly stiff and may be expected to get more so as seeding time approaches. The favorite with the farmer, and certainly the most remunerative, is the drafter. To produce that horse good mares are needed.

The importation and sale of stallions for the coming season has been good, and a recent sale of pure-bred draft mares shows that the demand for such is also good. The necessity for excellence in the female is more imperative in horse-breeding, speaking as a general thing, than in the breeding of any other class of live stock. The statement made frequently by cattle-breeders, that "the bull is half the herd," is very true in regard to his influence; in horse-breeding the stallion sometimes exhibits similar prepotent powers, but not as regularly or as strongly as does the pure-bred bull. One reason for this is that in many cases the ancestry of the stallion is not at all ancient, and the mares are in many cases of mixed origin, due to the vacillating breeding policy followed by too many farmers. So that in the majority of cases the purchase of a well-bred young brood mare of the desired type will bring on more quickly the desired result than would an attempt to grade up from the common stock. We do not by any means wish to discourage the grading process, but believe that for the ambitious horse-breeder, the thing to do is to purchase a first-class brood mare.

Michael Whitfield, Ireland, Mo.: "I could not get along on the farm without the Farmers Advocate."  
February 4th, 1902.

into a pail, and this is repeated until the fluid that flows from the uterus is almost clear.

The bull is disinfected in the following manner: With a small, fine nozzle and fountain syringe filled with a five-per-cent. solution of the chloro-naphtholeum and inserted into the opening of the foreskin, it is thoroughly disinfected; enough, say a quarter of a pint, is allowed to run under the foreskin and the entire penis thoroughly cleansed.

If these methods are carefully followed, and with the addition of a thorough disinfection of the stable, isolating those that are affected, there is no doubt but that in a short time infectious abortion may be eradicated from any herd.

### Paint the Buildings.

In this country, where the sun's rays at times beat down mercilessly and cause timber to shrink and warp, the damage to buildings can be, in a measure, prevented by the use of paint. Nothing adds so much to the appearance of the farmstead as a few coats of paint applied to the buildings and fences, unless it be a nice grove of trees and a fruit garden. During the waiting days of March the mixture could be applied, or else after seeding was through. The following recipe for a paint is cheap and may be applied by any person: Slack  $\frac{1}{2}$  bush. fresh lime with boiling water, strain through a fine strainer, and add 1 peck salt (previously dissolved), 3 lbs. ground rice-boiled to a thin paste and stirred in boiling hot, 1 lb. Spanish whiting and 1 lb. glue, previously dissolved. Add 5 gallons hot water to the mixture, stir well, and let it stand a few days, covered. It should be put on hot. About a pint, properly applied, will cover a square yard. With lamp-black or venetian red, any dark or reddish shade can be made.

### Necessaries to Egg Production.

Having secured the hens, the next step is to secure the eggs. "How is it to be done?" a breeder of a number of varieties said to me; "my hens will lay if they have the summer surroundings." Just so, but that is impossible; but we can have fresh eggs in winter and have our hens laying at a profit. Many farmers think that if they give their hens plenty of wheat, that is all that is required. In the first place, a good hen-house must be provided. That does not necessarily mean an expensive one. Any handy man that can handle a few tools can build one. I would advise a stone or concrete foundation, also a concrete floor; lime and sand is all that is necessary. Better to take a little trouble with the floor and foundations at the start; it will save trouble and vexation afterwards. Badgers, skunks, weasels, or any other wild things can dig through the ordinary walls or floor. Whatever material you use, be sure and have the house warm; if necessary, use a stove or build a Dutch oven. Another necessary article is plenty of grit. It is not necessary to purchase crystal grit or oyster shells or any of those expensive articles; they are all right for the city man who has to buy all he feeds his hens, but all the material for the production of winter eggs is right at hand for every farmer. A good plan is to cover the hen-house floor with a few loads of coarse sand or gravel. As good a grit as can be provided is the common sandstone found on every farm, and when the farmer is gathering stones, if he would sieve out all the small stones he would have the best of grit. A hammer and stone is all that is necessary to reduce it to proper size for the hens. It is surprising how much can be broken in a short time. Have a box handy—nailed to side of building or somewhere convenient—and keep it filled with grit. Another necessary article to have constantly on hand is lime; I use the refuse—it has quite a number of sharp stones that answer for grit. These are two of the necessary articles and generally the most neglected. If you have some low-grade wheat that is free from must and smut keep it for your hens and it will yield you one dollar per bushel. Wheat is not sufficient to produce eggs. A great many farmers make the mistake that if they provide a good warm place for their hens and plenty of feed in the form of wheat and some grit that they ought to lay, and consider hens an expensive luxury if they do not. How can one expect them to lay if they have not the wherewith to make the eggs? Hens to lay in winter must have plenty of meat and ground bone. Then, I have heard some persons say, "I told you hens were expensive." Just wait one moment. You killed a beef and a few hogs. What did you do with the heads, lungs, and livers? I know most of the farmers throw such things to the dogs. I never did. Just try it: Have a head in the henhouse and let the hens pick it clean of meat; and then if you have a bone cutter so much the better; if not, bring out the old hammer and stone and in a very short time you can have the bones reduced to a shape in which the hens can make use of them. Save all the refuse of the lard and tallow for the same purpose, and if you have not enough, the butcher will be glad to sell you a few hundreds of it for a cent or two a pound, and it will be a good investment. I like my hens to have a piece of fresh meat before them all the time. Give the hens plenty of fresh water. I use a tub for the purpose; it can be washed out every day and kept clean and sweet. Last, but not least, give the hens plenty of exercise. Have the floor covered with chaff or fine straw and let the hens work for their breakfast, dinner and supper. I do not like to see the hens standing around, for it looks as if they were trying to think of some mischief. I like my hens to work all the time, and the only time I give them puddings and such things is when I want to give them a stimulant, which is in the form of a little red pepper. I use plenty of windows in my henhouse. It is not expensive. I secure all the waste glass from hardware merchants, and with a first-class cutter I cut all the glass about five inches wide; then I make my panes accordingly. It was made out of inch boards four inches wide, and a strip of half inch tacked on both edges, that gave the glass a rest, and enabled me to putty them and frame, and gave me a double window. It keeps out the cold and lets in plenty of light.

East Assa.

J. B. POWELL.

### To Improve the Course.

The Weekly Drivers' Journal, of Chicago, says: "An effort is being made by the University of Minnesota to make a change in the curriculum of the institution, by which it is to be made possible to give more practical instruction in animal husbandry. At the present time, only thirty-six hours' instruction is given during the three-years' course." It will be remembered in the analysis of college courses, their merits and demerits, which appeared in the "Advocate," Jan. 20th, that the time given to such an important subject (animal husbandry) was shown to be insufficient and not in proportion to the other studies.

### The Threshing Problem.

Your questions re threshing to hand. You have given me a difficult problem to solve. I must confess that, although I have thought a good deal about the question, I have not been able to arrive at any definite conclusion.

The first difficulty is that nearly all farmers want to thresh early, and in so far as wheat is concerned it pays to do so. This desire for early threshing causes a demand for a large number of machines, thus making a short season, and a short season with the present charges per bushel makes the earnings too small, considering the enormous prices charged for the machines. On the other hand, the farmer cannot afford to pay more, at present prices of grain. It cost me 12 per cent. of my whole crop value to thresh it, and only one-third was stook-threshed.

The second difficulty is that machines are too dear, the price out of all proportion to the value and capacity to do good work. I never yet saw a machine on my farm that if they threshed more than 120 to 130 bushels of wheat per hour but would waste more than would pay for the work done. The machines are poor in quality of manufacture and are an endless bill of expense for repairs and loss of time to the men who buy them. Just fancy an outfit that cost \$3,600 requiring new flues with less than 130,000 bushels to its credit and a first-class engineer with it all the time, only two short seasons' work, besides other uncalculated breakages. The material used and the workmanship in these high-priced machines are a disgrace to the continent, and the quality of the work done for the farmer is a greater disgrace. If any of the managers of the machine companies want this verified, send them to me, and, if notified, I will make a point to be at home to meet them.

The solution of the whole threshing problem must begin with the manufacturer. When they can make machines capable of threshing 1,200 bushels in ten hours without waste, 70 days in the year for 5 years, without unreasonable breakages and flues guaranteed for that time, for \$2,500, with all modern improvements, I think then that threshers can do the work at a price that won't hurt the farmer and, at the same time, enable them to pay for their machines and have reasonable return for the hardships they have to undergo.

A gasoline engine and separator, with blower and self-feeder, capable of threshing 75 bushels per hour, guaranteed good for a five-year run, at a reasonable cost, would also help to solve the difficulty, because large farmers would buy them, and they would suit a combination of farmers, say two or three, but under present conditions and prices it would be ruinous to touch them.

No matter what way I look at it, I can't get over the impression that the solution to the threshing problem largely rests with the manufacturer and vendor of the machines.

Beautiful Plains, Man.

W. F. SIRETT.

### Pointers for the Beginner.

In the course of editorial work incident to conducting a farm journal, many inquiries are constantly received asking for advice on starting farming. To all such we commend the following trenchant sentences:

"Early training has much to do with success; the man who has worked for a clever farmer will utilize his late employer's ideas and experience, he will understand how and when to work the soil he occupies, with what to manure it, what seed to purchase, and what to pay for all he is compelled to buy. The small holder is often—we fear more often than not—compelled to put up with soil of second- or third-rate character, and with the best in the world he sometimes fails to succeed because he is unable to last until the profitable day arrives. No man can make a living from the start off a dead soil from which all fertility has been extracted, or which, perhaps, never contained any to extract. What he needs is a soil which is kind and mellow, and which will make ample returns for the labor and money he spends upon it. On a poor soil good stock is wasted, but the small holder is usually the owner of poor stock, and if he breeds or milks, his returns are in consequence immensely diminished. Again, a bad year or a year of drought, of which we have had too many, supervenes, and all his crops fail. It sometimes happens, too, that the family of a little farmer are not loyal, and consequently not helpful. In most cases success is only achieved by a united effort, and where this effort is made, as most of us can testify, who have experience of these people, success is assured. Above all things it is essential that, next to suitable soil, there should be a near and suitable market, for the small holder ought to be a member of his own produce. His eggs, his poultry, his fruit, his vegetables, his butter, and his milk, should bring 120 in a small weekly, and consequently systematic, income, which is all in all to the farmer who must pay as he goes."

"The small holder, we believe, is good, and if the entire country mentioned above is well equipped by investment of up-to-date agricultural college courses, will be the result, and the best of brains and energy are employed."

### Farming in Manitoba.

#### BREAKING UP THE ORIGINAL PRAIRIE.

Northwestern Canada is particularly fortunate in having such a large area of rich virgin soil in the very best possible condition for the new beginner. Nature has apparently done her utmost to prepare the way for the millions of pioneers soon to take possession of its immense areas of prairies and park lands.

Although nature has done much to prepare the soil of a prairie farm, there is still considerable work necessary before the land is ready for the seed, and the yield of future crops depends largely on how this preliminary work is done. For the best success the prairie sod must be so thoroughly rotted and broken up that there is abundance of soil to form a seed-bed for the grain. This can best be accomplished by plowing the land when the plants are full of sap. This is usually from May 1st to June 15th, but in a very early season work can be commenced two weeks earlier than this date. The breaking should be done quite shallow, only sufficient to turn all the sod. This will generally be from 2½ to 3 inches deep, depending on the smoothness of the land. This shallow plowing will sever the roots of the natural grass plants, leaving portions of them in the ground and turning the balance of them up to the sun to wither. The furrow should be sufficiently wide to allow the complete inversion of the sod. The fancy plowing of the old countries, with the furrow set on edge, showing a handsome "comb," is not desirable here. The flatter the furrow the better will the sod rot. It is desirable that the furrows be straight, so that none of the land be missed by the plow. Straight breaking also lessens the work of backsetting. All surface boulders and small clumps of scrub should be removed before the breaking is commenced. This will not only give an air of neatness to the farm, but also permits of labor-saving machinery being used to the best advantage. If the breaking is at once well packed with a land roller running the opposite direction from which the land was plowed, it will smooth out the wrinkles in the furrows, compact the land, and greatly hasten the rotting of the sod.

As soon as the sod of the breaking is thoroughly rotted, the second plowing, or "backsetting," as it is commonly called, should be commenced. This is usually done in the same direction as the breaking, but a little deeper, so as to bring up some additional soil to furnish a good seed-bed. All backsetting is finished on this farm before harvest. This prevents the weeds from going to seed. The land is well disked in the autumn, and all that is necessary to make a perfect seed-bed for the grain in the spring is a slight harrowing either before or after sowing.

Many farmers on light soil are abandoning backsetting. They break deeply, and simply use a disk harrow to work up the rotted breaking. This plan has been tried on the Experimental Farm, but the deep breaking is much heavier on the horses, and the sod does not rot nearly so well. On land cleared from timber and scrub, which is usually quite free from sod, very satisfactory results are obtained from breaking deeply, followed by surface cultivation with disk and iron harrows. Where the scrub is composed exclusively of willows and rosebushes, the work can often be done with very little chopping. A strong scrub-plow furnished with an upright coulter fastened into the point of the share will root up and turn over quite large willows. These can be raked out later with the harrows and burned.

Cleared scrub land is the only kind on which it is advisable to raise a crop the first year, and even then it seldom pays to grow anything besides field roots and vegetables.

S. A. BEDFORD.

### Newspaper Comments.

The Christmas "Farmer's Advocate" number was a most creditable edition in every respect. The work, typographically and editorially, was beyond criticism. The "Advocate" is a welcome visitor in many Western homes.—The Liberal, Portage la Prairie.

"The 'Farmer's Advocate' has issued an excellent Christmas number, a special feature being the reproduction in photogravure of typical works by several prominent Canadian artists. Many articles and illustrations of exceptional merit are specially adapted to the field which the 'Advocate' occupies. The short stories and special articles have been well selected, and the general excellence and decidedly Canadian tone will be widely appreciated.—The Dauphin Press.

The holiday number of the "Farmer's Advocate," published at Winnipeg, Manitoba, is a gem. Very few papers this side of the line equalled it. It is crammed full of fine photo-engravings of stock, scenery, fine homes, enterprising breeders and prosperous farmers in what we are wont to think is the cold and inhospitable Northwest. Evidently there is much prosperity in agriculture in that region, if the "Advocate" is its index, and we presume that it is.—Indiana Farmer.

### The Wintering of Farm Horses.

While rather a hackneyed subject, certain pertinent observations of a progressive farmer on the subject are well worth reproducing:

"Horses are much like men—give them useful employment the year 'round and they are the better of it."

"The horses worked throughout the winter stand the summer's work the best."

One principle essential to healthy animal life is enunciated in the above sentences, namely—exercise.

Exercise in mature animals is most profitably given in the form of work. Young stock if turned out in good yards will, as a rule, take all the exercise necessary. The authority cited above says: "Drawing wood, taking manure to the field and moving feedstuffs we find gives us profit sufficient to pay the teamsters' wages and board; the extra feed is compensated for by the extra work the horses can do in the summer." A ration much in favor for work horses is timothy hay, oat sheaves and oat straw. Morning feed, a forkful of oat straw with a little hay on top as a relish; noon, a feed of hay; in the evening another forkful of straw with a little hay; at the last visit, before leaving them for the night, the refuse straw is thrown out and used for bedding and the horses are given an oat sheaf apiece. The point is made that wild hay is not as healthful for horses as oat straw, although its nutrient qualities are greater, in which many veterinarians agree, as by many of them the wild hay is considered the vehicle of the swamp-fever parasite. The grain fed should consist principally of crushed oats and bran; in some cases chopped wheat may be used where the oats are inferior in quality. In this respect emmer (speltz) is likely to fill a niche in the feeding operations. Variety of feed is essential in all live stock; it ensures a maximum amount of food being properly digested, by giving a zest to the appetite. Horses not worked during the winter can do with very little grain—a small amount of bran and an occasional feed of boiled barley will be all that is necessary; give them the run of the straw stacks.

One thing we insist on, however, is that the colt during its first winter receive a liberal allowance of bran and oats in addition to fodder. The most important time in the life of a colt is its first winter. Well fed then it matures all right; half fed or starved, it is stunted for keeps. When on a visit to a horseman, recently, who has several stallions under his care, we found the following his ration: morning, cut oat sheaves, to which is added bran; at noon, a similar feed. The twilight feed is a forkful of straw; at bedding-down time a steamed mixture is used, the following sufficing for 22 horses: two pails of barley and one of oats are put in a 50-gallon kettle, with six pails of water, at 4 p. m., and boiled; later on three pails of bran and a sack of wheat chaff are put on top and thoroughly steamed and mixed. Salt should be available at all times for horses. Stabling should be well lighted and ventilated; a low temperature does not hurt horses, drafts do. In this connection, that well-known authority, Capt. Hayes, in his work, "Stable Management and Exercise," says: "I have had many opportunities in Russia of comparing the relative healthfulness during very cold weather of hot stables and those kept at a natural temperature. In large towns in Russia the practice is to keep the stable temperature at from 50 to 65 degrees F., the difference between the temperature outside and inside being not infrequently over 80 degrees F. Consequently, influenza, inflammation of the eyes and diseases of the organs of breathing are common in these abodes. In the Russian cavalry remount depots an entirely different course is pursued; . . . the horses kept in them maintain their health during the extremely cold winter." The remount stables there are very roomy, and ventilated so freely that even in the early mornings, before the horses are taken out, the air inside is free from any suspicion of "closeness."

### Hedge Plants.

An up-to-date southern contemporary states: "We are in receipt of several little roots, with some wood attached, that were sent out by some eastern nurserymen as Siberian hedge plants, or Siberian something else, which were sold for hedemaking in the Dakotas and other portions of the Northwest. Every plant so far received at this office is osage orange, a plant that will not grow in this latitude, which is fortunate, for no one would want it if it lived. Why buy hedge plants, anyway? They are not desirable for anything, save possibly to a limited extent around home grounds for ornamental purposes." A pertinent question the above, and one which the Western farmers can well afford to ask themselves: Far more satisfactory results can be obtained by thoroughly cultivating a piece of ground and sowing tree seeds, or else get the tree seeds from the Forestry Department, Ottawa, the Experimental Farms, or from some reliable Western nurseryman, and see that the subject get attention afterwards.

### Opportunities for Business.

An importation of twelve carloads of dressed poultry from the east by a firm in Nelson, B. C., is evidence that these toothsome viands are much desired in British Columbia, and that the farmers of Manitoba and the Territories are doing little to capture this lucrative trade. In this connection, there should be sent out, as a member of the Farmers' Institute staff, some person who is an expert in the breeding, feeding, killing, plucking and dressing of poultry for the market. That person should, as far as possible, illustrate by means of live and dressed poultry the important principles to be observed by all those hoping to make a success of the business. At a meeting of eastern breeders held recently, the question of the Western trade was vigorously discussed, and it was pointed out that the ranches of the Territories and British Columbia were able to take one thousand (1,000) rams a year. Here is a profitable field for even wheat farmers to engage in. We have in mind a large wheat-grower in south-eastern Assiniboia who combines sheep-raising with his wheat-farming, and finds that the combination pays. The sheep do a work for him that can hardly be reckoned in money—they keep down the weeds! Many farmers hesitate about embarking in the raising of pork, and although we do not advocate jumping in when prices are high and out when prices are low, there is certainly food for thought for the Manitoban in the statement by the Dominion Live Stock Commissioner, that he had an order for 500 sows for the Mormon colony at Cardston, Alta. Only recently, Deputy-Commissioner of Agriculture Peterson was on the lookout for carloads of store hogs for the Prince Albert country. Every farmer should keep a couple of good brood sows all the time. Persistency counts in all live-stock operations. In the horse line there are to-day abundant opportunities for the farmers of Manitoba and the Territories. There is a demand on the ranges for well-bred draft stallions which will at maturity weigh 1,600 to 1,800 pounds, which will command at three years old \$500 to \$600. Few farmers keep bees in the West, yet there is a good market for honey, which has been hitherto supplied from the east. The "Advocate" columns recently contained an instructive article on bees, which is backed up by the experience of the Superintendent of the Brandon Experimental Farm, who says: "The variety of honey-bearing flowers is so great in Manitoba that a finer-flavored product results than the imported article. . . . Bees may be wintered in a cellar which is right for potatoes." The various live-stock associations will, we hope, at their annual meetings look well after the opportunities for business continually presenting themselves to the Western farmer.

### Pitfalls and Points in Bacon Growing.

The examination of the swine carcass on the block often reveals the fitness or unfitness of that carcass for the making of first-class bacon. Length of side, the thickness of fat and firmness of flesh are probably the points on which most stress is laid. An otherwise promising pig may be spoiled for the trade by errors in feeding—e. g., a diet of oats, peas, barley and milk may, on the score of economy or expediency, be changed to a diet of corn and milk, and if the latter is persisted in, the hog product will surely grade down. Sometimes a carcass reaches the packer which is overweight, and, although fed heavily for a few weeks before being slaughtered, yet is unfinished. The result in both cases is soft pork. Soft pork is not necessarily got from a fat hog. The thrifty, properly-finished hog is likely to yield a firm-fleshed carcass.

The causes of soft pork are: (1) the feed; (2) the manner of feeding; (3) the health of the pig.

Under the first heading, this axiom may be laid down: "The less corn the better the bacon." A diet of shorts, oats, peas and barley fed to pigs of the right type will result in a No. 1 product at six to seven months, if properly fed. Roots, ensilage and rape may each be added to the above menu, and will give the same results. Milk and corn make too heavy a carcass for the Canadian trade. Three pounds of milk a day is sufficient at two months old, and may be increased to five pounds (not over) later on until finished off. Experiments have shown 300 pounds of milk to be equal to 100 pounds of grain, and that if eight pounds of milk be fed daily the feeding value of the milk falls to half what is given above. The Danes report adversely to rye, from their experience with that grain. Experiments seem to show that while wheat is an economical substitute for peas, the quality of the bacon resulting is not so good. It has been found, however, both in Canada and the British Isles, that barley and milk are the ideal combination for the production of high-class bacon. It seems almost impossible to get the best results from the feeding of one kind of grain alone; mixtures invariably give better results. A good grain mixture can be made from peas, oats and barley in the respective proportions of peas 2, oats 3, and barley 3. Dry-feeding is in favor; if wet, the grain should be al-

lowed to soak about 24 hours. Mangolds or sugar beets are a very good adjunct to the grain feed and may be fed liberally, starting with small quantities (about three pounds) and working up to twenty pounds a day. Turnips seem to spoil the appearance of bacon and had better be avoided.

### The Cry is "Better Cattle."

The following short letter in the Regina Leader makes a pertinent inquiry into the live-stock industry in the great Canadian West, and, while the answers received may not be just what the writer expected, the discussion resulting is bound to be profitable to all concerned. W. H. T. T. hints at a lower price being paid for live stock than it is really worth, but does not state whether such may be due to cost of transportation, lack of competition among the buyers, or inferiority in the cattle produced:

"Can any of your readers tell me why it is that the Americans get a better price for their beef than the Canadians? In Montana steers fetch from \$50 to \$75, and in Maple Creek they only get from \$38 to \$45. From both places they go to Liverpool; the only difference is the Canadian cattle go straight through to Liverpool, while the American cattle are sold to feeders in Iowa, Missouri, and other grain-growing States, and after being fed for a month or six weeks are resold at Chicago for the Liverpool market. Now, do the Americans get a better price in Liverpool than the Canadians? If they do not, who gets the other \$50 per head of the Canadian steers, for the American steers are sold in Chicago for \$95 and over and then shipped to Liverpool? I would like this to be explained?"

W. H. T. T.

Lloyd, Montana, Jan. 8th, 1902.

The above question was referred to the well-known firm of cattle exporters, Gordon, Ironside & Fares Co., Ltd., whose letter we give herewith:

To the Editor "Farmer's Advocate":

Your letter to hand, also clipping in reference to the difference between the Montana ranch cattle and the Alberta ranch cattle.

In the first place, the gentleman who wrote this article and signed himself W. H. T. T., did not know what he was talking about.

You take a bullock from Montana to put it on cars and ship it to Iowa or Missouri, and it will be three weeks at least before it stops failing, let alone putting on any flesh. These cattle are fed in Iowa or Missouri for from three to twelve months, just according to the condition they are received in. I might say that cattle that will bring say \$95 in Chicago are fed all the way from six to eight months on corn, and, consequently, you must see that there is a great difference between this class of cattle and the class we ship direct from the ranches. In some exceptional cases we have paid as high as \$70 per head for some steers right off the ranch, and we have paid \$50 per head for whole train-loads of cattle right off the grass.

The reason that Maple Creek does not receive more for their ranch cattle is this: They turn them off when they are from two and a half to three years old, and a great many of the cattle are not worth \$30 per head, because they bring in a lot of scrubby stockers and they never can make good cattle out of them.

If Manitoba was a feeding country, the same as Iowa and Missouri, where the cattle could be fed corn, why there would be practically no difference in the prices of the cattle, excepting that the Canadians have to pay more to get their stock to the seaboard.

J. T. GORDON.

(Gordon, Ironside & Fares Co., Ltd.)

Winnipeg.

Some cattle-growers may feel inclined to say: "It's all very well for Gordon to talk or write thus, etc., etc.," but coming to the support of that gentleman is a very sensible editorial in the Yorkton Enterprise, which acknowledges the corn, and says: "For whether the truth be palatable or not, with all our local pride, when Yorkton steers come into contact with the corn-fed, they are simply not in the run, and . . . the fat cattle sent from Yorkton are nothing less (or more!)—Ed. P. A.) than stockers in the market." The "Advocate" has continually harped on this question until the subject has almost become a hackneyed one to some people, yet it seems that the gospel of breeding and feeding and selecting improved beef cattle must be part of our home mission work for 1902 and many years to come. The up-to-date editorial already referred to in our local contemporary gets at the kernel of the matter with regard to the live stock of the Yorkton district, viz., insufficient number of pure-bred bulls of the best breeds; the slough hay diet; and gives as methods to be followed, in addition, grain feeding instead of corn shipping, and to learn to accommodate the live-stock business to the demands of the British markets.

**The Curing of Meats.**

In some districts beef rings have been organized by the farmers, who thus ensure themselves fresh meat during the warm weather, and, in addition, give variety to their diet. Among the farmers, however, are large numbers who are not in a beef ring or who prefer the cured meats for summer. To such people the recipes for curing beef and pork given below will be of interest:

An old-fashioned recipe for curing beef calls for eight pounds of salt, two ounces soda, one ounce saltpetre and five pounds of brown sugar to four gallons of soft water. This is supposed to be sufficient for 100 pounds of beef.

A part of the salt and sugar is mixed together and used to rub, each piece of the meat as it is put into the barrel. Before packing the meat, cover the bottom of the barrel with a layer of salt. The remainder of the salt and sugar is added to the water with the other ingredients, and poured scalding hot over the meat. Place a board with a weight on top of it to hold meat under the brine.

There is a difference between corned and pickled beef that is not generally recognized. Corned beef is ready for use at the end of five days, but pickled beef may remain in the brine for three weeks or as many months.

If you wish to dry part of the beef, remove it from the brine at the end of three weeks, place it in a tub, cover it with water, and let it remain over night. Smoke it for a few days, then hang it from the ceiling over the kitchen stove until dry. Cover it with a loose bag made of cheese cloth or mosquito netting to protect it from dust and flies. When dried, sprinkle with black pepper, tie in a paper bag, and keep in a cool, dark place.

The plan adopted by one of the great American firms in the curing of their hams is as follows: The hams are placed in a large tray of fine salt, then the flesh side is sprinkled with finely-ground crude saltpetre until the hams are as white as though covered with a moderate frost, or, say four to five ozs. of saltpetre to 100 pounds of green hams. After applying the saltpetre, immediately salt with the fine salt, covering well the entire surface. Now pack the hams in bulk, but not in piles more than three feet high. In ordinary weather the hams should remain thus for three days. Then break bulk and re-salt. The hams thus salted and re-salted should remain in salt, in bulk, one day for each and every pound each ham weighs—that is, a ten-pound ham should remain ten days, and in such proportion of time for larger and smaller sizes. Next wash with tepid water until the hams are thoroughly cleaned, and, after partially drying, rub the entire surface with finely-ground pepper. Then the hams should be hung in the smoke-house, and this important operation begun. The smoking should be very gradually and slowly done. After the hams are cured and smoked, they should be re-peppered to guard against vermin, and then bagged. These hams are improved with age, and are in perfection when one year old.

**An Agricultural College Scores.**

A very tangible proof of the appreciation of agricultural-college work by business men is shown in the following paragraph:

"The joint work of the Chicago Union Stock Yards and Transit Company and the Iowa Agricultural College in experimenting with cross-bred beef cattle will be watched with interest by the entire cattle-growing fraternity. The Stock Yards and Transit Company agrees to provide money to purchase twenty-five head of high-grade Galloway heifers, twenty head of pure-bred Galloway heifers, and twenty-five head of white Shorthorn heifers, for the use of the Iowa Experiment Station in conducting a Galloway-Shorthorn cross breeding and feeding experiment, the Experiment Station to direct and have entire charge of the investigation and bear all the expense aside from the original purchase of the cattle described."

The director of the work is Prof. C. F. Curtiss, who is considered one of the most expert cattlemen on the continent. If the trust thus reposed in the Iowa Agricultural College shows one thing, it is that that institution is not a mere hotbed of theory, but a nursery of live-stock and breeding investigation. Such a move on the part of the Stock Yards Company should aid in dispelling the idea yet held by some farmers, viz., that unless a person is rough in dress and manner and daubed with manure he cannot be a stockman.

**Average Prices for Horses at Chicago, 1901.**

The following averages furnish food for thought to many a farmer-breeder, and doubtless will be used as a text from which to construct an occasional sermon on the breeding of horses. The figures presented are for the entire year, in the twelve months of which a large number pass under the hammer at this big horse market: Drafters, averaged \$157; carriage teams, \$400; drivers, \$137; general purpose horses, \$102; chunks, \$52; saddlers, \$147; bar and team horses, \$121.

**A Satisfactory Piggery.**

It is one thing to build a piggery, and another to find it quite satisfactory after several years' test. A good many know by experience that their ideals regarding buildings of this sort frequently fall short when put into practice. In view of what our correspondent says about his piggery and henery after three years' use, no apology is needed for reproducing the original description and illustrations.

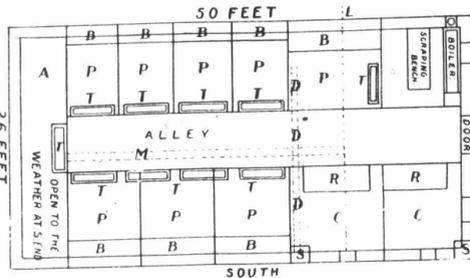


FIG. I. GROUND-FLOOR PLAN OF F. J. COLLYER'S PIGGERY AND HENNERY.

A, pen for brood sows; B, raised beds for pigs; C, poultry pens; D, drain; M, plank above alley for bedding from above; P, pens; T, troughs; S, dust baths; R, roosts on raised platform, with nests below.

The foundations are of stone, 18 inches wide, and come about six inches above the level of the ground. The walls are of 9-16 spruce on 2x4 studs two feet apart. Then tar paper and good quality drop siding, roof tar papered over sheeting, and best quality shingles. The floors are of cement, with fall towards center of each pen, and also towards drain, which passes under alley and through henery to outlet on S. side. A 12-inch plank covers same in alley and henery. The boiler (a "Waterloo," 90 gal.) is let down so that top is level with scraping bench, and that portion of floor also falls towards drain. The troughs are of cement, and bed places are raised, resting on top of stone foundation, and being supported at other side by a wide board, the upper edge of which, coming above the bed platform, holds the straw in place; the doors of pens swing inwards sufficiently to keep pigs out of trough when feeding, and outwards to let pigs in and out. The raised floor under henroosts is cleaned, and eggs removed from alleyway, there being hinged doors in partition.

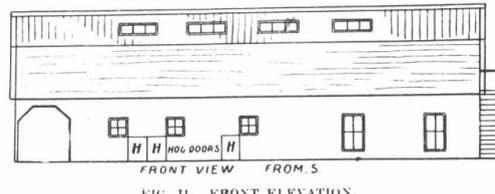
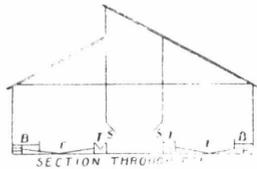


FIG. II. FRONT ELEVATION.

Owing to the cement coming so late, nearly middle of October, some of the troughs and a little of the floor got frozen, and will need replacing next year. Would recommend anyone using cement to have it all laid by Oct. 1 in this part of the country, as I had an immense amount of trouble with mine, keeping on fires, etc.

The straw is put into loft above A in Fig. I, and then thrown into the beds from plank M, which avoids all litter in the alley. The building is lofted at each end, 6 feet at west end for bedding (which lasts a long time, as beds are dry), and 11 feet at east end for feed. The center 30 feet is open to the roof, and the plank M, 10 inches wide, runs from the door in the straw loft across the tie beams (which are six feet apart, which are laid on top of the plates, consequently the plank is about eight feet from the floor of alley.

Each loft is partitioned off from center space, with a door into straw loft, but not into feed loft, which is entered from outside, and grain delivered below by spouts. The henery is boarded up about three feet six inches, with wire netting above that. The windows in henery are double storm sash, the rest being single, those above being hinged at the bottom, opening inwards, and are frequently open. We can feed about three times a week, feeding dry sows at other times, and except in the coldest weather the water does not freeze in the troughs. There are but 20 pigs in the building, with 10 hens.



S, swing doors; B, raised beds; T, troughs; E, slope of floor to center of pens, 1/2 inches.

think it would not freeze at all. Except for cooking feed (a boiler full keeping warm and being sufficient for more than a day's feed), we never light the fire.

The building is very comfortable, and the pigs invariably use the bed-places. It is also well lighted; in fact, as well as the average dwelling house.

Under date of Feb. 3rd, 1902, Mr. Collyer writes:

Regarding the hogpen I built after receiving, through the columns of the "Advocate," several suggestions, and which was in turn described and illustrated in your issue of March 6th, 1899, I may say that as a whole, after three seasons' use of same, I am well pleased with it.

Among its strong features are the cement floors and troughs, which, I think, cannot be equalled for hogs, and I may add that the latter should not be more than three or four inches deep, and the side on which the pigs feed quite shelving. The raised bed-places also are very satisfactory, but I fancy that overhead sleeping quarters would be even better, if fitted with an adjustable gate, allowing the pigs but bare room to lie down, as with more room than is needed some pigs are not so clean as they might be. With such sleeping accommodation the capacity of each pen would be largely increased, and a smaller building would consequently be needed, which could be made very warm by lining with one ply of matched lumber (free of knot holes), all cracks in which would be closed in cold weather by frost.

The henery portion of the building is quite a success, having plenty of light (as, in fact, has the whole building), with, we consider, sufficient floor space for about fifty hens. That it is healthy may be judged from the fact that we have not lost more than one or two hens in any winter, and old age was usually the cause.

There is a yard of about 3 1/2 acres in connection, enclosed with 24-inch 7-wire Page fence, with two strands of barbed wire above to keep out cattle, which makes a splendid fence for anything but large boars. Of this enclosure a good share is plowed each spring and sown with oats, rape, etc., which provides most of the feed for the summer.

At the present time I have pure Berkshires only, and sell most of the young stock for breeding purposes, and have occasionally taken a second litter in the season, but as far as my experience goes, the fall litter is not much of a success in this climate, as the pigs do not usually arrive in time to get growth and exercise enough before cold weather sets in, and they do not seem as lengthy as those of the spring litters.

The boiler we find a great convenience for scalding, as it will take any size hog; also for boiling seeds, which it would be impossible to safely feed in any other way, and which, mixed with chop, are readily eaten.

Eastern Assn. F. J. COLLYER.

**Brandon Experimental Farm Notes.**

**FLAX.**

The usual amount of flax seed recommended per acre is one-half bushel. Tests have been carried on at the Brandon Farm which go to show that thicker seeding gives better results.

	Bush.	Lbs.
10 pounds of seed yielded.....	11	56
30 pounds of seed yielded.....	11	41
20 pounds of seed yielded.....	11	44

A test having some bearing on the effect of growing flax on the succeeding crop is as follows:

	Bush.	Lbs.
Wheat after peas.....	43	20
Wheat after fallow.....	40	05
Wheat after flax.....	32	40
Wheat after spring plowing.....	35	
Wheat after fall plowing.....	31	10

This test shows wonderful effects from the growing of the nitrogen-collecting legume, peas. Such a test repeated for several years should afford valuable data.

Among the millets, a useful catch crop, a large, coarse, barnyard grass type, Japanese millet, sown on June 8th, yielded about 3.60 tons dry hay, and common millet yielded 2.85 tons of dry hay of fine quality.

**Farmers' Institutes in the Territories.**

The following itinerary has been mapped out by Deputy-Commissioner C. W. Peterson for the speakers to be sent out by the Territorial Government in March: Regina, March 13th, 2 p. m.; Cottonwood, March 14th, 2 p. m.; Lumsden, March 15th, 2 p. m.; Smithville, March 17th, 7 p. m.; Rosthern, March 18th, 3 p. m.; St. Louis, March 19th, 2 p. m.; Red Deer Hill, March 20th, 2 p. m.; Colleston, March 21st, 1 p. m.; Prince Albert, March 21st, 7 p. m. The subjects to be taken up by the lecturers—Messrs. Geo. Lang (Indian Head), T. G. Raynor (Rosehall, Ont.), and Dr. Hopfius—are not yet announced, but will probably be on forestry, pig-feeding and diseases and handling of live stock.

### Marketing Poultry.

Next to being master of the art of producing foodstuffs of high quality is the faculty of knowing the proper way to market such production. As a guide to those who grow poultry for the market, we submit the directions furnished by a large commission house:

Poultry should be well fed and well watered, and then kept from 18 to 24 hours without food before killing. Stock dresses out brighter when well watered, and adds to the appearance. Full crops injure the appearance and are liable to sour, and when this does occur, correspondingly lower prices must be accepted than obtainable for choice stock.

Never kill poultry by wringing the neck. Kill by bleeding in the mouth or opening the veins of the neck; hang by the feet until properly bled. Leave head and feet on and do not remove intestines nor crop. Scalded chickens sell best to home trade, and dry-picked best to shippers, so that either manner of dressing will do if properly executed. For scalding chickens the water should be as near the boiling point as possible without boiling; pick the legs dry before scalding; hold by the head and legs and immerse and lift up and down three times; if the head is immersed it turns the color of the comb and gives the eyes a shrunken appearance, which leads buyers to think the fowl has been sick; the feathers and pinfeathers should be removed immediately, very cleanly, and without breaking the skin; then plump by dipping ten seconds in water nearly or quite boiling hot, and then immediately into cold water; hang in a cool place until the animal heat is entirely out of the body. To dry-pick chickens properly, the work should be done while the chickens are bleeding; do not wait and let the bodies get cold, as it is much more easily done while the bodies are warm. Be careful and do not break or tear the skin.

Before packing and shipping, poultry should be thoroughly dry and cold, but not frozen; pack in boxes or barrels; boxes holding 100 or 200 pounds are preferable, and pack snugly, straighten out the body and legs, so that they will not arrive very much bent and twisted out of shape; fill the packages as full as possible to prevent moving about on the way; barrels answer better for chickens and ducks than for turkeys or geese; when convenient, avoid putting more than one kind in a package, mark kind and weight on the package and mark shipping directions plainly on the cover.

Professor Gilbert, of the C. E. F., Ottawa, is expected to be on hand at the Poultrymen's Convention, and will doubtless give a lot of useful pointers re preparing birds for the British and Canadian markets. More well fed, well-bred birds are daily called for by the markets. The skinny, crooked-breasted, soiled-skinned bird never attracts the knowing housekeeper, whereas the first-class article always commands the best prices. There is no money for the farmer in producing poor poultry; the good stuff only returns a profit.

### Of Interest to Canadians.

As mentioned in the report of the International Show appearing in our Christmas issue, the bacon hog is invading Iowa. The packing house is located at Ottumwa, in that State. The following query appearing in the columns of a valued American contemporary throws a little more light on the matter:

#### BACON HOGS.

A southern Iowa correspondent writes: "A packing house has shipped in two or three carloads of Yorkshire bacon hogs and is scattering them over its territory at about \$30 each, trying to induce farmers to grow bacon hogs to supply the English trade. They propose to pay 25 cents more per hundred for half blood and 50 cents more for full blood than they pay for yard hogs. Please tell us if this is a good investment. Will the bacon hog be a bacon hog in the corn belt when stuffed on corn?"

Last summer a Minnesota firm made a large importation of bacon hogs from Manitoba. If the type of hogs grown in Canada do no more for the swine of our American cousins than increase their profligacy, they will be well repaid for their investment.

### An Inviting Nest.

K. Felch, the noted American authority on poultry matters, describes how to make a nest that hens will stay with when set, in the following words: "Take a sod, invert it, shape out a nest 8 x 10 inches, from the soft (dirt) side, flat on the bottom, then put the sod into a box of suitable size, grass side up, and press the same down to make the proper hollow for the nest. Be sure the nest hollow is perfectly flat on the bottom; then place the same in the oven or over a radiator till all is thoroughly warmed through to 100 degrees. Use but little hay or straw to make the nest up. The flat nest, protected against crushing during the hatching

### The Breeding Pen.

To the Editor "Farmer's Advocate":

By degrees we are waking up to the importance of poultry-raising in Canada. The principles that apply to the breeding of other farm animals are beginning to be applied to poultry-breeding. Here selection, prepotency, mating, balancing of defects, care and feed, all have their place. It has been said that anyone can keep hens, but not anyone can make the hens keep him. If your hens loaf around in the winter and lay a few eggs when they are cheap in summer, it will not be hard to tell who is doing the keeping. On most farms the principle of selection has been inverted. The big, hearty cockerel and the plump, saucy pullet, always on the alert for a good bite, are the ones most desired and easiest caught when a chicken is wanted for Sunday's dinner. So it has come about that the little, lean, late fellows have been often kept for next year's breeders, and the chicks raised have been such as one might expect from such parents.

If you keep poultry for profit you have already culled out your poor stock. But, during the winter, you have found that there are degrees of goodness in hens as well as in men, so now you begin to select your best birds for the breeding pen. If you have a flock of common hens, you have done well if you have invested in a pure-bred male of one of the utility breeds; if not, it is not too late yet. The male is half the flock. Two to five dollars invested in a snappy, vigorous cockerel with a short, broad back, a

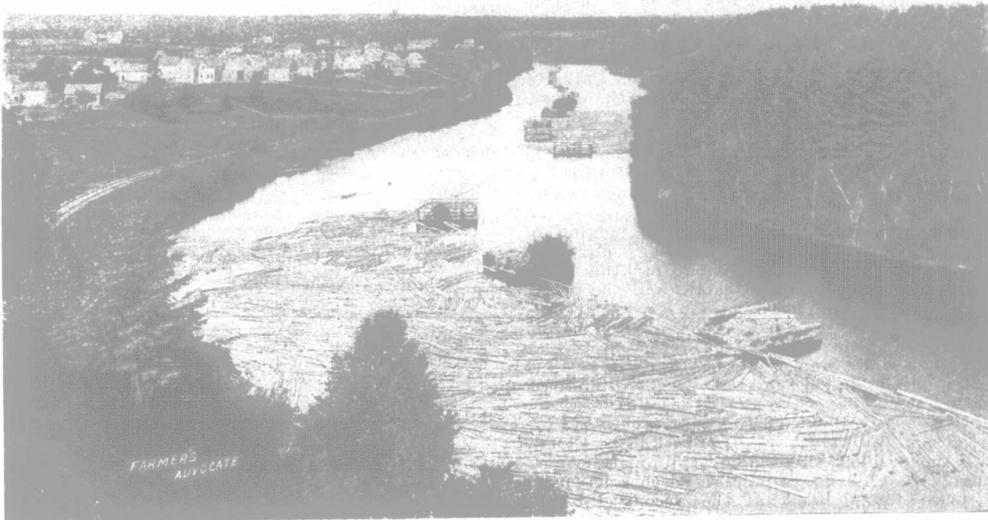
to select in breeding poultry where the young stock will be so many times the value of the old.

Your pen selected, the next thing is to consider how to get a good supply of fertile eggs. I am supposing few farmers, unless they use incubators and have brooders, will want these before the middle of March or first of April. First, the hens must have comfortable quarters. They must be protected from the cold; then the male will be attentive. Next, they must have exercise, for exercise will give both vigor to the germ and to the egg. Keep plenty of chaff on the floor, changing it often to keep it clean. Here scatter the grain. Animal food is also a necessity. Break up with an axe all the bones from the kitchen, get more from the butcher if you can. See that your breeders get all the scraps of lean meat. Till the fowls can get it for themselves, green food must be supplied. Don't expect 90 or 95 per cent. fertile eggs without green stuff. The hen in freedom never does it without green food. Mangels, cabbage, turnips, potatoes (boiled), all can be utilized. The birds must be kept a bit hungry during the day or they will not eat enough of the roots. The morning mash may consist of bran and ground oats—add a pinch of salt—while oats and wheat will complete a fairly varied ration. Don't overfeed. Fat hens are sure to produce soft-shelled and misshapen eggs.

With vigorous stock and intelligent feeding, even winter eggs should be fertile and the germs should be strong. From seven eggs which I supplied him, a neighbor has just hatched (January 29th) six chickens, all vigorous, though the thermometer has been below zero.

Alberta.

W. A. HAMILTON.



RIVER SCENE AT MARYSVILLE, NEAR FREDERICTON, NEW BRUNSWICK.

Photo by H. F. Albright.

deep, long body and a wide, full breast, will pay 100 per cent. in actual cash, to say nothing of added pleasure. Then you select and separate from your mixed flock the bright, cheerful hens, whose red combs indicate abundance of healthy blood. You will get to know them even without a trap nest. They are the first to greet you in the morning and the last to go to roost at night. In breed type, they should approximate to that of the male. If you wish to raise chicks for the table or for market, don't breed from a hen with a pent-house back and a narrow, erect tail making a sharp angle with the back. Rather, select the broad-backed hen, whose tail, carried rather low, leaves the back with a broad, easy curve. A wide breast, well carried forward, will indicate plenty of vitality, as well as good flesh-carrying powers. Even if your flock is pure-bred, you should still select. There are pure-bred scrubs as well as other kinds. With better birds you will be the more critical; the form of the head and comb, the color of the feathers and legs will now be matters to be considered. It is a long way from the jungle hen, laying thirty eggs in a year, to the two-hundred-egg hen, but selection, care and feed are responsible for the improvement.

But, someone says, "Who is going to take the trouble to select breeding hens? What's a hen, anyway?" Look at it this way: Ten hens and a cock, worth say \$15, will produce in two months eggs that should hatch 150 chickens. These, from such stock, would be worth at six months at least \$75, or five times the value of the parents. At the same age the calf from a \$100 cow would be worth \$10, or the foal from a \$100 mare, \$30. Now, we know it pays to select in breeding horses and cattle, much more does it pay

### Flax.

Flax is a crop deserving of more attention in this country. It yields well, and the price makes it a more profitable crop than any other. There are, however, withal a great many serious objections to it: the difficulty of obtaining clean seed and the detrimental effects flax-growing seems to have on the soil. The former is a difficulty that should be overcome; the latter, we believe, can also be obviated by proper treatment. It does not appear that the flax plant takes from the soil more fertility than wheat, but the detrimental effects often noted on succeeding crops are, we think, largely due to the hard, rot-resisting properties of the flax stubble, which it is nearly impossible to burn off and which plowed in tends to keep the soil open and allow it to dry out. The Mennonite settlers have for years grown flax, sowing it on breaking up to the first of June, and many of the new settlers from the south also adopt this plan of getting revenue out of the first season's work; while the Experimental Farms and many good farmers condemn the practice, it being claimed that in addition to the danger of sowing noxious weed seeds on new land, breaking seeded with flax will not yield a profitable crop for years after. To the new settler, to be able to raise a crop of 10 to 15 bushels of flax, worth from \$1 to \$1.25 per bushel, off breaking, is an important consideration, and if there is any way by which it can be done without injury to the land, it should be found out and made known. This is a practical question worthy of the most careful research by our Experimental Farms.

**Short Course in Stock and Grain Judging at Iowa Agricultural College a Decided Success.**

OVER FOUR HUNDRED PEOPLE ATTEND DURING TWO WEEKS' COURSE.

That the practical man is beginning to appreciate the value of an agricultural education and the work of the agricultural college was never better demonstrated than it was during the present month at the Iowa Agricultural College. During the two weeks from January 6th to 18th over four hundred people, representing almost every county in Iowa and all the adjoining States, attended the special course in stock and grain-judging. They constituted a remarkable class. Men of all ages were present. Graduates of Chicago, Illinois, Yale, Minnesota and Iowa Universities, Kansas and North Dakota Agricultural Colleges, and several of the denominational colleges, worked earnestly with the man who had no other education than that acquired in the rural school and that most expensive institution, the school of experience. A most faithful lot they were: always on the alert to learn something. From six o'clock in the morning (when they assembled to study corn-judging under Professors Holden and Atkinson) until 9.30 at night, when the evening session was concluded, they were busy.

The work was under the general supervision of Professor C. F. Curtiss, Director of the Experiment Station. The work in stock-judging was directed by Professor W. J. Kennedy and his assistant, Professor F. R. Marshall, while Professor James Atkinson had full charge of the work in grain-judging.

The following general programme was carried out during the entire two weeks: From 6 to 7 a. m., and from 8 to 10 a. m., grain-judging; from 10 a. m. to 12 m., stock-judging; from 1.30 to 4 p. m., stock-judging; from 4 to 6 p. m., grain-judging; from 7.30 to 9.30 p. m., meeting in College chapel, where various topics of general interest were discussed each night.

In addition to the regular corps of instruction, the following well-known authorities were present, and aided very materially the nature of the work done: Professor P. G. Holden, Pekin, Ill., formerly Professor of Agronomy, Univ. of Ill., on grain-judging; Alex. Galbraith, Janesville, Wis., on heavy horses; Wm. Dobson, Marion, Ia., on light horses; John Gosling, Kansas City, Mo., and Wm. Wyness and Emil Ingwersen, Union Stock Yards, Chicago, on beef cattle; Hon. A. J. Lovejoy, Roscoe, Ill., and George Heyl, Washington, Ill., on swine.

Three days were devoted to the judging of each—horses, cattle, sheep, and swine. Excellent material was provided throughout for the class work. The College herds of cattle and sheep furnished abundance of good stock for that work, while in addition to the College swine herds, many breeders sent in excellent animals. It was in the horse work, however, where quality reigned supreme. In addition to the excellent animals owned by the College, the Fry Stock Farm, Ames, supplied some excellent Percherons; the Meadowlawn Stock Farm of N. P. Clark, St. Cloud, Minn., an excellent Clydesdale stallion; Swift & Company, of Chicago, a pair of Percherons from their prize four-in-hand at the recent International; and the Nelson Morris Company did the Clydesdale breed proud by sending out the best pair of their recently-imported Clydesdales, which won many honors at Chicago and on the other side of the water. Never before did a stock-judging class have such an opportunity to get thorough, sound, and up-to-date work along animal husbandry lines.

The work in grain-judging proved to be equally interesting and profitable. All present were unanimous in commending the work of the College, and at the close of the session passed strong resolutions endorsing the work of the College and asking the Legislature to largely increase the support funds of the institution at its coming session, in order that the present good work may expand and grow with the needs of the great State of Iowa.

**Wage Relentless War on the Scrub Male.**

A regulation which should be introduced into legislation dealing with agricultural societies should be, "That no Government grant be given to agricultural societies that award prizes to animals begotten by unpedigreed or scrub males." That such a regulation will in some districts provoke a storm of protests we have no doubt, and yet all thinking men will agree that the Manitoba and Territorial Governments contribute of their funds to the agricultural societies because those societies are instituted to do educational work along agricultural lines. No society is living up to that idea that awards prizes to the get of scrub males. The amendment might be so made that it would come into force by degrees, as did a similar enactment into the by-laws of the Agricultural Society of Beautiful Plains, held at Neepawa. No one will deny that there are such things as pedigreed scrubs. Their extinction will soon follow the use of expert judges at the fairs, the institution of live-stock judging institutes, and an up-to-date agricultural college.

**Get a Settlement at Time of Service.**

One of the exasperating and disheartening things to a stallion owner is the reluctance of many of his patrons to pay for the breeding privileges of his stallion, to which their mares were admitted the previous season, and by which services they may be carrying foals. Undoubtedly the stallion owner is in a large measure to blame, as frequently that class of men are poor collectors, and under stress of competition guarantee colts to stand and suck. That such a guarantee should be given by the owner of any stallion is ridiculous. When one reflects on the amount invested in the stallion, the cost of travelling him, the barren mares, and irregularity in returning the mares, some of whom are old or shy breeders, or what not, the indifferent care often given the mares by their owners during the in-foal period, the idea of guaranteeing a living foal is preposterous. Such a request on the part of the owner of the mare stamps him as a person ignorant of the laws of breeding and heredity, and also as one whose ideas are indicative of greed. All stallion owners would do well to have a contract drawn up, with a note attached. We submit a copy of one seen, specifying in plain words the terms of service. The notes may be drawn payable at the local bank on a certain date, before which time the stallion owner should satisfy himself as to what mares are in foal or not. The form of contract and note submitted can be made in books of one or two hundred at almost any printing establishment in the country, and will aid the breeder and the stallioner to observe the old adage, "Business is business!"

**BREEDING CONTRACT.**

NO. 1.	NO. 1.	DATE.....
MARE.....	This agreement witnesseth that XYZ, of Brandon, County of North Brandon, Province of Manitoba, has this day bred his mare..... to the stallion..... owned by me..... of..... in payment for which service and the guarantee below, the said..... has given his note in my favor for fifteen dollars (\$15), due and payable Feb. 1, 1903. I guarantee the said mare to get with foal by the above stallion during the season (May 1 to July 15) of 1902, provided she is returned regularly in healthy condition. I hereby agree that if the said mare does not get with foal to grant the same breeding privilege the following season, if the stallion is still alive or owned by me, under the same conditions, or to return the said person his note. If the owner of the above mare disposes of her, all his rights under this contract ceases.	
AGE.....	Description.....	
OWNER.....	ADDRESS.....	
WHEN FIRST BRED.....	DATES TRIED.....	

\$15.00 Seven months after day, I hereby promise to pay for value received..... or order, the sum of Fifteen Dollars (\$15), with interest at 7 per cent after maturity.

After the season is through, the owner should deposit the notes in the bank at which he deals, the agreement being signed and handed to the owner of the mare as soon as he has signed the note in favor of the stallion owner.

**Smithfield Cattle Carcasses.**

Included in the reports of particulars of carcasses of Smithfield cattle that have appeared in the Live Stock Journal are those of 13 steers not exceeding two years of age, whose aggregate age was 9,004 days, with an aggregate live weight of 18,110 lbs., and a carcass weight of 11,631 lbs. These give the following average result for the whole of the 13 animals: Percentage of carcass to live weight, 64.22; average daily gain of live weight, 2 lbs. 0.19 ozs.; ditto carcass weight, 1 lb. 4.00 ozs. Last year the carcasses for the corresponding age gave 66.30 per cent. of carcass to live weight, with an average daily gain of 1 lb. 14.84 ozs. live weight, and 1 lb. 4.39 ozs. carcass weight. It will be of interest to note that the highest percentage of carcass weight in the statistics collected of animals of this age sold at the show was 67.91, and the lowest 60.09, whilst in the carcass test 68.57 was the highest and 61.35 the lowest.

Of steers over two years, particulars have been given of 38, whose aggregate age was 39,514 days, live weight 63,255 lbs., and carcass weight 41,435 lbs., which show 65.50 per cent. of carcass to live weight, and give an average daily gain of 1 lb. 9.61 ozs. alive, and 1 lb. 0.92 ozs. of carcass weight. The highest percentage of carcass to live weight was 71.79, and the lowest 58.86.

Particulars of 31 heifers have been given, whose aggregate ages were 31,061 days, live weight 34,407 lbs., and carcass weight 22,165 lbs., which give the following results: 64.47 per cent. of carcass to live weight, 1 lb. 0.57 ozs. average daily gain alive, and 15.29 ozs. carcass weight.

**Culture of Fall Wheat in Alberta.**

Fall wheat has been grown in the Pincher Creek district for the last eight or nine years by a few ranchers on a limited scale, but very little interest being taken in its production until the last two years. About two years ago settlers turned their attention to this district and a steady stream of them have been coming ever since, all having the same object in view—the growing of fall wheat in connection with stock-raising. Consequently, there has been a large increase in acreage, particularly in the last sown crop, which went into winter in most cases in fine condition. Only two varieties have been grown so far, one of which the name has been lost, but if not White Clawson it resembles that variety very closely; the other being Dawson's Golden Chaff, the latter being grown chiefly by the Mormons. Last season the C. P. Railway Co. distributed a carload of Kansas Red fall wheat in this district, this variety being of high-class milling quality. This important cereal has been grown with more or less success under so many different systems of cultivation and at such a wide range of dates of seeding, ranging from July 15th to September 20th, that it seems that if it gets a start at all you are sure of a crop. While this may be the case, the heaviest crops have been from the July sowing on a well-prepared seed-bed, and if the growth becomes so large that there is danger of too much top, cattle are allowed to graze it off.

A large proportion of the present growing crop was sown on new breaking, the land being plowed in June, and a disk harrow being used not only to prepare the seed-bed, but also to cover the seed, which in most cases was sown by hand, as there are very few seed drills in the district yet, and, I might add, this plan of cultivation has been a success. Others sowed on oat stubble, just using a disk, the same as on the breaking, and sowing the seed by hand on the stubble, not plowing the land at all; while others plowed the land first, using a drill if they had one, but in most cases sowing by hand; while others claim they have waited until they dug their potatoes and sowed that land in fall wheat, the wheat barely reaching the surface before cold weather set in, and have had good crops ranging from 40 to 50 bushels per acre.

While all these different modes of cultivation and dates of seeding have met with fair success, the largest yields have been on the well-prepared summer-fallow, the wheat being sown with a seed drill from 2½ to 3 inches deep, and sown about July 20th or not later than Aug. 1st. Then if the wheat gets too much top, turn light cattle on, taking them off before they feed it off too close. The successful growing of this crop is a great boon in this district in many ways—spring wheat not having succeeded very well so far, ripening being delayed by the cool atmosphere until frost damages the crop, whereas fall wheat ripens early in August, when there is no danger of frost; then, again, it is sown at a time when other farm work is not so pressing, and harvested before spring-sown grain is ready to cut. But one of the greatest benefits of growing this crop will be the destruction of weeds, which are fast overrunning the spring-sown lands, many of which were this last season a mat of wild oats, and were cut for hay, being of no use for a grain crop. A bare summer-fallow is out of the question in this district, as the high winds drift the fallows so badly that it ruins the land, but when fall wheat is sown in July it does away with all drifting of the soil, as it forms a solid mat long before the windy season begins, and any foul seed that did not germinate during the early summer will come up in the wheat and the first hard frost will destroy them, and the result is a fine crop, free of weeds. While the fall wheat of Alberta may not demand as high a price as the Manitoba hard spring wheat, it will be more than made up by the bountiful yield, as it will give at least one third more bushels per acre, as it has yielded in this district 72 bushels per acre, and then again it must be borne in mind that the Alberta fall wheat is a much harder wheat than the Ontario fall wheat, just the same as Manitoba spring wheat is a much harder wheat than the Ontario spring wheat; hence it will be a high-grade milling wheat. ALBERTA FARMER.

**A Sensible Suggestion.**

Goodell's Weekly, of Chicago, a journal published at a place where more farmers congregate than any other place in the world, and a live-stock market noted for its big transactions, makes the following sensible suggestion to legislators, promoters of agriculture, promoters and directors of agricultural colleges, viz.:

"The matter of expenses at the agricultural colleges is one that should always be kept within the limit of the farmers' sons who are to attend such institutions."

If the expense was kept at a reasonable figure, the hired man (with his) that he can afford to take a course at the agricultural college.

### The Brandon Farmers' Institute.

The above Institute held an interesting session on Feb. 1, and listened to an address by Supt. Bedford of the Brandon Experimental Farm, on "Experiences for 1901."

The address drew forth a good discussion, and showed plainly that while the country is fortunate in the possession of such a man as S. A. Bedford, he is receiving valuable support and suggestions from the aggregation of up-to-date live farmers who make up the Brandon Institute. Speaking of wheats, Preston was recommended for frosty districts where an earlier-maturing grain than Red Fife was desired. The disadvantage of the Preston wheat was that it spoils more readily in the field than does the old reliable Red Fife. The macaroni wheats were next touched on, a variety of which, Goose wheat, is well known to most farmers. Mr. Bedford considers that there is a great future for the macaroni wheats, considerable attention being devoted to them south of the boundary. Goose wheat is very hardy, and at the Brandon Farm never rusts.

Listed among the wheats was spelt (emmer), which does well on light land. The speaker did not consider one bushel of spelt to the acre sufficient; he believed 1.75 bushels better. In the steer-feeding experiments with rye grass, spelt straw and brome hay as roughage, the month's gains were 26, 34 and 42.5 pounds, respectively, on the above fodders, all the steers getting the same amount of grain.

The following axiom was laid down, viz., "Selection pays as well with grain as with live stock!"

The work done with pigs was then taken up, a preference being expressed for the Berk-Tam cross, the sow being a Tamworth, the boar a Berkshire. It was brought out that the Tamworth crosses were slower in maturing and took a little more feed than the other breeds. The influence of a first impregnation (telegony) was brought up, Mr. Bedford declaring that his experience with pigs showed that the first impregnation influenced the color, etc., of subsequent litters, the influence gradually tending to die out in the course of four or five litters. The handling of brood sows came up for discussion, and whether a sow could be profitably kept unless she raised two litters a year. It was agreed that two litters should be raised each year, and that best results were obtained by having the young pigs arrive at the end of March and the end of September. The best yield of potatoes was 737 bushels per acre. Early plowing was recommended for potatoes, the land being harrowed frequently to get the weeds started before planting the potatoes. Once the weeds are started, cultivate frequently and roll, to firm the land, before planting. Planting is done about May 20th, in every third furrow plowed. Sets about the size of a small egg were recommended in preference to smaller ones, heavier yields resulting from the practice advised. Potatoes should be planted as shallow as possible, and not hilled up. For quality and quantity, the Daisy, yielding 600 bushels, was a favorite.

The experience with native plums had been very satisfactory, trees from pits coming into bearing four years after the pits were planted. The plums do not transplant well, and are better grown from pits. With regard to getting a crop of flax on breaking the first year, Mr. Bedford was opposed to that method for three reasons: Only a light crop of flax was got, the job of rotting the sod was poorly done, and the flax seed being usually so dirty, introduced at the very first a lot of bad weeds. The apiary had been a great source of pleasure to the Superintendent, who claimed that Manitoba honey was superior to the imported article, due to the great variety of nectar-bearing plants growing in the West. Bees could be kept well in the West, and could be wintered in a cellar in which potatoes could be kept, a temperature of 35 to 40 degrees Fah. being the correct one. A motion was passed that a stock-judging institute be held at an early date. Dr. Hopkins, associate editor of this paper, being asked to conduct it.

### Implement Manufacture in Canada.

We notice by the Ontario press that the Deering Harvester Company, of Chicago, some time ago secured the Mann Works, of Brockville, Ont., turning out seeding and tillage machinery for the Canadian and export trade largely in British possessions. The firm now purpose establishing, at some suitable Ontario center, entirely new works for that department of their business, comprising six large buildings, besides powerhouse, with 25 acres of land, and employing, to begin with, 1,000 hands, to be subsequently increased to 2,000 as the demands of business may require.

A. Johnston, Grenfell, Assa., January. Please have received your Christmas number of "The Farmer's Advocate," and am very much pleased with it.

### Ayrshire Achievements.

To the Editor "Farmer's Advocate":

Sir,—We have been expecting for months (since the Pan-American test was concluded) to see some able penman or noted breeder take up the defence of that noble dairy breed, the Ayrshires. As there has been none forthcoming, we will try and say a word in their behalf. We presume the main reason for this silence (all the other dairy breeders have been heard from) is that they (the Ayrshire breeders) think the breed requires no booming, and, Scotch-like, prefer to let their cattle speak for themselves, which they are quite capable of doing. There appears to be a feeling of general satisfaction over the past year's record, even over the result of the Pan-American six-months' dairy test. While it is true the Ayrshire did not quite reach the top, yet she practically equalled the best, the difference per head being less than a dollar for the six months for butter and away ahead of those breeds in cheese products, and each breeder knows, in comparing with his own herd, they were an average lot only. Further, we have been informed that their position in the barn was not as favorable as those breeds that beat them, not having a supply of fresh air, and so suffered more from the heat, and it is quite possible that a saving might have been made in leaving out some portion of the most expensive grain ration.

We say without fear of contradiction that as a breed they are the most uniform in production, and that they cross better on other breeds or natives for dairy cows. When we come to the show-ring, we say it was a year of triumphs, as they clearly outshone all other dairy breeds. Never in the history of the breed did they attract so much attention and admiration. Allow us to quote freely from some of the leading agricultural and dairy papers published on the continent to substantiate this statement.

From "Farmer's Advocate," Sept. 20th, 1901, issue, in writing of the dairy breeds at Toronto: "It was a spectacle for the gods to look upon with wonder and amazement, for it is doubtful if on a fair ground of any other country under the heavens could as good a collection of special-purpose dairy cattle be found as filed into the arena at Toronto." And in writing of the Ayrshires, it says: "It is not an invidious comparison to state that they were the most uniform in quality, type, and condition." Then, again: "The Ayrshires, among the dairy breeds, it is a question whether the display has ever been excelled in the history of exhibitions in Canada." Oct. 5th issue on the Pan-American: "While all were great, none will dispute that the Ayrshires made the grandest display of all—in uniformity of type and excellence of character. The modern Ayrshire cow as moulded by the canny Scot and perpetuated by Canadian breeders, sets the standard for the model dairy cow in style and conformation and in the size and shape of milk vessel and placing of teats. She is a thing of beauty, and also carries with her all the usefulness of a worker in the dairy. In this class, Canadian herds created a sensation, calling out unstinted expressions of admiration and commendation from all beholders. It was a sight never to be forgotten by those privileged to see it when the long line of twenty full-uddered and sprightly cows (aptly described by an enthusiastic admirer as 'the milky way') faced the judges."

Then, to quote from the Jersey Advocate, published in the interests of the Jerseys, in its notes on the Pan-American: "Anyone who was privileged to witness the grand array of that very useful breed, the Ayrshires, as they complacently chewed their cuds in the live-stock barn and as they were led into the show-ring, will never forget the sight. It was one long to be cherished in the heart and mind of a true lover of dairy stock, it matters not what breed is his preference. The exhibit of Ayrshires was truly magnificent—a finer collection has never been brought into the show-ring in this country. As the forty-five matrons were led in, in the aged-cow class, murmurs of admiration were heard on all sides. The spectators, as well as exhibitors of other stock at that time in the show-ring, paused to admire and comment upon this truly superb string. As they marched to their several places, with their beautiful silken hides, their straight backs and rumps, broad loins, deep bodies, and truly enormous udders of perfect shape, no one could fail to admire and appreciate them." Again, in same issue: "By their grand display at the Pan-American, the Ayrshires have won many friends and admirers." In another issue: "What a sight was the string of 40 superb Ayrshire cows ranged up to be judged at the Pan-American last week! They won the admiration of all. A grander sight has never been seen in any show-ring in this country."

Now, when an unprejudiced and popular paper like the "Farmer's Advocate" gives such commendation we appreciate it, but when a paper like the Jersey Advocate, published in the interests of another breed, writes so strongly in their favor, it speaks volumes for the breed. It must be quite evident to all that among the dairy

breeds in the show ring, the Ayrshire is the queen of them all. The thanks of all the breeders are due to those gentlemen who loaned their cows to the Pan-American dairy test, to the gentleman who fed and cared for them, and to the breeders who contributed such splendid exhibits to Toronto, Buffalo, and elsewhere.

ALEX. HUME.

Note.—When Mr. Hume's letter was written, he probably had not received the last issue of the "Farmer's Advocate," on page 91 of which appeared an excellent letter from Mr. Steward Clelland, of Quebec, dealing with the achievements of the Ayrshires at the Pan-American Exposition.—Editor.

### Prosperous Live Stock Associations.

Never in the history of Canadian live-stock associations have they been in a more prosperous condition than at present. The statements made at the annual meetings of the several associations held in Ontario during the present month, and published elsewhere in this issue, show unquestionable and unprecedented evidences of progress and expansion. The marked increase of registrations in the records of nearly all the breed associations gives evidence of an increasing interest in the improvement of all classes of live stock. The steadily-increasing demand for good horses for breeding purposes, as well as for work horses and saddlers and drivers, has raised the standard of prices for these to a very gratifying extent, while the extensive purchases of army horses, at fair prices for that sort, have cleared the country of a very large number of a class that can well be spared, and has made room for a better class, making the outlook for breeding the better kind decidedly encouraging. Importations of stallions, especially of the heavy-draft breeds, have been more extensive than for many years, while the character of the animals brought out has been generally good, combining size and quality in high degree, while carriage and saddle stallions have also been liberally patronized.

Steps should be promptly taken by the Government to check the importation of Western States bronchos that are flooding Canada with scrub horse stock, to the great detriment of future breeding interests.

The present good prices and the promising outlook for advanced prices for beef cattle and the improved demand for the best class and quality of cattle for export have increased the demand for good pure-bred bulls, and the best class of bulls of the beef breeds are now selling at good prices. The same may be said with regard to both bulls and females of the dairy breeds, which, in sympathy with the very satisfactory prices prevailing for dairy products, are being freely taken at better prices than at any time in recent years, while the by-products of the dairy—the skimmed milk and whey—are very profitably utilized in pork production, for which such very satisfactory prices are being obtained as to make this branch of farming probably the most paying of any.

While it is true that the spread of the influence of good blood in the improvement of the live stock of the country is lamentably slow, it is yet satisfactory to know that progress is being made in an increasing ratio, and it is to be hoped that a constantly increasing number of the farmers of Canada may soon become convinced that the only way in which we can secure the best prices in the meat markets of the world, as well as of the markets for all farm products, is by producing the best quality and offering it in a highly-finished condition and in attractive form. The larger the proportion of farmers that can be induced to improve their stock the sooner shall we secure and hold the position in the world's best markets that the resources of the country are capable of filling.

### An Ottawa Experiment.

At the request of a number of farmers, last winter, Prof. Grisdale started an experiment with ten calves (steers), to find out whether it is more profitable to rush calves intended for beef from the very start or to feed them as the average farmer feeds. The steers will be two years old in April. At the commencement of the experiment, five of them were placed in a box stall and fed on the "fattening ration," while the second, comprising the same number, were placed in another stall and fed on the "limited ration." The lot that is being fed on the "fattening ration" have been fed all they would eat for the past fourteen months. At present they are getting eight pounds of gluten meal, together with some ensilage, and they are making a daily gain of three pounds. When weighed last week they averaged 1,150 pounds. The other lot that are being fed on the "limited ration" are not doing so well. They are being fed forty pounds of ensilage and roots per day (two-thirds roots and one-third ensilage), and when weighed at the same time as the former lot, averaged 815 pounds. They are of the same age as the lot that are being fed on the "fattening ration." The former lot have cost \$3.25 per hundred pounds of beef, and the latter \$4.00. The experiment will be finished about Easter.

### The Dogie Business.

BY J. M'CAIG.

The condition of the ranch-cattle business illustrates the fact that booms are bad for any business. The jump in beef three or four years ago developed a feverish demand for stockers for the ranges in both United States and Canada, and at times yearlings in Ontario have sold as high as eighteen or twenty dollars each right at home. This was a good price, but buyers may be credited with knowing what they were doing. They had to figure on freight one way, interest on their money for two years, cost of care, but practically free feed, and subtract this and the cost of the cattle from the price delivered at the stock-yards near the range and he frequently had a profit of twenty-five per cent. on his side. It was generally at least fifteen, and he seldom got stuck unless through want of care of eastern yearlings demand considerable care the first winter.

Of course, this stimulated the breeding of stockers in the east. Every available female was turned into work, no matter what her type, age, or quality. When the demand for any commodity is high, the lower grades of the commodity acquire a higher relative value than they are entitled to. The whole mass of available supply is not scanned so nicely and carefully for quality. It is when the supply is great and demand low that buyers can afford to be saucy. Of course, with the large dairy interests of Ontario, it is natural to expect that even with Shorthorn bulls of good quality there would be a good many light-fleshed yearlings from Jersey or part Jersey or Ayrshire mothers and sometimes a few raw-framed Holsteins. There are few Western range bunches—that is, of dogie cattle—that have not an occasional fawn-lipped specimen or two. These dairy cattle, of course, are not good stuff for the ranges. They do not stand the outdoor system in winter as well as the fleshy-carcased Hereford or Shorthorn. They are never as good quality at maturity, nor are they as good block cattle, for they have little meat on the places where it is most wanted—i. e., hams, loins and shoulders—and, besides, it takes them longer to mature.

The demand for cattle to convert the free grasses into beef led not only to a careless selection of dogies, but likewise to the bringing in of bulls of inferior quality. All the she stuff of the West was held for breeding, and eastern bulls were in sharp demand, and any old thing in the shape of a Shorthorn to which a pedigree could be attached (and there are those who think that the hunting of pedigrees called out considerable ingenuity) could be sold at a good price. The consequence was that the standard of young stuff bred in the Territories itself was not raised or improved. In fine, the boom operated as booms always do to increase the number of the commodity at the expense of the quality or average perfection.

Now, when a bit of a lull comes in demand, from slowness in the world market, the producer feels the ebb coming in the tide of prosperity that has been carrying him up. Conditions are adjusting themselves to normal by reaction, as is always the case, but the reaction is hard on the fellows who have been carried in too deep by the boom.

Slack demand means careful culling. Export stuff finds a market readily enough, but even then it must be in good finish and the cattle of good block type, with the best cuts prominent. Generally in the east, the existence of numerous towns makes it possible to consume the second and third grades of stuff at home. The prairies, however, have plenty of cattle of all grades, but few towns. The local demand does not approximate to the supply. The result is that with high cost in the first place and high freight on top of this, with slow demand, even free grass will not let the rancher out, and this is the first year for quite a while that there is any check to his prosperity. The rancher is frequently looked on as the most independent man and surest winner you can find. He gets more for nothing in a new country than anyone does. But though it seems a sure and easy thing for him on the go-in, his status is not a good one and his business, unlike most others, is subject to limitation rather than expansion as he goes on. The coming of neighbors is a check rather than an impetus to his prosperity. Finally, the idea is forced in on him that his business is influenced by competition like anyone else's, and his returns depend on movements in the larger commercial fabric of the world. It might seem almost unnecessary to call attention to this to anyone accustomed to eager and urgent business. Among all kinds of Western enterprises, however, that of ranching has been pretty free of care.

The business cannot be permanently hurt. There are large tracts of the Northwest Territories that are fit only for grazing by reason of being non-irrigable and of being short of sufficient natural rainfall for cultivated crops. The ranges, too, will support many more animals than at present, and it is a nice problem for the Government to regulate and adjust rivals for the range

country. For the rancher the chief lesson is that he should try to improve the quality of his product. The "dogie" trade has had a check. If it is continued, as it doubtless will to some extent, nothing but the best should be brought out as to breed and type. Bulls, likewise, should be selected with more care. Satisfactory male animals cannot be raised under pure range conditions. Ontario, Manitoba, and the parts of the Territories where cereal and succulent crops can be grown will continue to furnish bulls. The irrigable lands will, of course, develop the breeding of stud animals also. These must all be of the best type, and inferior females as well as males must be weeded out. To many ranchers a cow is but a cow. Many have begun, and owing to early conditions have been fairly successful, without any knowledge of the business or of the good and bad qualities of beef stock. The time has come now for selection and breeding skill to shape the product. A knowledge of breeds and a study of beef type is highly necessary. It is often interesting to hear how experimental knowledge finds expression among the fellows who do not know anything of breeds. "The finest steer I ever sold was one off that big, long red cow and out of a bald (white)-faced bull o' Lem Pilkey's." The cow was a long, roomy, good grade of Shorthorn, and the bull, I presume, was a thoroughbred Hereford. Besides closer knowledge and more careful selection of breeding stock, there must be greater care. A little more hay for rough weather and a little more diligence and foresight will be necessary to keep up the condition, standard and finish of steers, especially as the range becomes more limited. Ranchers will soon be doing more feeding, and the cultivated and irrigable districts will soon be doing a good business in tame hay with the rancher. I suppose the hesitation of the C. P. R. to increase its rolling stock to a capacity to meet the transportation demands of the country will vanish with another railway; whether rates will decrease cannot confidently be predicted with the object lessons in wholesale amalgamations and combinations of big corporations before us. The railway problem must be more and more urged into Government regulation and control, for in no sense can our national railway be regarded as the property of the great corporation. The Canadian Pacific Railway has been built at the expense of the commonwealth and should be made to answer to popular needs in both the matter of accommodation and rates so far as is consistent with legitimate profits.

### Breeding Tells in Feeding.

In an able article written by Mr. T. F. B. Sotham, and published in the annual report of the Kansas State Board of Agriculture, he says: "Highly satisfactory results have been recorded from feeding the grades of all the beef breeds. What a significant lesson is taught by the pre-eminent fact that not one single instance of a profit with scrubs is recorded. Men who feed scrubs do not care to advertise their methods; a profit from them savors too much of sharp practices. Men who claim to have made money feeding scrubs are few, and they are sly in their operation. They buy anything cheap: bulls, which they castrate and dehorn; cock-horned, stunted three-year-olds are dehorned, in the expectation of palming them off as yearlings—anything to improve appearances. Yet the operations of these feeders, if carefully investigated, will show that they never get above market price for their corn, and men who have borrowed money to buy this sort of cattle and fed purchased corn invariably lost money, while for every dollar profit made on scrub feeding the same feed would have yielded far greater results if fed to good stock. If in isolated cases any real profit has been made from feeding scrub cattle, it has been invariably by owners of large tracts of rich corn lands feeding their portion of corn, which is mainly raised by renters. In a majority of years it is safe to say they do not receive through their cattle the market price for this corn, and in profit-yielding years they have such large numbers that a small average profit realizes a large sum. In this these big feeders of cheap cattle are like the packers, who, killing thousands of cattle per day, are satisfied with so small a profit that a small slaughterer cannot live in competition. Feeding scrub cattle is largely a speculation. Where feeder does not own the corn, debt free, he runs a dangerous financial risk. Scrub cattle should be allowed to fill the bins, off of grass, and that grass must be cheap grass, in a country where it is so plentiful and valueless that cattle can be kept the year round for a pittance. In such a section they may be kept with only the loss of the profits of what might have been had better stock been kept in their place."

### The Best Premiums.

I received by mail to-day the premium No. 22 gun-metal watch, for which please send my hearty thanks. Last year I received a premium the teacher's Bible. I get premiums from different publishers, but the ones from "The Farmer's Advocate" far excel any others. S. H. BRADLEY, England.

### The Treatment of Foul Brood.

(Special correspondence.)

In contributing an article on beekeeping to your very practical journal from far-away England, I realize the fact that although the general principles of beekeeping are the same in both countries, the conditions under which the industry is carried on are widely different here to what they are in Canada.

There is a terrible disease I see your bees are likely to suffer from the same as ours, and that is "foul brood." This disease is the scourge of beekeeping in Great Britain. Let me make a few remarks on the scientific aspect of foul brood, bearing especially on the McEvoy method of treatment, which has been so successfully practiced in Canada in recent years. The apiarist who understands the scientific reason for this method of treatment will, when he has occasion to use it, be twice as successful and employ half the time and labor as the man who merely goes "by the book."

In all advanced cases of foul brood there are an immense number of the spores or seeds of the disease present, and these spores are endowed with such great powers of endurance that it is practically impossible to destroy them by any ordinary method of treatment without seriously injuring the brood and bees as well. Under favorable conditions, these spores hatch into bacilli. The bacilli represent the vegetative stage of the foul-brood organism, and if they cannot at once find a suitable food medium in which to grow and multiply, they must starve and die. The natural food medium of the foul-brood bacilli is the living juice and tissue of the bee larva, but it is an important fact, which cannot be remembered too well, that the juice of a perfectly healthy larva is unfavorable for the multiplication in it of the foul-brood bacilli.

The moral of the above facts, which appear to be well established, is that in our treatment of foul brood we should (1) endeavor to remove and destroy as many spores as possible; (2) that we should get those spores that we cannot destroy to germinate away from a favorable food medium, so that they may starve and die, just like the fledglings of a deserted bird's nest; and (3) that since it is often impracticable to prevent a few spores from passing through the bodies of the larvae, the larvae—and this here implies the whole colony—should be kept as strong and healthy as possible.

One of the best practical applications of these points is to be found in what is called the McEvoy treatment. All the above objects can be achieved without the use of drugs, and personally I believe that drugs are of little value in the practical treatment of the disease. There are, however, occasions when drugs may assist very materially in holding the disease in check, and the drug that we in England have proved to be most useful is naphthol-beta, which is fed to the bees by being mixed with the syrup in the proportion of 1 oz. to 145 lbs. of sugar. It is necessary to dissolve the naphthol-beta first in alcohol (or methylated spirits), and then to mix with the syrup while the latter is very hot.

The third point mentioned is very important. All animals are more liable to be attacked by disease when they are below par than when they are healthy, and the honey-bee is no exception to this rule. When is a colony of bees below par? Most often in the spring, while the weather conditions are more or less unfavorable and the colonies are subsisting on the previous year's honey. This is the time when foul brood works the most havoc in British apiaries; the disease then spreads and develops with the most alarming rapidity. Weak colonies, too—those depleted in numbers—more easily fall a prey to foul brood than strong ones, and in doing so they may become much more easily a center of infection for the whole apiary or district. This is a most serious evil, and in an apiary attacked with foul brood all weak colonies should be immediately united together, and those that are diseased destroyed. Experience in England has taught us that it is often a mistake to deal drastically with mild cases of foul brood when the colonies are strong. This is especially so in high summer, when, with a steady honey-flow and plenty of sunshine, the disease often disappears as quickly as it developed, without any treatment at all. Yet there are times in the spring when the smallest outbreak should be immediately noticed and dealt with, and then it is that, in cases where the brood, being very abundant, is only slightly affected, it seems a pity to destroy it and ruin the colony, and a course of feeding with medicated syrup, if not too costly, seems to be the right line to pursue, for it has the double object of killing a large number of the bacilli and of stimulating and strengthening the colony, although it is open to doubt whether this last object is well attained by the use of such heavily-drugged food. F. W. L. SLADEN, England.

**Standard of Excellence for the Standard-bred or Trotting-bred Stallion.**

**HEAD.**—Ear of medium size and pointed, tips pointing towards each other when the ears are pointed forwards; Cranium nicely rounded; Forehead broad and flat; Eye large, prominent, and docile in expression; Bones of Nose straight in front and slightly dishd laterally; Nostrils firm, large, and readily dilated; Muscles of Cheek well developed, but not too bulky; Lips firm; Mouth of medium depth; Muzzle fine and tapering; Branches of Lower Jaw well spread at their angles..... 4

**NECK.**—Rangy, with Crest well developed, hard and whipcordy; Neck attached to Head in a graceful, angular manner, rather of the obtuse order; Clean, but not fine at the Throat; wide and muscular at the shoulder..... 4

**WITHERS AND BACK.**—Withers may be continuous with the superior border of the neck (but a depression marking the point where the neck terminates and the withers commence is preferable, unless the animal be very fat), well developed but not too broad; Back straight and rather short; Loins broad and well muscled..... 8

**CROUP.**—Rather long and somewhat sloping, with dock coming out high up and well clothed with hair of good quality; Tail to be carried straight and well out from the body in a graceful manner..... 4

**CHEST.**—Ribs long and well sprung, with well-marked angles, deep through girth; Breast moderately broad, with well-developed muscles..... 8

**SHOULDER.**—Oblique from above downwards and forwards; Blade bone well covered with muscles..... 5

**ELBOW.**—Well muscled and lying close to chest..... 2

**FOREARM.**—Rather long, well developed and strong; muscles well defined and extending well down the limb..... 4

**KNEE.**—Straight, large and strong in all directions; free from malformations..... 5

**KNEE TO FOOT.**—Cannon Bone rather short, broad, flat and clean, an absence of beefiness and long hair; Tendons and Ligament well defined and prominent; the limb must not be too much pinched or tied in below the knee; Skin lying close to bone and tendon; Fetlock joint strong and clean; Pasterns strong and of medium length and obliquity... 5

**FOOT.**—Of medium size, rather round, with strong wall of medium depth; Sole slightly concave; Frog large and well developed; Heels broad and strong and not too deep; must not turn the toes either inwards or outwards when standing; the feet must be of equal size..... 10

**HAUNCH OR UPPER THIGH.**—Muscles well developed, deep through ham, quarters broad and strong..... 4

**STIFLE.**—Strong, well muscled and compact..... 2

**GASKIN OR LOWER THIGH.**—Muscles prominent, hard, and extending well down the limb; Hamstring prominent and whipcordy..... 4

**HOCK.**—Large, strong and angular in all directions; all parts well developed, an absence of coarseness, puffiness and malformations; Point well developed; Posterior Border straight..... 5

**HOCK TO FOOT.**—Cannon Bone rather short, broader and flatter than front one; an absence of beefiness and long hair; Tendons and Ligament well defined and prominent; the limb should not have a pinched or tied-in appearance below the hock; Skin lying close to bone and tendon; Fetlock joint large and strong; Pasterns strong and of medium length and obliquity..... 5

**FOOT.**—Smaller and not so round as front one; Sole more concave; Frog well developed; Heels broad, strong, and not too deep; Feet must be of equal size..... 10

**COLOR.**—Bay, chestnut, brown, black, roan, gray, with reasonable modifications; reasonable white markings not objectionable..... 3

**SKIN.**—Soft, mellow and loose; not like parchment..... 4

**TEMPERAMENT.**—Kind, docile, prompt, energetic, not vicious..... 4

**STYLE AND ACTION.**—General appearance stylish and attractive; Action free and elastic; a good walker; may either trot or pace; must be perfect in whichever gait he takes; must not paddle nor roll his front feet; may go wide behind to a limited extent, but must not go close enough to interfere; must go level, without hitting himself in any place, and be able to go fast and show powers of endurance..... 15

**WEIGHT.**—Say 950 to 1,200 lbs..... 3

**HEIGHT.**—Say 15½ to 16½ hands..... 3

**SYMMETRY.**—Well proportioned and graceful in all points..... 8

Perfection..... 130

For trotting- or pacing-bred mare or gelding

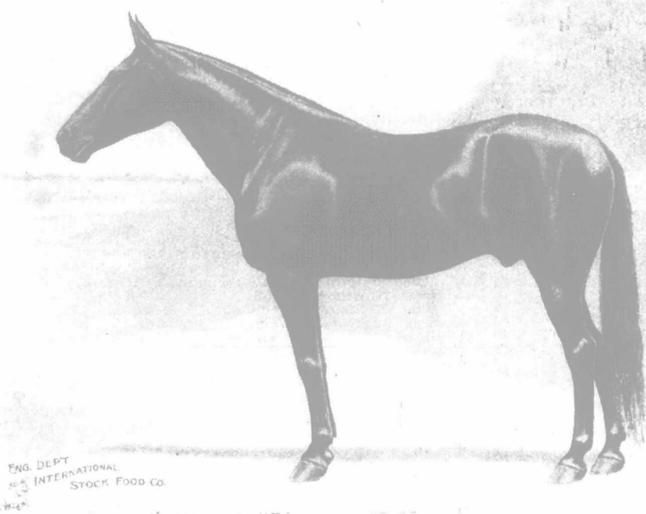
(not necessarily Standard-bred) should be of the same general type as the stallion, but not so masculine in appearance; the head, neck, withers and general physiognomy being the points which contribute to the more effeminate appearance. The neck should be more delicate and cleaner cut; the crest not so highly developed; the withers more pronounced and not so thick at the upper part, and there should be a line of demarkation between the neck and the withers. The general physiognomy should be milder, more gentle, and less impetuous. "WHIP."

**Length of Lactation Among Dairy Cows.**

Cows vary very considerably in the length of time which they continue in milk. Variation in this respect is characteristic not only of individual cows, but also of whole breeds, some strains being noted for having a much longer period of lactation than others. As a rule, the heavier the milker a cow is, the longer will she continue in milk. There are, of course, exceptions to this rule as to all others, but, speaking generally, it will be found to apply to the majority of dairy herds. The encouragement and cultivation of length of lactation is a point which is deserving of careful attention among dairy farmers. It is only natural that the longer a cow can be kept in milk, the greater will be the profit derivable from her—provided, of course, she is yielding milk in such quantity as to more than compensate for the food which she is consuming. It is a mistake to allow cows to go dry from three to four months before calving, if by the

**Preparing Stallions for the Stud Season.**

A majority of stallions used in the stud spend the greater portion of the year in comparative or complete idleness, and this is especially the case during the winter months. As the reproductive powers of any animal are largely influenced by his general health and condition, it is a matter of importance that stock horses that have been used as stated should be got into condition for the stud season. To do this properly takes time and attention. Judging from appearances, we are led to the opinion that many caretakers consider it necessary to have the animal very fat. This is a mistake. It is a recognized fact among those who pay particular attention to such points that very fat animals, either male or female, are not so potent as those in moderate condition. Breeding animals should be neither very fat nor very lean. As the recognized stud season commences on the first of May, there is now only two and one-half months in which to prepare the stallions. We think it unfortunate that the season should be practically limited to May and June. If the season could be extended to twice that length, there would doubtless be a much larger percentage of fertile services. But custom and convenience demand the limited season, and frequently a sire is bred to 100 or more mares during the two months, and to several of these twice or oftener. If we recognize what has been already stated, that a horse's potency depends upon his general health and constitution, we must also recognize that he should be in the pink of condition in order to enable his generative organs to perform with reasonable satisfaction the excessive duties required. In order to fit him for his work, we suggest the following treatment: Groom thoroughly twice daily. Feed good hay and oats, with a carrot or two or a turnip once daily; a feed of bran with a little linseed meal dampened with warm water twice weekly. He should get all the pure water he will drink. Exercise him regularly either in harness or on leading rein. If he has had no exercise during the winter, he should get little at first, say two miles walking exercise the first day or two and the distance gradually increased until ten to twelve miles daily is given. If a horse of the lighter breeds, the pace may also be increased, but if a draft horse it is not wise to go faster than a walk. Care should be taken to not tire him, but give sufficient exercise to develop and harden the muscles, which will also increase the activity of the digestive and res-



**DIRECTUM, 2,051.**  
The champion four-year-old trotter of the world, also champion trotting stallion of the world for seven years. (See "Gossip.")

exercise of ordinary care and the display of a little liberality in feeding the milk flow can be maintained for eight or ten weeks longer. There is a special objection to allowing cows to run dry in this way in the case of heifers on their first calves. It is well known that if heifers are allowed to run dry at an early date after producing their first calves there is a natural tendency on the part of the animals to go dry at the same time after producing their next and subsequent calves. This being so, it would naturally appear that after a few years cows in which the tendency to run dry is encouraged in this way would very soon deteriorate into a disappointing race of milkers. In this matter, as in many others bearing upon farm stock-breeding, much may be done by careful selection and by breeding from heifers descended from cows of a good milking strain and known to be themselves capable of creditable work at the pail—(Farmers' Gazette.)

**New Use for Windmills.**

In a lecture before the students of the College of Commerce and Administration in Chicago, Mr. F. H. Head foreshadowed the establishment of a forty-mile circuit of windmills all around the city, running dynamos which would charge storage batteries with electricity to light the entire city. Edison's new storage battery is said to be capable of storing power successfully, and even though the wind were not constant, enough could be generated when it did blow to supply the electricity needed.

piratory organs. The quantity of food given should be in proportion to the amount of work performed. If, after having gradually increased his work until the maximum is reached, and having also attended well to the grooming, his coat is not shedding properly, it is good practice to cover him well with blankets some nice warm day and exercise him until he perspires freely; then rub him briskly until he is dry. Repeat this if necessary in two or three days, and it will be found that he will begin to shed. Keep the general treatment up daily (Sundays excepted, when the exercise should be dispensed with, as he requires one day's rest in the week), and by the time he is required to go on the route he will be in good condition. If he is standing in his own stable instead of going on the road, the daily exercise should be continued. Avoid giving medicine either to get him in condition or to cause him to perform the functions of a sire during the season. As with other animals, medicines should not be given except in cases where there is disease. If he should refuse to serve, let him have a few days' rest, and then do not overtax his generative powers. There are certain drugs that will increase venereal appetite and cause him to serve, but the service under such circumstances will be unfruitful, will not increase the revenue, and will give the horse the reputation of impotency. It is better to breed to a limited number of mares and produce a large percentage of foals than to breed to a large number and have the percentage small. "WHIP."

Two striking features proposed for the St. Louis World's Fair in 1903 will be a model town or city and a model farm connected by a model highway.

Shire Horse Breeders' Annual Meeting.

The Shire Horse Breeders held their annual meeting on Feb. 6th, at Toronto. In the absence of the President, Mr. W. E. Wellington, Mr. J. M. Gardhouse took the chair.

Thirty-one Shires were registered during 1901, a considerable increase over the number of pedigrees received in 1900. The first volume of the Shire Book has been issued. There is a small balance in hand after paying for the book.

The following are the officers elected: President, W. E. Wellington, Toronto; 1st Vice-President, J. M. Gardhouse, Highfield; 2nd Vice-President, W. Hendrie, Hamilton; Directors: W. Wilkie, Toronto; H. N. Crossley, Rosseau; O. Geiger, Hensall; Jas. Dalgety, London; J. Rawden, Exeter; Jas. Henderson, Belton; Jno. Gardhouse, Highfield; Delegates: To Horse Breeders' Association, J. M. Gardhouse and H. N. Crossley; Toronto Industrial, H. N. Crossley and Jno. Gardhouse; Western Fair, H. Wade and Jas. Dalgety; Ottawa, H. Wade. Judges approved for shows: W. Wilkie, Toronto; Jno. Davidson, Ashburn; Geo. Moore, Waterloo; Arthur Johnston, Greenwood; R. P. Stricker, East Orange, N. J.; J. A. Turner, Calgary, Alta.; Robt. Graham, Stouffville; Jas. Henderson, Belton; Thos. Graham, Claremont; A. McLaren, Aurora, Ill.; P. McGregor, Brucefield; J. T. Gibson, Denfield.

The meeting fell into line with the other Horse Breeders' Associations and agreed that a stallion-owner should have a lien on both the mare served by his horse and on the foal of the produce of the service. The appointment of Mr. W. E. Skinner as Director-General of Live Stock at St. Louis was also favored.

Saddle and Carriage Horse Breeders' Association Annual Meeting.

This society held its annual meeting at the Albion Hotel, Toronto, on February 5th. In the absence of President W. B. Fuller, Walter Harland Smith, the Vice-President, took the chair. The treasurer's report showed a small deficit. The corresponding secretary read a practical address, pointing out how the society might benefit horse breeders and owners. Two prizes of \$60 and \$50 were given last year, the first for the champion harness horse at the Canadian Horse Show, the second for the champion saddle horse at the Toronto Industrial. These were donated by Mr. W. H. Smith and Mr. Geo. Pepper, Toronto.

Two hundred dollars were subscribed in the room by four members, to be divided into four champion prizes for heavy harness, roadster, hunter, and saddle horses. The prizes must be won twice to become the property of the winner.

The constitution was revised, and the name of the Association changed to that of the "Harness, Hunter and Saddle Horse Association of Canada." This was done to include roadsters.

Walter Harland Smith was elected President; O. R. Sheppard, Toronto, 1st Vice-President; Thos. Crowe, Toronto, 2nd Vice-President. The directors are: W. C. Brown, Meadowvale; T. H. McCartney, Thamesford; S. B. Fuller, Woodstock; Dr. Andrew Smith, Toronto; E. W. Cox, Geo. Pepper, Toronto; W. Hendrie, Jr., Hamilton; W. T. Merry, Jas. Murray, Toronto; Adam Beck, London. Delegates to Horse Breeders' Association; Messrs. A. Beck and O. R. Sheppard. Messrs. Smith, Sheppard, Beck, Fuller and Merry were appointed a committee to increase the membership. W. H. Smith and W. T. Merry were elected delegates to the Toronto Industrial.

Clydesdale Breeders' Association Annual Meeting.

The largest and most enthusiastic annual meeting in the history of the Clydesdale Breeders' Association was held in the Albion Hotel, Toronto, on February 4th, under the chairmanship of the President, Mr. Peter Christie, Manchester, Ont.

The President's address was in a hopeful vein as to the progress of the Clydesdale industry. He referred to the high stand taken at the Pan-American and Chicago Expositions by the horses of Graham Bros. and others, and thought the future as regards prices for good horses was very promising.

The Secretary-Treasurer reported that 562 pedigrees had been recorded during 1901, or 226 more than in the year previous. A great many had been sent to the Northwest, a few to the United States, and a great many sold to go to the central portions of the country. The balance on hand is \$887.96. Eighty-eight dollars was awarded as cup prizes at Calgary, Winnipeg, Brandon, and Halifax.

The question of introducing a lien bill in the Ontario Legislature was brought forward, and, after some discussion, the feeling of the meeting was unanimously in favor of a lien on both the mare and foal. A vote of a similar amount of money as in 1900 for cup prizes for stallions was voted, and, in addition, cups for mares.

A discussion on the Association subscribing towards the prize list of the Spring Horse Show brought out the fact that a majority present considered that that show was held too late in the season. Some favored the holding of a show for draft horses as early as the end of February or the beginning of March, even if a separate show was held, and a motion was passed that the directors be instructed to take the necessary steps at once to hold a spring show at such time as will suit the breeders and farmers of Canada.

The following were elected officers: President, D. McCrae, Guelph; Vice-President, Jas. Dalgety, London; Vice-President for Ontario, O. Sorby, Guelph; Quebec, R. Ness, Howick; Manitoba, J. E. Smith, Brandon; Northwest Territories, Jno. A. Turner, Calgary, Alta.; and A. Mutch, Lumsden, Assa. Directors: Thos. Graham, Claremont; R. Beith, Bowmanville; P. Christie, Manchester; Wm. Smith, Columbus; J. Vipond, Brooklyn; Jno. Bright, Myrtle; R. Miller, Stouffville. Delegates: To Toronto Industrial Exhibition, R. Beith and W. Smith; Western Fair, Alex. Innes (Clinton), J. Henderson (Belton); Ottawa, P. Christie and D. McCrae; Quebec and Sherbrooke, R. Ness and Geo. Stewart, Howick; Horse Breeders' Association, Jas. Dalgety and Thos. Graham.

The meeting approved of sending a signed memorial to the directors of the St. Louis Exposition, asking for the appointment of Mr. W. E. Skinner as Director-General of Live Stock at the St. Louis Fair.

The following names of judges at the various shows were approved of: Jas. Henderson, Belton; Alex. McLaren, Aurora, Ill.; R. Beith, Bowmanville; Alex. Galbraith, Janesville, Wis.; Jas. Lowry, Montreal; J. H. Kimball, Montreal; Geo. Moore, Waterloo; Jno. Davidson, Ashburn.

Mr. McCrae referred to the School of Instruction in Live Stock at the O. A. C. Guelph, where the score card and scale of points for Clydesdales and Shires was the same, with which he could not agree. He suggested that a small committee be appointed to draw up a scale of points for Clydesdales, with which the meeting agreed.

After the general meeting, a meeting of directors was held to consider the advisability of holding a stallion show early in the year.

Canadian Hackney Horse Society.

This society held its annual meeting at the Albion Hotel, Toronto, on February 3rd. The President, Mr. Robt. Miller, Stouffville, being unavoidably absent, the chair was taken by Dr. Andrew Smith.

The Secretary-Treasurer's 10th annual report showed that 46 pedigrees had been registered during 1901, an increase of 14 over the previous year. There were now 350 stallions and mares recorded, or just enough to fill a small volume. It was for the meeting to say whether a reduction of membership fees was advisable. Seventy-five dollars was given in prizes last year. The balance in hand was \$300.04. It stated that Mr. Dryden intended to introduce an Act in the Legislature during the present session to give stallion-owners a lien on either the mare served by their stallions, on the foal, or on both, and wished to ascertain the feeling of the various Horse Breeders' Associations on this point. In Manitoba the lien is on the foal, and this lien overrides all other liens, chattel mortgages and executions. The meeting favored a lien on both the mare and foal.

In response to a letter from the English Hackney Horse Society, the Secretary was instructed to write Mr. Euren, the Secretary, and ask for a grant of medals. It was decided to grant \$50 to the St. Louis Horse Show and \$50 to the Toronto Industrial Exhibition, to be awarded as prizes in the Hackney classes, as the directors of those shows may think fit. A suggestion that the society write to the Board of the St. Louis Exposition, asking for the appointment of Mr. W. E. Skinner, of Chicago, as Director of Live Stock at St. Louis, was not adopted. The printing of a studbook volume was laid over for another year, and it was decided not to reduce membership fee at present.

The officers for the current year are: President, Thos. Graham, Claremont; 1st Vice-President, J. K. Macdonald, Toronto; 2nd Vice-President, E. C. Attrill, Goderich. Vice-President for Ontario, Robt. Davies, Toronto; Quebec, Jas. A. Cochrane, Hillhurst; Manitoba, M. McMillan, Brandon; Alberta, A. M. Rawlinson, Calgary; New Brunswick, J. R. Frink, St. John. Directors: H. N. Crossley, Rosseau; R. Beith, Bowmanville; E. C. H. Tisdale, Heaverton; Wm. Graham, Claremont; Dr. And. Smith, Robt. Bond, Geo. Pepper, Toronto; Robt. Miller, Stouffville. Delegates to shows: Toronto, H. Wade and Geo. Pepper; London, Adam Beck and E. C. Attrill (Goderich); Ottawa, R. Beith, Bowmanville; Montreal Spring Show, R. Ness, Howick; Woodbridge, J. K. Macdonald and Jno. Holderness (Toronto); Horse Breeders' Association, J. K. Macdonald and R. Beith; Secretary-Treasurer, H. Wade.

The following were recommended as judges at shows: Alex. Mair, Indian Neck, Staten Island, N. Y.; Wm. West, Burlington, Vt.; Hy. Fairfax, Aldie, Va.; Alex. Galbraith, Janesville, Wis.

No report was received from the committee appointed to confer with the American Society about amalgamation, so it may be considered to have died a natural death.

Canadian Horse Breeders' Association Annual Meeting.

This Association, which corresponds to the Dominion Cattle Breeders' Association among cattle breeds, is formed of breeders of all classes of horses, with delegates from each breed, all appointed by the several Horse Breeders' Associations, except the two delegates from Standard-breds who are appointed by the Horse Breeders' Association, as no Standard-bred association now exists. The annual meeting was held in the Albion Hotel, Toronto, January 6th. Dr. Andrew Smith presided.

The Secretary-Treasurer's report showed the balance in hand (which included a balance in hand from 1900 of \$2,905.07) to be \$3,568.10. There were 66 paid-up members in 1901. Among other expenditures was \$50 towards the expense of the man in charge of the Government car conveying registered stock to the West.

Messrs. W. E. Wellington and Geo. Pepper were elected to represent the Standard-breds and pacers. A discussion took place on the Lien Act now being drawn up by Mr. Dryden. The meeting was almost unanimous in recommending that the lien be put on both the mare and foal. The President and Secretary and J. A. McGillivray are to wait on the Government and explain the wishes of the Association. It was decided to again offer premiums on stallions, with a slight verbal change in the conditions, which now read that "not less than \$5 of the fee be paid at time of service." Fifty dollars was again voted as a contribution towards the expenses of the Government car.

The Secretary read a letter from Mr. Stewart Houston, stating that the Toronto Hunt Club would again join the Breeders' Association in holding a show this spring. This led to an animated discussion. Messrs. McCrae and Christie spoke decidedly that the show must be held earlier, or the heavy-horse men would hold a show of their own. The directors will try to accommodate them if the Hunt Club consent to the earlier date. If not, the Breeders will hold a show of their own. The first week in April was suggested as a suitable date this year. Next year it may be held earlier.

The election of officers resulted as follows: President, Dr. Andrew Smith, Toronto; 1st Vice-President, H. N. Crossley, Rosseau; 2nd Vice-President, T. Graham, Claremont; Secretary-Treasurer, H. Wade. Delegates: To Toronto Industrial Exhibition, W. Hendrie, Jr., Hamilton, and T. Graham, Claremont; London, Col. R. McEwen, Byron, and O. Sorby, Guelph. Committee for Horse Show, J. M. Gardhouse, W. Hendrie (Jr.), Dr. Smith, O. R. Sheppard, Geo. Pepper, H. N. Crossley, T. Graham, A. Beck, J. Macdonald.

At the directors' meeting a letter was read from the Secretary of the Manitoba Horse Breeders' Association, asking for the re-organization of the Association in getting the Dominion Government to increase the minimum value set on horses imported from the U. S., in order to shut out bronchos; and also to get the Government to provide the Balm Reserves with a better class of sars. The date on horses, which is 20 years out, on the coast on horses, is about to only about \$2 a head on bronchos, and they are flooding the country. Messrs. McCrae and Beith were appointed to interview the Government on the matter. The question of date of the Horse Show will be decided this week.

THE ASSOCIATION MUST EDUCATE THE BREEDER.

At the dinner given by the Association on Friday evening, Hon. Jno. Dryden gave a thoroughly practical address. After expressing his sympathy for the breeders, he indicated a bright future for the horse industry. What he most wished is for farmers to have a better knowledge and interest in their own breedings. It is not the Government's duty to breed horses, but it is the Association's duty to educate the breeder. The money furnished by the Government to the breeders is a privilege, if he can do any criticism of the Government Association, it is that it does not do enough to educate the breeder of the country.

have in mind feeding by the Government. The Spring Horse Show, though it has become a somewhat fashionable event, is still an educational factor and is a provincial institution. He urged the directors to give the people of the country the information about breeding for which they are thirsting. So keen is this that at the judging class at the O. A. C. they were unable to accommodate all who wished to attend.

Canadians can breed good horses, if only farmers know what to breed and how. There would never be a time when horses would not be required.

Col. Leys was not opposed to the grant by the Legislature of \$2,000 to the Horse Breeders' Association for the Spring Show, but thought it ought to be supplemented by \$1,000 to the Toronto Industrial, \$1,000 to London, and the same to Ottawa shows, for prizes for three or four of the best classes.

Mr. Alex. Innes said that nothing would ruin a farmer quicker than breeding poor horses, or improve his condition quicker than breeding good horses. He would like the Minister of Agriculture to keep specimens of good horses and poor horses at the O. A. C. for object lessons to the students.

W. Hendrie, Jr., urged farmers not to breed army horses, as they did not pay at the prices paid. There were plenty of misfits even from good stock. He advocated the holding of horse fairs in county districts, as is now done at Orangeville, Ont.

Don't tie a horse too low down or too long, just so he can have the use of his head in lying down.

Care of Cows at Calving.

I believe in having cows dry six weeks or two months before calving, and when thoroughly dry, feed liberally up to within a week of parturition. It is the greatest mistake, and the most common, to have cows thin in flesh before calving. A cow should be fed but lightly a week before calving and a week or ten days after calving, as her digestive organs have not recovered their normal power and there is also the great drain of motherhood upon the system. We have thus two weeks of light feed with a great drain upon the system, and if a cow is not in good "heart" before calving, she will be altogether too weak to do good work after. A cow has been likened to a steam engine. Well, we get up steam before we start the engine. A cow in proper condition before calving is, of course, likely to develop a large udder if she is any good. Feed lightly when the udder has developed to a "comfortable" size. The best feed I find is ensilage and a little bran and a cup of oil cake twice a day with some nice hay. A few days before calving, give 1 1/2 to 2 lbs. of Epsom salts, 1 tablespoonful saltpetre, 1 cup black molasses, mixed in two quarts of water, as a drench, and the same a day or so before the calf is dropped. If the udder is a "leg spreader" or caked, give 1 tablespoonful saltpetre twice a day as long as you consider advisable. It is a mild purge and thins the blood.

There is nothing better to reduce a caked udder (before calving) than to put a halter on the cow and take her for a one-mile walk. If the weather is cold, be careful that she does not catch cold after her walk. Blanket her. I never milk before calving, not even if the udder is 6 or 7 feet around. Exercise and purges given as stated, and there is no danger of garget. To ward off milk fever, I have been giving, the past three years, 20 drops of pure carbolic acid twice daily, diluted in a pint or quart of water and mixed with bran feed. Give say six doses, commencing a week before calving, and a few doses before and after calving. This will also insure thorough expulsion of the afterbirth, and be a benefit to the cow's system, enabling it to sooner recover from the effects of parturition.

When calving, a cow should, of course, be in a box stall, with dry bedding, and temperature at about 60 degrees. After the calf is safely delivered, leave them alone for an hour or more. Then give a scalded bran mash, in the winter time, cooled no lower than the cow can take it; mix quite wet and add a good handful of salt. The cow will be very thirsty. Give her all the tepid water she will drink, say 25 lbs. every hour until her thirst is satisfied. This helps the bowels to move and flushes out the system. If the pen is lower than 60 degrees, put a blanket on the cow immediately after the calf is delivered. If very cold, put on two blankets. A difficult parturition or chill may cause retention of the afterbirth. In the summer time keep the cow as cool as possible. Sixty to seventy degrees is ideal temperature. Don't be in too big a hurry to milk; let the calf have a chance. Many good dairymen with heavy milkers do not milk clean at first, but take some away every two or three hours for the first twelve hours. After that, take out the last drop at each milking. Don't feed very heavy for first week. The system and digestive organs are weakened. Gradually increase feed. The experiments are the best guide as to the state of the digestive organs.

GEO. RICE.

In the British House of Commons, the War Secretary, Mr. Frodick, said that the number of horses purchased during the war totalled 446,088, of which 11,453 came from Canada and 77,101 from the United States. In addition, about 80,700 horses had been captured in South Africa.

**Mongrel or Pure-bred Fowls?**

BY JOHN B. PETTIT.

People going into the poultry industry, whether it be upon a large or small scale, as a rule have their ultimate financial success in view when embarking upon the sea of chickendom. They are very few in number who go into it "for their health," but the mighty dollar is what prompts men to take up this work. To ensure this success much thought is given to sites, poultry-house plans, and breeds, and we find that the most success has attended those who have been extremely careful about these matters.

But there is a common error that the majority of farmers make, into which practical poultry-keepers do not fall, and that is the keeping of mongrel fowls. It is astonishing what foolish notions so many people have in their minds concerning the merits of fowls of this description. A good many claim that mongrels are more hardy than thoroughbreds, and, as a consequence, require less attention and care. What an extremely foolish idea to imagine that simply because a hen is a mongrel, the fact of its being so makes it more hardy. We will admit that at times we see pure-bred fowls that do not appear as healthy and hardy as some others that are a cross between a haystack and a sawhorse, but it is the consequence of improper or too close inbreeding, and not simply because they are pure-bred. Again, some claim that they will lay a greater number of eggs with less feed than will pure-breds. It may be that we do not just understand the term mongrel, but if we do, we have as yet failed to hear any satisfactory arguments to prove such statements, and we have never yet seen that class of birds excel as egg-machines.

While there are no reasons why we should continue raising mongrels, there are many reasons why we should discard our old whims and stock and spend our time upon something that may be improved, and in this short article we will attempt to make clear only a few of them.

Our first source of revenue from the flock is the supply of eggs. Some will say, "An egg is an egg." Certainly it is, but we have found out that there are many different sized, shaped and colored eggs, and also that these do not sell as well when all colors, shapes and sizes are mixed as when they are kept separate. In some markets dark-shelled eggs will bring two or three cents per dozen more than will white-shelled ones, while in other markets the direct reverse is the case. It stands in hand, then, to meet the demand of our market, and use the breed that produces the color desired. When we want white-shelled eggs, suppose, for instance, we take the Minorcas or the Leghorns. These will give us the color desired, and the Minorca will give us the largest egg in existence. Many breeds give us dark eggs, but probably Cochins give us the darkest. So when our birds are of one pure breed we can get the color desired and the eggs will nearly all be of uniform size and shape, and, as we all know, such can be, and are, sold at a higher price than eggs of every size, shape and color in one grand mixture.

The very same argument will apply to the sale of the carcass when the hen's work as an egg-producer is over and she is introduced to the hatchet. A pair of birds with nice white skin and yellow shanks will sell for a higher price any time than will a pair of the same size with one having the kind of skin and shanks mentioned and the other with a bluish-black skin full of black pin-feathers, and having black shanks.

Then, when we know we have a pure-bred flock it will not be very long before our neighbors and friends will know the fact also, and when they see that we are making larger profits out of our flock they will want some of the same stock. Then will be our chance to sell a few settings of eggs for hatching purposes. There is always a demand for eggs for this work, and, as a rule, they are sold at a figure much in advance of regular market eggs. And they are often sold at from \$3 to \$5 per dozen. And who ever heard of a man buying mongrel eggs to hatch a few cockerels therefrom to improve his pure-bred flock? Many do not care to go to the trouble of buying eggs of pure-bred fowls and hatching them themselves, but instead buy a cockerel or two to infuse new blood and improve their flock. Then you have a chance to sell a bird at from \$2 to \$10. Sometimes they go as high as \$100 for a single bird. But do we ever hear of a mongrel cockerel being sold at such a long price?

When feeding to produce eggs, if we have a flock of pure-breds of one breed we can better regulate the feed to the general requirement, and when we have found a food ration that will start two or three laying we can rest assured that we can expect them all to soon begin to pay for their keep. When we have a dozen or more different breeds and as many sizes in a flock we cannot do this, for what food would keep one hen in laying condition would keep others rolling in fat, others again would starve on the bill of fare.

A poultry raiser says that poultry in confinement do not fatten as well or as quickly on grain as on a mash. This is probably true, as the birds require exercise to help assist in grinding the whole grain.

**Centralized Rural Schools in Ohio.**

As our readers are aware, Sir Wm. Macdonald, of Montreal, is supplying funds for a couple of trials of the plan of consolidating groups of from say five to ten small Ontario schools in a given district into one graded central school. In many parts of the States it has been tried. Ohio has twenty-three townships centralized, and the movement is spreading over the State. This has been followed by forty townships in Indiana and twenty in Iowa. From the Canadian Teacher we reproduce the following details of how the plan was tried and worked in one district:

"In Gustavus township, Trumbull county, Ohio, it has been working since 1898, and has now secured such a hold upon the people that even those at first opposed now frankly admit the superiority of the central school.

"Gustavus township is exactly five miles square. The school building is located in the center of the township. It is a four-room school, having a principal and three assistants. The children of the township are brought to this central school in nine wagons.

"The wagons are provided with curtains, lap-ropes, soapstones, etc., for severe weather. The board of education exercise as much care in the selection of drivers as they do in teachers. The contract for each route is let out to the lowest responsible bidder, who is under bond to fill his obligations. The drivers are required to have the children on the school grounds at 8.45 a. m., which does away with tardiness, and to leave for home

wagons with the children of the lower rooms, and thus are able to be of service on the farm.

"The building is a frame structure, erected at a cost of \$3,000. It is heated by steam. The cost for fuel last year was \$50. The janitor's salary is \$12.50 per month. The principal gets \$80 per month. The wagons cost from \$60 to \$80 each, and men in Gustavus township are anxious to build wagons and bid for contracts for transportation. The drivers are under \$200 bonds for good conduct. In addition to bonds to insure proper discharge of duties, the board of education keep back one-half month's pay. Sick children are sent home at the board's expense. Before the adoption of the centralization, the average daily attendance was 125 pupils. It increased to 144 at the end of the second year. Before the schools were centralized the cost for the entire township was \$2,900. Now it is \$3,156, being an increase of only \$256 annually. And as to the character of the school, who will claim that the nine scattered schools were doing the work of a well-graded four-room school? There is absolutely no comparison. In order to keep up the school and pay off the school bonds, the township board of education made a levy of nine mills on a valuation of \$373,000."

**Graded vs. Ungraded Schools in Rural Districts.**

(From our Ontario and Eastern edition.)

In presenting a few thoughts on the above topic, I shall do so without fully discussing them, as my time is limited, and I assume your space is also.

1. To have graded schools in rural districts we must have scholars, and these can only be secured by conveying them from different parts of the township to some central place.

2. The city and country may both have advantages and disadvantages in the development of the life and the prosperity of the people. The success and welfare of the one is bound up in that of the other.

3. In the educational life of each there should be equal privileges, although the courses may perhaps be to some extent different.

4. If the requirements of the country are disregarded, the town or city must suffer.

5. Every person has an influence for weal or woe, and there should be within the reach of each the best means of developing intelligent and useful manhood and womanhood.

6. The value and stability of our institutions and the prosperity of the nation will depend largely upon the human products of our rural schools.

7. In order that we may secure the largest returns for the money expended and for the brainwork of those engaged in the educational field, we must have increased efficiency in our rural schools, and this will be best obtained by graded schools.

The following are some of the advantages of graded over ungraded schools:

(a) We would have better school accommodation, because we would require only one building where we now require several, and as a matter of course the school equipment and supplies would be better and at less expense.

(b) We would have better teachers, because a smaller number would be required, and better remuneration could be given without additional cost to the individual ratepayer.

(c) We would have better classification. Under existing circumstances, the schools are so small that satisfactory classification is impossible, and even when a fairly satisfactory classification has been secured, it is soon interfered with by scholars leaving school at the opening of spring, and by others coming in about the same time, but not for the same classes, and hence additional classes must be formed, and the work of the teacher becomes almost individual rather than class work.

(d) A graded school would have a department in which advanced work could be done under the control of a thoroughly competent instructor, and hence many would stay longer in school than under present arrangements.

(e) The schools could be better adapted to the



at 3.45 p. m. The wagons call at every farmhouse where there are school children, the children thus stepping into the wagons at the roadside and are set down upon the school grounds. There is no tramping through the snow and mud, and the attendance is much increased and far more regular. With the children under the control of a responsible driver, there is no opportunity for vicious conversation or the terrorizing of the little ones by some bully as they trudge homeward through the snow and mud from the district school.

"The routes pay as follows:

Route.	Amount.	Miles Travelled.
No. 1	\$1.55 per day	5 miles
No. 2	.98 per day	3 1/2 miles
No. 3	.69 per day	2 1/2 miles
No. 4	1.50 per day	5 miles
No. 5	1.25 per day	3 miles
No. 6	1.45 per day	4 miles
No. 7	1.40 per day	4 miles
No. 8	1.48 per day	5 miles
No. 9	.95 per day	3 1/2 miles

"Keep in mind that this school is not in a village and the children are scattered over twenty-five square miles of territory. The children are not tardy. How do they do it? you ask. Well, they do it and that is enough. This proves that here is the solution of the country-school problem. There is an organ in every room and the walls are being decorated with pictures. They have started a library. In the high school-room fifty-two are enrolled, with fifty present. Here is an opportunity for the big boys on the farm to get higher education and still be at home evenings secure from the temptations and dissipations of city life. They ride home in the

needs of the community. The farmer, as a citizen, has similar needs and requirements as other citizens, and therefore must have training in the subjects of general education, but in addition he must be familiar with nature, and, therefore, nature study should form part of his course. In fact, the course of study should be such as would best qualify the individual for the profession or occupation which he intends to follow.

(f) A better library of good literature and reference books could be provided.

(g) A more regular and punctual attendance would be secured, because if the scholars were conveyed to a school in some central locality, there would scarcely be any trouble with absent or late scholars.

(h) The course of study for our rural schools could be much extended.

(k) The health, morals, intellectual development and progress would be proportionately higher than in our schools as at present constituted.

And lastly, the teachers thus engaged would, in all probability, remain for some years in the profession, very much to the advantage of the young and rising generation.

CHAS. A. BARNES,  
Inspector Public Schools.

**Care of Cows at Calving.**

The discussion of the above subject in this issue by practical breeders will, we are sure, be of interest to a very large number of our readers. The losses sustained every year by dairymen owing to what is known as milk fever and other troubles incident to parturition are in the aggregate very large, and their prevention is of very great importance. Many different theories with regard to the nature and causes of milk fever have been propounded and many different remedies prescribed, but it is doubtful whether any of them are entitled to entire confidence, and the best of them, even when successful in effecting a recovery, are liable to leave effects in some cases which discount the future usefulness of the cow. If ever the maxim that "prevention is better than cure" holds good, it is in this connection. The practice not infrequently adopted, of starving a cow or of putting her on limited rations of dry feed only, is, we are persuaded, a grave mistake, as this course is almost certain to cause constipation of the bowels, which is the greatest danger to the health of the cow and to a safe and successful parturition.

The rule adopted and strongly recommended by some breeders, of administering purgative medicines to overcome this difficulty, while it may be necessary after such a course of feeding, is, to say the least, an unnatural process, and one which must tend to materially weaken the system of the cow, already heavily drawn upon for the support of the unborn calf, and to leave her liable to chills and the retention of the after-birth. Some liberal feeders and successful cattlemen, among whom is Mr. Geo. Rice, one of the most intelligent and successful, believe in physic the cow before calving and after; but other equally successful dairymen, among whom is Mr. Rettie, have little, if any, faith in dosing at that period or any other in this connection, believing that by fairly liberal feeding with succulent food, such as roots and ensilage, with a little bran (thus keeping the bowels relaxed), the cow is in the best and most natural condition to safely perform the functions of parturition to herself and her offspring. If these latter are in the right, it will certainly be a relief to know it, for there is always some risk in drenching a cow with medicine, since if she refuses to swallow it, a portion of the dose may find its way into the windpipe and set up inflammation that may cause death. It may seem a simple thing to drench an animal, but we have known more than one case where a professional veterinarian cut short the life of the patient by this process and charged the owner smartly for killing his cow. Great care is necessary that the medicine be given very slowly, in small quantities at a time, and to be sure that it is being swallowed before giving more. It may not be generally known, but is a fact nevertheless, that in milk fever a cow soon becomes incapable of swallowing, the muscles of the throat becoming paralyzed, and at this stage many a cow has been killed by dosing.

We confess to being favorably impressed by the theory of an English writer, quoted in an article in this issue, that the secret of success in avoiding milk fever is in letting the calf relieve the udder of the dam a little at a time for the first two or three days, and not milking it out clean till after that time. This is nature's plan, and we cannot recall an instance of a cow falling a victim to milk fever while nursing her calf. If such has occurred, it may have been owing to having been milked out after the calf has suckled. It is a fact that the full flow of milk does not come till several days after calving, and the greatly-distended udder sometimes seen before calving, and causing alarm, is often owing, not to the pressure of milk, but to a caking of the udder due to other causes, and for this reason it is seldom, if ever, necessary or wise to milk a cow before calving. Cows in range herds drop

their calves on the common, and are never milked except by the calf, and who ever hears of losses from milk fever under those circumstances? Udders sometimes go wrong, it is true, but that is more likely to happen some weeks after calving, when the full flow of milk is on, and the calf gets more than enough, causing sickness and a failure to relieve the mother's udder sufficiently to save it. The cow, under natural conditions, licks her calf dry, and the liquid she absorbs in this process tends to relax her bowels naturally, but many otherwise dairymen seek to relieve her of this worry by taking the calf out of her sight as soon as born, and imagine they are doing a smart thing and improving on the ways of nature. Then they hasten to draw every drop they can from the udder, with the idea that this is necessary to the safety of the cow, while it may be, and probably is, just the worst thing that could be done. Man, doubtless, has improved on nature in some instances by directing her forces, but there are some things in which it is better to let her have her own sweet way.

The ideal place for a cow to calve is, doubtless, the comfortable box stall, but this is not a real necessity, if the herdsman be present at the critical time. She may calve tied in her stall with less worry than in a strange box and away from her usual company, but she should be allowed to lick her calf and to give it its first nourishment from her udder. And while she must be kept in the stable for a few days after calving and given plenty of water with the chill taken off, it is a mistake to let all the other cows out for water and for cleaning of the stables, while the newly-calved cow stands alone, shivering from the draft from open doors and fretting for company. She should be blanketed, and her companion cow kept in with her to keep her quiet.

**The Cow at Calving.**

Aim to feed the milch cow so well that when the time comes to "dry her" she will be in prime condition; in fact, about fat enough for beef. Have her dry about seven or eight weeks, and feed her moderately on a succulent and cooling ration: Clover hay, ensilage and mangels for roughage, and bran or oat chop and oil cake for grain. These are very cooling and laxative in their effects. If the cow stocks up rather much, a dose or two of salts and ginger are useful, but too much physic tends to weaken the cow. Have her in a comfortable and well-bedded box stall a week before calving, and if she is very valuable try to keep watch of her at this time, as a little assistance will often save a deal of time and worry afterward and perhaps save her life. I think the cow will worry less if the calf is taken away immediately, but my usual practice is to let her lick the calf and let the latter get a square meal before I separate them. I only milk before parturition in extreme cases—where the cow is suffering from the excess of milk. The exercise of good care and common sense is the best safeguard against milk fever, garget, retention, etc. I consider salts and carbolic acid the best preventive of these diseases. The Schmidt treatment is the best cure for milk fever, in my estimation. Garget has numerous "sure cures" which are very useful in connection with salts and saltpetre. For retention of membranes and inversion of uterus, have only a qualified man to operate, and use carbolic acid, about 35 drops in some water for a dose, once a day.

G. W. CLEMONS.

**Profit from Jersey Cows.**

Herewith I send report of the record in buttermaking of two St. Lambert Jersey cows in the Golden Fawn herd of Cedar Brae farm: No. 1 with her fourth calf gives 43 lbs. of milk per day, sufficiently rich to produce over four quarts of 27 per cent. cream, equal to 19 lbs. of butter in 7 days. No. 2, the first-prize two-year-old heifer at Western Fair last fall, with her second calf, gives 32 lbs. of very rich milk, producing 3½ quarts of cream per day, equal to 16½ lbs. butter in 7 days. This heifer I believe will, by the time she has her fourth calf, come up to her grandam, Nellie of St. Lambert, which gave 70 lbs. of milk per day, making 23½ lbs. butter in 7 days. These are the kind of cows farmers should aim at having, although they do not make as much beef when old as grade Durham and Holstein cows, many of which do not average for the eleven months more than 5 lbs. of butter per week, if even they do that much. T. PORTER.

Note.—It will doubtless occur to readers, though it does not seem to have dawned upon our correspondent, that a report of a year's work of the Jersey cows mentioned, or at least of 11 months' work, would appear to be necessary in order to have a fair comparison with the other breeds referred to for that time. We agree with him that it is well to aim to have cows that produce like these mentioned, and although two swallows do not make a summer, nor two cows a herd, the more we have like those whose work is recorded in this letter, the better for the dairymen and dairy interests of the country.—Ed. F. A.

**Cattle Feeding: Tied Up or Loose?**

(From our Ontario and Eastern Edition.)

Much has been written and spoken on this question by those interested in feeding cattle, whether for raising them on the farm or for export, and still the question is as far from being satisfactorily answered as ever. There are, no doubt, many like myself, who have made more or less complete experiments along this line, but the sum total of these experiments has not yet been gathered together and compared, so that a fairly reasonable conclusion may be drawn. For my own information, primarily, I conducted an experiment during the winter of 1900 and 1901, the result of which I now offer through your columns for what it may be worth. The lot of cattle handled under the test comprised 137 head of export steers, of which 51 head were fed loose in box stalls 15 feet square, containing 5 each (with water), and were not let out during the time they were fattening. The other lot, consisting of 86 head, were tied up in the usual way, with water in front of them, and, like the other lot, were not let out during feeding period. In all other respects the two lots were treated practically alike, both as to kind and quantity of meal and roughage given them, with the exception that the lot tied up had nearly one quarter of a pound more meal per day than the other.

An examination of the following table will give a fair idea of the result of this test, better, possibly, than would an opinion expressed by myself. However, I will content myself in this connection by saying that no general hard-and-fast rule can be laid down applicable in all cases. In my judgment, cattle of a nervous or excitable disposition will probably do better tied up than if allowed to run loose in box stalls with or without other cattle, while others of a more docile temperament will do as well in box stalls containing not more than 5 head each. But even in the latter case, success will depend very much upon the manner of their feeding, having reference to the nature and quantity of the feed given them, abundance of water as they require it, together with regular and careful attendance. Every farmer will agree that the attendant should know whether the animals under his care are doing well or not by their actions. The conditions required by the experienced feeder on the part of the fattening animals are perfect rest and contentment, which can only be secured by giving them abundant feed to their liking. The fattening steer fed to his full capacity will be quiet and spend most of his time lying down, whether in a box stall or tied up—in the former case with much more ease and comfort. Such, in brief, is the conclusion I have come to after following both methods some 7 or 8 years. Of course, cattle fed in boxes must be dehorned, and could I not get sufficient dehorned steers for my purpose I should at once do away with the boxes and tie up all my cattle. The practice is now rapidly becoming quite general of removing the nubs or horns when the calf is a week or two old, either by the knife or caustic.

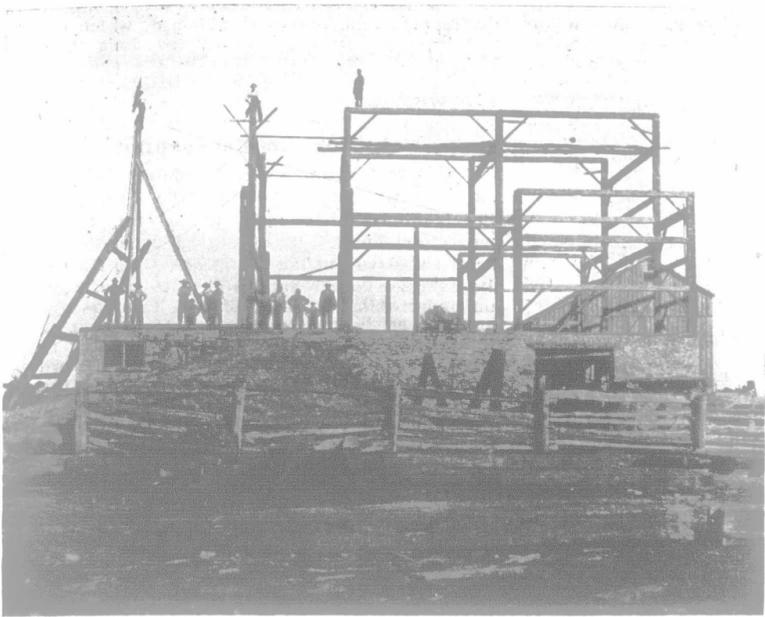
It will be noticed that there is an apparent advantage of one-fourth of a cent per day per animal in favor of the steer tied up. This slight advantage is not equal to the saving in labor in favor of the loose ones, and in my case was largely due to the attendant, who was a more experienced feeder, who devoted all his time to his lot; while, in the other case, the attendant had many other duties to perform.

The feed given these lots consisted of ground oats, barley and shorts, in about equal quantities of each; and for roughage, ensilage, cut clover hay and cut oat sheaves—in about equal quantities by bulk—all mixed together a day in advance, and fed in three meals per day, and all they could be induced to take.

The following is the result in detail of my experiment:

COMING IN.			TIED UP.			GOING OUT.		
Date.	No.	Weight, Lbs.	Date.	No.	Weight, Lbs.	Date.	No.	Weight, Lbs.
Oct. 23	48	55,000	Dec. 11	7	7,480	308		
Nov. 21	4	4,900	Jan. 19	27	38,560	2,184		
Dec. 20	5	5,320	Mar. 14	11	14,955	1,172		
Jan. 18	2	2,175	Apr. 10	8	10,180	1,088		
" 21	11	12,911	May 5	13	17,810	1,410		
" 30	9	10,935	June 17	20	26,415	3,165		
Feb. 6	2	2,160						
" 18	2	2,100						
Mar. 7	1	1,150						
Apr. 18	2	2,150						
	86	99,101		86	115,400	9,327		
Total gain, 16,000 lbs., for 9,327 days.			Average daily gain, 1.71 lbs. Meal per day per head, 8.76 lbs.					
COMING IN.			LOOSE.			GOING OUT.		
Date.	No.	Weight, Lbs.	Date.	No.	Weight, Lbs.	Date.	No.	Weight, Lbs.
Oct. 29	31	39,105	Jan. 19	13	18,110	1,053		
Jan. 11	1	1,055	Mar. 14	7	9,275	871		
" 21	30	38,754	Apr. 10	15	20,540	2,199		
			May 5	8	10,510	984		
			June 1	1	1,500	128		
			" 17	7	9,290	1,170		
	51	88,961		51	69,225	6,405		
Total gain, 19,935 lbs., for 6,405 days.			Average daily gain, 3.10 lbs. Meal per day per head, 8.52 lbs.					

Such, in conclusion, was my experience last winter. I will finish this season about 180 head for export, following both systems as above out-



NO. 1.—MR. T. EARLY'S BARN RAISING, HALTON CO., ONT.

lined, and have every reason to be well satisfied with feeding them loose, always providing I can get them without horns. D. A. FORRESTER.

Note.—In addition to the saving of labor, we believe it is admitted that animals fed loose will shrink less on shipping. Let us have the experience of others on these questions.—Editor.

**Modern Barn Raising.**

BY JOHN D. M'GREGOR, HALTON CO., ONT.

In your issue of July 20th, 1901, I gave a short sketch of the method adopted by the farmers of Halton Co. for raising barn frames. Many farmers are just now planning for building next summer, and some light on this subject may be helpful to them. I have been favored by Mr. Grant Johnston, of Alloo, Peel Co., inventor and operator of the jerry with which the work is done, with a number of photos taken while at work. No. 1 is a building owned by T. Early, size 56x75, raised with the assistance of four men in eight hours. No. 2, owned by Mr. Giffen, size 56x80, raised in nine hours. No. 3 shows the work being done in a somewhat different way, the raising being done from the side, the cut showing a length of sixty feet being raised at once. The men owning the raising outfit bring the machine and four men. With the assistance of four men a barn is easily raised in a day. The cost is twenty dollars, and is a great deal cheaper than the old way.

While farmers appreciate this method for the upper story of their barns, many still take the old way of raising the lower foundation, or mud sills. When a large barn is being built and heavy timber is used, it generally takes a gang of 25 men to raise the mud sills, and if the wall is but recently built, there is danger of jarring it. This trouble can be easily avoided and the work accomplished better and quicker by two or three men. The following plan has been found to work well: Take three pieces of timber, 3x6 and 18 or 20 feet long, run a 3/4-inch bolt through one end of the pieces of timber, not making it too tight, so as to allow for spreading when raised. Now raise the three pieces and spread the bottoms so as to form a tripod. With a clevis attach a double block to the top of the tripod, the other block being attached to the timber. The single block through which the rope passes as it goes to the horses is attached to the bottom of one of the legs of the tripod. At the bottom of this leg a stake is driven firmly into the ground, and the chain which attaches the block passes around both stake and leg, and holds the tripod secure. The sill to be raised is drawn into proper position and the tripod raised over the middle of it. Attach the block to the sill, six inches nearer to the end that goes on the wall. Raise with the team, above the wall, swing into position and gently back the team. Then shift your block six inches to the other side of the center of the sill, and raise as before. The team can easily hold the timber until the posts are put into position.

When a sill has been raised the full length of the building, care should be taken to have only one leg of the tripod on the side from which the machine has to be moved. The moving then is easily done by tipping this leg over the sill. With a double block, two or three men can easily raise the sills of an ordinary barn in an afternoon.

reproduced as are virtues. While it is often the part of wisdom, having found one to suit, to pay, if need be, a higher price for a bull than was intended, it does not follow that the

**Buying a Bull.**

If the bull is more than half the herd, which we understand is according to the revised version, special care should surely be exercised in the selection of a head for the harem. It may pay well to travel a long way and wait a good while to get the right type and quality of animal for a sire rather than take one that is near and is not what the herd requires in order to its continuous improvement. A sire weak in general character or in one essential point may do more damage to a herd in his term of service than can be undone in twenty years, as the weakness is liable to be perpetuated in his descendants to the third and fourth generation, and failings are as likely to be

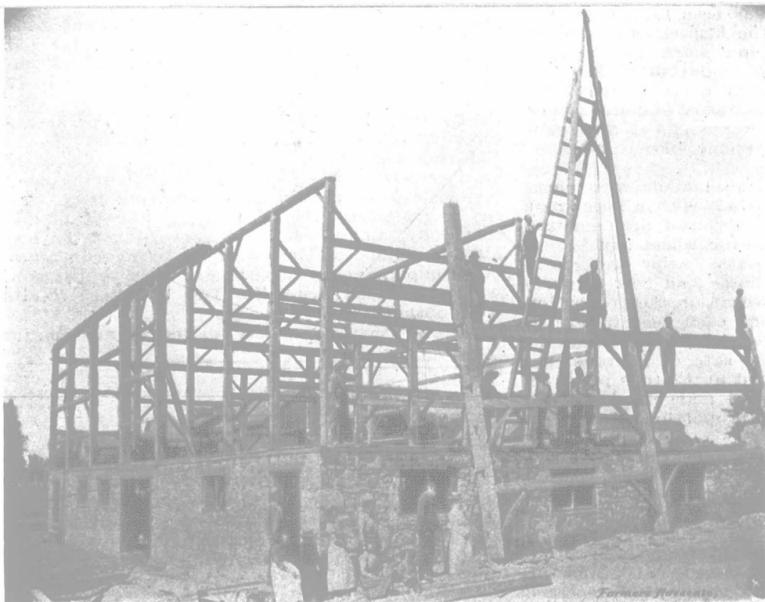
stock shows in this country in recent years, in competition with pure-breds, were not sired by bulls of middling quality or merit, but by champions in the show-ring at the leading exhibitions.

Most breeders, we presume, have an ideal in mind of the stamp of bull they prefer and require in order to the best results in the improvement of their herd, but it is often not an easy matter to find the animal that fills the bill, for first-class ones are by no means plentiful, and when found are sometimes beyond the reach of the seeker to obtain, owing to the price they are held at being higher than can safely be afforded. Let not the seeker be discouraged on this account and seek no further. It is probably true that there are as good fish in the waters as have ever been caught, and by looking further, another, if not as good in all respects, yet as good in most essential points, may be found that can be bought within the means of the purchaser, and if bred from good stock of the right stamp may give as good results as the other would. And this naturally suggests the thought that, as a rule, of course the best and safest place to buy a bull is at the home of the breeder, where the sire and dam can generally be seen, the character of other members of the family observed, and time taken to view him at leisure. There is no place where, as a rule, shipping of stock is so carefully done as from the home of the breeder, where feed and bedding is at hand and all the necessary precautions for ensuring safe and comfortable transportation can best be taken. Many a good young bull has been set back for months and not a few practically ruined by being taken from a warm stable in midwinter and compelled to walk for miles on a slippery road to the station, getting overheated, and then by standing, it may be, for hours in a station yard, exposed to the cold winds, and bundled

into a drafty car without any covering in the way of a blanket. Every one professing to be a breeder should have a substantial cattle rack in which stock sold may be hauled to the station, especially in winter, when they should also be blanketed. The frequent complaints regarding purchased bulls being unsure breeders for a time after being removed from one place to another may well be traced to the long walk and the heating and cooling off incident to such changes, which upset the whole system and are apt to lead to lasting ills.

Wm. Peacock.—Replying to your enquiry re egg production, would recommend you to start on a small scale, and as you find it succeeding,

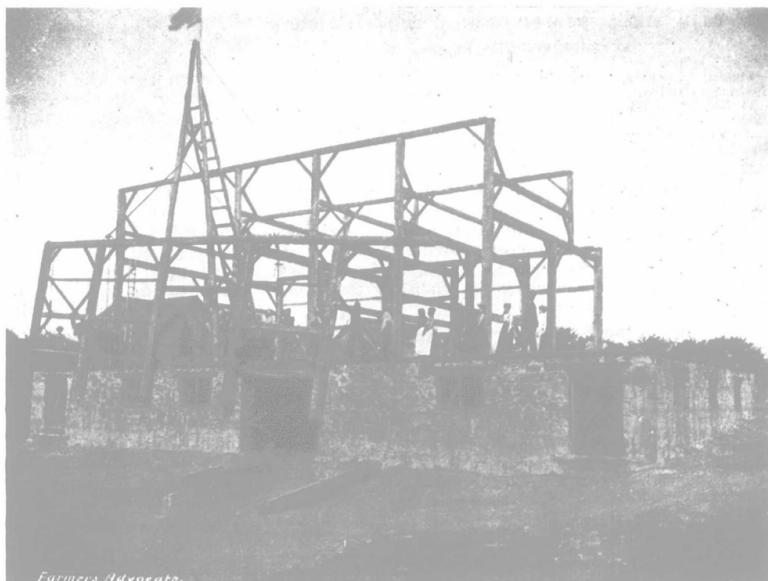
increase the flock, making use of the valuable information we publish on that subject. Try Plymouth Rocks or Wyandottes for a general-purpose bird, or Leghorns as egg-producers specially.



NO. 2.—VIEW OF MR. W. GIFFEN'S BARN RAISING, PEEL CO., ONT.

highest-priced is the best for you, nor that he is the best for any one except, perhaps, the seller. By looking a little further one may find a bull of the desired type that can be bought for much less money than is asked for others that would not

suit the purposes of the purchaser nearly as well as the lower-priced one. The breeder who has a large herd of pure-bred females can afford to pay a higher price for a suitable bull, because he can use him to mate with so many, and thus secure a larger number of his progeny, but all the same the owner of a small herd cannot afford to buy a cheap bull if he is inferior or ranks no higher than mediocrity. Indeed, the farmer who has a herd of grades will make a serious mistake if he uses a pure-bred bull that is only middling in character and quality, for there is no place where a high-class bull shows his potency for good more clearly than in a herd of grade cows. The grades that have been winning the highest honors at the fat-



NO. 3.—MR. W. GIFFEN'S BARN RAISING.

**Management and Application of Barnyard Manure.**

To the Editor "Farmer's Advocate":

Sir,—The long-continued cropping of our farm land, that which I work having now been tilled steadily for over fifty years, makes the preparation and application of our barn manure an all-important question. I have been somewhat surprised to read that the investigations conducted under the direction of Dr. Wm. Saunders, Director of the Canadian Experimental Farms, went to show that, weight for weight, fresh stable manure was equal in value to rotted, and that the losses with the latter were very great. I will feel indebted to the Director if, through your columns, he will tell us if he has been correctly reported, particularly on the first-mentioned point, and upon what data he based his conclusion? My experience seemed to indicate a much better crop, and freer from weeds, where the rotted manure was applied. I would like, also, if the Director would state what he considers the preferable mode of applying manure to the land, whether spreading direct on the fields in winter or placing it in small or large piles to be spread in the spring, indicating, in a few words, the conditions under which he has demonstrated certain plans to be more advantageous. At the present time these two questions are not only reasonable but of vital import to thousands of your readers. I am not writing in a disputatious spirit, but to get at the truth.

"SON OF THE SOIL."

**DR. WM. SAUNDERS' REPLY.**

I take pleasure in replying to the enquiries of "Son of the Soil" as to the important question of the relative usefulness in crop-producing power of barnyard manure, fresh and rotted. This matter, so important in regard to economy in the use of barnyard manure, has been fully presented in the annual reports of the Experimental Farms during the past ten years, and since these reports have reached the homes of about fifty thousand farmers annually, distributed over all parts of the Dominion, and these barnyard-manure experiments having been much discussed, it was supposed that farmers had become fairly well informed on this subject.

The trials which have been made with barnyard manure, fresh and rotted, with a check plot alongside which has never received any manure, were begun in 1888 with spring wheat and Indian corn, and in 1889 with oats, barley and roots. Barnyard manure (mixed horse and cow manure) was used in 1888 on the wheat, in the proportion of 12 tons to the acre, and each year following, 15 tons per acre. To the oats and barley the manure was applied at the rate of 15 tons per acre; the corn was continued at 12 tons per acre, while the roots (turnips and mangels) have had an annual dressing in the proportion of 20 tons per acre.

No results were published until the end of five years, when the average crops for that period were given. Each year since then the annual reports have contained the results for the current year and the average for the whole period.

These annual dressings of fresh and well-rotted barnyard manure were continued until (and including) 1898, so that the trials were repeated for 10 or 11 years in succession, and at the end of that time the average crops stood as follows:

AVERAGE FOR ELEVEN YEARS.

Barnyard manure well rotted.		Barnyard manure, fresh.		Check plot, to which no manure has been applied.	
Grain.	Straw.	Grain.	Straw.	Grain.	Straw.
20 56 4 11	3,709	20 52 14 11	3,629	10 16 4 11	1,899

AVERAGE FOR TEN YEARS.

Barnyard manure well rotted.		Barnyard manure, fresh.		Check plot, to which no manure has been applied.	
Grain.	Straw.	Grain.	Straw.	Grain.	Straw.
34 34 7 10	3,051	35 21 14 10	3,280	13 32 5 10	1,594
48 14	3,235	51 17	3,167	30 23 5 10	1,531

In the experiments with Indian corn, two varieties have been used each year: one a vigorous-growing and later-ripening sort, known as No. 1; the other a shorter-growing and earlier-maturing variety, known as No. 2; and the corn has been cut green each year when in the best condition for the silo.

AVERAGE FOR ELEVEN YEARS.

Barnyard manure well rotted.		Barnyard manure, fresh.		Check plot, to which no manure has been applied.	
No. 1.	No. 2.	No. 1.	No. 2.	No. 1.	No. 2.
16 240 12 696	17 721 11 783	7 1258	5 1604		

AVERAGE FOR TEN YEARS.

Barnyard manure well rotted.		Barnyard manure, fresh.		Check plot, to which no manure has been applied.	
Tons.	Lbs.	Tons.	Lbs.	Tons.	Lbs.
15	196	15	851	7	121
23	212	22	269	9	211

Similar experiments have been conducted for

eight years with carrots and on two series of plots with potatoes for five years, with the following average results:

Barnyard manure, well rotted.		Barnyard manure, fresh.		Check plot, to which no manure has been applied.	
Tons.	Lbs.	Tons.	Lbs.	Tons.	Lbs.
19	758	21	297	11	1953
266	17	272	32	111	19

These experiments have been conducted throughout with the greatest care, with the sole object of arriving at the truth. A study of the figures given will show that with three exceptions—spring wheat, Indian corn No. 2, and mangels—the fresh manure has given the larger crops, and will, I think, convince the reader that the case has not been overstated when I have said that in our experiments covering 10 and 11 years, a given weight of barnyard manure, fresh, has shown itself to be equal in crop-producing power to the same weight of barnyard manure rotted.

With reference to increase of weeds where fresh manure is used, there is no doubt that where weed seeds are freely fed to stock in hay, straw, and grain, that a larger proportion of ungerminated weed seeds will be found in the fresh manure, but since manure is most generally used with a hoed crop, the presence of additional weeds is not a matter of much moment, for if the land is kept well worked, the cultivator and hoe will clean them out regardless of number.

As to the next point referred to by your correspondent, that of the loss which occurs in manure during the process of rotting, that is very large. The first experiments made at the Central Experimental Farm to determine this loss were conducted in 1895 by the Director, under ordinary farm conditions, when four tons of manure was used, two tons each of horse and cow manure. In three months the 8,000 lbs. uncovered in the barnyard was reduced to 3,947 lbs., and in seven months to 2,812 lbs. (See Ann. Rept., 1895, p. 42.) In a series of experiments subsequently conducted by the Chemist of the Experimental Farms (see bulletin 31 on barnyard manure), where the conditions were more favorable for preserving the manure from loss, the decrease in weight averaged about 60 per cent. By analysis it was shown that the loss also in organic matter, which in barnyard manure is so important as furnishing humus to the soil, was more than one-half. The following results were obtained:

RESULTS OF ANALYSIS OF BARNYARD MANURE THREE MONTHS ROTTED.

	Manure protected. Per cent.	Manure exposed. Per cent.
Loss of organic matter.....	55	60
" nitrogen.....	17	29
" phosphoric acid.....	none.	8
" potash.....	none.	22

It should be understood that the protected manure in this case was so thoroughly enclosed and sheltered that there was no possibility of any leaching, and the exposed manure was also under conditions more favorable as to preservation from loss than would be practicable for the average farmer to provide. The rotted manure which we have used from year to year in the experiments conducted at Ottawa has been rotted under the ordinary conditions of exposure found in the average farmyard.

From the facts and figures submitted, it is evident that barnyard manure loses during the ordinary process of rotting when exposed to weather, more than half its weight, more than half its organic matter, and a large proportion of its plant food. The potash and phosphoric acid can to a large extent be preserved if the manure is so protected as to prevent leaching, but even then the loss in nitrogen—the most expensive of all plant foods to buy—is large, and the loss in organic matter is almost as great as when the manure has been exposed.

The plan we have most generally adopted at Ottawa is to use the manure fresh on the land whenever practicable, and plow it under. During the winter it is usually distributed over the ground on which it is to be used, in small piles of about one-third of a cart-load each. These small piles are soon frozen through so that all fermentation is checked, and when spread in the spring and plowed under, it is practically in the same condition as when it left the barnyard. In the Ottawa climate there is very little danger of loss from these small heaps by leaching. It might be better not to put manure out in this way on a hillside, but even in such case the inevitable loss of organic matter and nitrogen from rotting in the barnyard would probably involve more loss of valuable constituents than could occur from leaching.

This question is one which should engage the attention of every thoughtful farmer, and I am pleased to have had the opportunity of giving these experiments and their details covering an experimental and research period of ten years at the Dominion Experimental Farms, Ottawa.

ment of agriculture in Canada will be found in the reports and bulletins published, which can be had by any Canadian farmer as long as the edition lasts, by application to the undersigned.

WM. SAUNDERS, Director.

Experimental Farms, Ottawa.

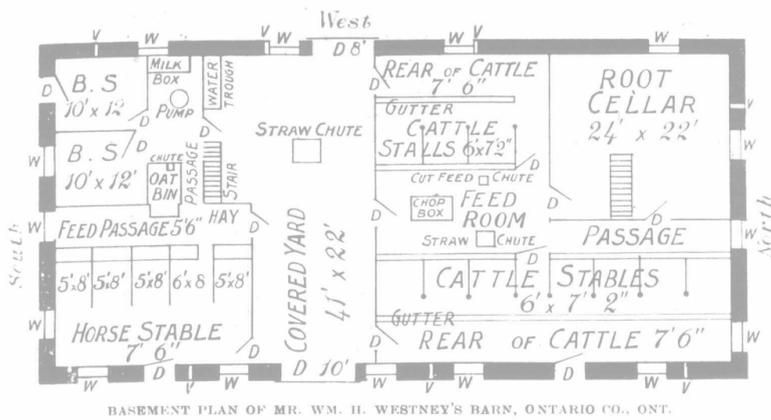
**A Start in Beekeeping.**

I believe we are safe in assuming that of all the different things kept on the farm, animate and inanimate, bees are, as a rule, the least understood and the most neglected, so that when I am asked to outline conditions that will make the average farmer successful with bees, I fear I am undertaking a very difficult task; in fact, some noted beekeepers have declared that it is impossible for the farmer to keep bees at a profit, unless carried on as a specialty. However, I have seen exceptions to this, and although somewhat of a specialist myself, I have always maintained that every farmer should keep a few bees (especially if there are none near him), if for no other purpose than for the benefit of his orchards and clover fields. But as this article is not to discuss the economic value of the honey-bee as an adjunct to the most successful raising of fruits, clover, etc., I will say nothing further on that subject at present.

For the benefit of farmers who may be contemplating keeping a few bees, I will try and give a few practical hints in as few words as possible. Naturally, when we think of beekeeping, the first thing that comes to our minds is bees, but I would suggest to the prospective beekeeper to make good use of spare time between now and spring in getting posted a little in bee-culture; i. e., if he has no knowledge on the subject. Subscribe for one or more good journals dealing with the subject and secure some of the excellent works on beekeeping, among which I might mention "Langstroth on the Honey-bee" and Root's "A B C of Bee Culture." I would especially recommend the last-named work, as it is a complete encyclopedia and contains all the information necessary to any beginner, outside of practical experience. Spend some of these long winter evenings in studying the economy of the hive, the life and habits of these wonderful little creatures, and I think you will be amply repaid for your trouble, even if you should never keep a swarm of bees on the place. You will be led to think, as perhaps you never thought before, that there are some other things besides the human creation that are "fearfully and wonderfully made."

How many swarms shall you start with? So good an authority as Doolittle says four as the outside number. I think his advice is sound. Personally, I started with one. Acquire more bees if you want them, as you acquire more knowledge of the business. Make them pay for themselves as you go along. If you cannot make half a dozen colonies pay you, it is quite reasonable to suppose that you would not have much success with fifty or a hundred. Again, if you find you are not adapted to the business, with only a few colonies, your loss on the investment will be small. On the other hand, if you have bought fifty or a hundred and fail, the loss would be considerable. What time in the year shall you get the bees? Would say not before the middle of May, as by that time all danger of spring dwindling will be past. If possible, get some practical beekeeper to examine the colonies you purpose purchasing, to post you as to their condition—if free from foul brood, etc. Of course, if you are buying from a practical man whom you can trust, these precautions might not be necessary; but sometimes, I am sorry to say, we are apt to get taken in by trusting too much, as an early experience of the writer would show. The style of hive to use is a knotty question which beekeepers do not agree upon. However, size and style of hive is only a secondary matter at most, but I would advise beginners to get, if possible, standard Langstroth hives, at least as regards length of frame, as nearly all comb-honey supers and other articles of hive furniture are made to fit that style of hive. I use a frame L. length, only much deeper, commonly called the Quinby. The beginner will need a good smoker, a couple of veils, some hives for increase, say one for each colony, spring count, also surplus casters, etc. If running for extracted honey, an extractor and uncapping knife will be needed. Would not advise any further outlay the first year. I have said nothing as to price of bees, as this will depend a good deal on your locality, prices of bees, like nearly everything else, being subject to supply and demand.

One of the things most dreaded by beginners is the stings. By careful manipulation you need not receive many; i. e., if you wear a veil and gloves, which latter you will soon discard as you get more experience. With the most of people, bee stings are at first quite painful and cause considerable swelling, but as the system becomes acclimated you will mind them but little; of all the different remedies prescribed, "grin and bear it" seems to be the most effectual. In conclusion, would lay particular emphasis on the need of steady tending the business. I have often been



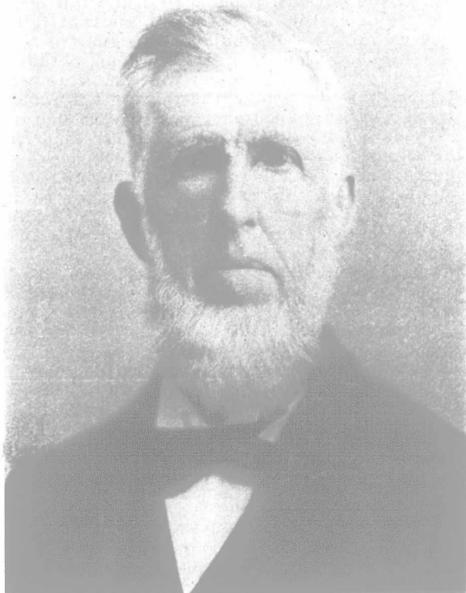
BASEMENT PLAN OF MR. WM. H. WESTNEY'S BARN, ONTARIO CO., ONT.

surprised to hear comparatively smart people wondering why their bees did nothing, or died, when an enquiry would find that if anything the bees knew a little more about their owners than their owners did about the bees. If these same people had known as little about their cattle as they did about the bees, they (the cattle and horses) would certainly have died too. Nothing has made more strides these last fifty years than beekeeping. Remember, we are in the 20th century, so don't speak of skeps, gums, strained honey, king bees, and other phrases of beekeeping of fifty years ago, but be up-to-date in beekeeping as well as in other rural pursuits.

J. L. BYER.

**Death of Mr. E. D. Tillson.**

Readers of the "Farmer's Advocate" everywhere throughout Canada will learn with deep regret of the death, on January 31st, of Mr. E. D. Tillson, of Tilsonburg, Ont., head of one of the largest milling industries in the Province, and a farmer and dairyman of wide repute and marked success. Descriptions of his model farm and dairy buildings have been given in these columns, together with frequent letters from his pen on practical subjects, especially on his favorite theme—the breeding, feeding and general management of dairy cows. By their large productiveness, his herd of pure-bred and grade Holsteins had become one of the most famous in Canada. He encouraged many to read the "Farmer's Advocate," and, though an extremely busy man, seemed always glad of the opportunity to give of his experience for the benefit of others. He exerted a very great influence in the direction of improved methods of agriculture. He had been mayor of the town, and postmaster for many years, and was an active member of the Methodist Church. His father, George Tillson, was founder of the town, settling there in 1825. Deceased was born on March 28th, 1825, and married Mary Ann VanNorman on July 4th, 1850. Mr. and Mrs. Tillson celebrated their golden wedding on July 4th, 1900. Upon his death, flags were flying at half-mast, and a general feeling of sorrow pervades the whole town. The name of Tillson is known from one end of Canada to the other, and no name stands higher in the estimation of the public for honesty and integrity. He leaves a family: George W. (overseer of the mills), Edwin V. (manager of the business), Mrs. (Dr.) L. C. Sinclair and Mrs. H. A. Harrison.



THE LATE MR. E. D. TILLSON.

what it likes. If a dead calf, then take a very little milk from each teat for the same time twice a day.

"I will not attempt to argue the scientific side of the matter, and content myself that this is good enough for me, for 'the proof of the pudding is in the eating.' If any reader who has had losses concludes to try this plan, please do not half do it! Follow it up, and see that the plan is followed out in every case alike, old or young, fat or lean."

**Combined Horse and Cattle Barn.**

The barn illustrated herewith was built by the late Stephen Westney, of Ontario county, in 1901. The short posts are 17½ feet, while the purlin posts are 26 feet. Barn is 93 x 45 feet. The cattle-stable floors are all cement, and also feeding passage for horses. The gutter behind the cattle is not a ditch, but drops about 5 inches just behind them, and then runs for about 22 inches level; then it raises 2 inches in the distance of 5 inches, and then runs with a gentle slope to the wall. The cement was finished rough with a wooden trowel and is not found slippery; the bedding remains on it even better than on plank. The racks are low and the mangers have cement bottoms,

**Preventing Milk Fever.**

A correspondent of the Farmer and Stock-breeder, of London, England, throws out an idea on this subject that may be worth considering and acting upon, for when we come to think of it, can we recall a case of milk fever where the calf was allowed to remain with its dam and draw milk at its pleasure and hers. The writer referred to says:

"Re milk fever, I cannot propose a cure, but my own experience is that it is possible to prevent it. Some three years ago I stated that I had followed a course for seven years without a single case in about 100 cows a year, and now I can say I have not had a case since—not even a shaky one, and I keep big, good cows and heavy milkers, and in high condition.

"My rule is that every cow (and make no exceptions) shall have 1 pint of raw linseed oil a few days before calving, and 1 pint without fail twelve hours after calving, with bran mash and light feeding for a few days, but the secret is in abstaining from milking for at least forty-eight hours; only allow her calf to be loose and take

but raised about two inches higher than where the cattle stand. The places in the wall marked V are ventilators, and are 5-inch sewer pipe placed about 3 feet from the floor. They work very well except in windy weather, when they are stopped by butting in a handful of straw. The horse stable is planked with pine in the rear of horses and maple in the stalls, all bedded in mortar. All the manure is put in the covered yard and cleaned out when full, spreading it immediately on the ground. Several calves can be tied behind the cattle; several yearlings run loose in the covered yard, thus making room for over thirty head. The granary floor and sides are dressed hemlock, while the bin boards are basswood. The 10-foot space adjoining is a continuation of the granary, with open ends, which we use for the cutting box, grinder, etc. The straw chutes are coops built up about 3 feet high, with perpendicular doors hung from the top, so that when the straw is shoved against them they open. The basement is roomy and well lighted, twelve windows, containing eight 10 x 12 inch panes (one half sliding past the other), let in the light. They have a 2 x 4 inch support in the center. There are also fanlights over all the small doors. There are also windows above each of the east barn doors and tip doors in ends of barn.

WM. H. WESTNEY.

**QUESTIONS AND ANSWERS.**

- 1st.—Questions asked by bona-fide subscribers to the "Farmer's Advocate" are answered in this department free.
- 2nd.—Our purpose is to give help in real difficulties; therefore, we reserve the right to discard enquiries not of general interest, or which appear to be asked out of mere curiosity.
- 3rd.—Questions should be clearly stated and plainly written, on one side of the paper only, and must be accompanied by the full name and address of the writer, as a guarantee of good faith, though the name is not necessarily for publication.
- 4th.—In veterinary questions, the symptoms especially must be fully and clearly stated, otherwise satisfactory replies cannot be given.

**Veterinary.**

**HIGH RINGBONE OR SPRAIN?**

I have a mare, 13 years old, which is going lame on the off front foot. Can't see anything the matter only a little swelling in the pastern joint. Have bathed it with hot water and put a tight bandage around it, which seems to help her a little. Also have a cow which calved on Jan. 5th, which I think is going blind in one of her hind teats. get about a pint of milk out of it. The lump is where the teat joins the udder; she was all right before she went dry.

W. P.

Innisfail, Alta.

Ans.—1. From the symptoms which are submitted, without any history of the case, a very reliable diagnosis cannot be made. The trouble may be a sprain of the fetlock joint or a high ringbone. In any case, reduce any fever by bathing, and then follow with a blister of biniodide of mercury one dram, cantharides one dram, sweet lard one ounce, all well mixed. The hair should be clipped off the parts and the blister well rubbed in over the swollen area for 15 minutes. The mare should be tied for 12 hours so that she cannot bite the blistered spot. Two days after blistering, rub in some sweet unsalted lard, and lard every other day. Give rest for two or three weeks, at the end of which period the blistering may be repeated if necessary. 2. If no better ere this, would advise drying that quarter and beef the cow, unless a very valuable milker.

**PRESCRIPTION FOR COLIC.**

Would you kindly publish a good prescription in case a horse should take an attack of colic. How much black antimony could you give to a 100-pound hog? We have heard of it as being good for a hog inclined to be stiff.

A. R.

Ans.—The standard prescription for colic in horses is: Tincture of opium, 2 ozs.; fluid extract of belladonna, 4 drs.; sweet spirits of nitre, 2 ozs.; water, 1 pint. Give in one dose and repeat, if necessary, in 1½ hours. This is a fair dose for a horse of about 1,200 lbs. The dose would be larger or smaller according to the size of the animal.

About ½ dram is a fair dose of black antimony for a pig of 100 lbs.

**Bug Death--A New Insecticide.**

To the Editor "Farmer's Advocate":

Sir,—Having recently received numerous enquiries regarding the composition of "Bug Death"—a newly-introduced insecticide—for destroying the potato beetle, we submitted the material to analysis and obtained the following data:

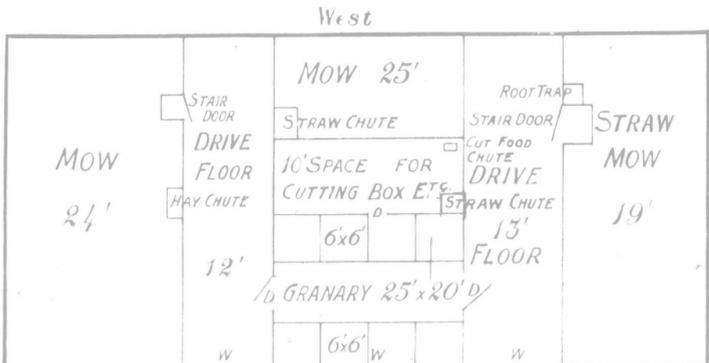
Moisture.....	.40 per cent.
Insoluble matter, sand, etc.....	11.21
Oxide of iron and alumina.....	5.60
Lime.....	.51
Potash.....	none
Zinc oxide.....	82.10
Lead and copper.....	faint traces
Phosphoric acid.....	traces
Chlorine.....	.47
Nitrogen.....	.107

The results show that it is practically an impure or commercial zinc oxide—no doubt a by-product. As regards the essential elements of plant food, it is strikingly deficient, the only constituent present of any fertilizing value being nitrogen, of which there is only one-tenth of one per cent. It is, therefore, obvious that any claims made for it as supplying nourishment for crops are without foundation.

FRANK T. SHUTT, Chemist.

Dominion Exp. Farms.

Note.—The constituent in the above preparation which kills the insect is the zinc oxide, a white powder, which a local chemist states is about the same cost as Paris green, but he recommended the latter as preferable.—Editor.



UPPER FLOOR PLAN OF MR. WM. H. WESTNEY'S BARN.

**STIFLE OR SPAVIN LAMENESS, WHICH?**

I have a mare, 12 years old, which got lame the first of September last; took her to a V. S.; he said that she was strained in the stifle; he told me to blister it twice, which I did. She seemed to get all right; then the V. S. told me to work her lightly, which we did. When the work was done, she stood in the stable for a few days, when she took lame again. I then blistered it again, and she seemed to get all right again for a while; then went lame again; she stands mostly on the other leg, often holding the lame leg up. There is a hard swelling or lump over the stifle joint. She has not been harnessed since the ground froze up, and stands on an earth floor, as we did not think it best to put her on a plank floor. Has a good appetite, but keeps thin. I have been told by a person who is quite a horse doctor that it may be a rupture of the covering of the joint, thereby letting out the joint oil. Could such a thing happen, or could you suggest a remedy?  
SUBSCRIBER.

Rapid City.

Ans.—Whether the treatment will be successful or not depends entirely on the diagnosis being correct. In this case you do not state whether or no a careful examination was made. If your veterinarian was called in, we presume such was given; if not, have the hocks of the mare examined and given the spavin test (see Jan. 20th issue) to the affected leg. When thoroughly satisfied that the stifle is the part affected, put a stifle shoe (a shoe with a projecting toe-piece) on the foot of the limb and have the joint feathered. Would advise, however, a careful examination of the hock for spavin. There might be dropsy of the synovial sac of the stifle bone, which swelling, however, would not be very hard. The covering of the joint is not ruptured, as far as we can tell by your description. You might write us again after the examination.

**SCOURS IN STEER.**

Could you tell me a good remedy for scour in a young steer? He is two years old now, and has had scours ever since he was born.

Nicola Lake, B. C.

SUBSCRIBER.

Ans.—The symptoms are very suspicious of tuberculosis, and if the animal is very thin, as we should expect it to be, would recommend its immediate slaughter, as, if affected with tuberculosis, it would be a menace to the health of the other cattle. You might try the following: Give, first, a pint and one half of raw linseed oil in which is two ounces of turpentine, and repeat half doses every third day for three or four doses, then give pulverized chalk,  $\frac{1}{2}$  lb.; pulverized catechu, 2 ozs.; pulverized ginger, 4 ozs.; pulverized opium, 1 oz.; mix well and divide into eight powders, one of which should be given twice daily in the feed after stopping the oil and turpentine.

**SUPPURATIVE MAMMITS.**

1. Cow cut her teat on barb wire last summer, and could not be milked dry in that teat, whereupon the milk caked in the udder. It became hard, and has broken on several occasions, running a very offensive matter. Have applied home remedies, but to no apparent avail, as that portion of udder remains the same; other parts of udder not affected. What can be done for it?  
2. Cow at pasture came home with the right hind part of udder swollen badly, and within a few days spread to other side, but then slowly became reduced. No cause is known, and she continued milking as before. There still remains a small bunch in udder at the teat?  
W. M.

Ans.—1. The inflammation set up in the quarter has resulted in the formation of abscesses. These must be freely opened with a knife and flushed out twice daily with warm water, until all pus is removed, and then a little of the following lotion injected into the cavities: Corrosive sublimate 1 part, water 1,000. This treatment must be kept up until the cavity fills with healthy tissue, and any fresh abscesses that form must be treated in the same way. It is possible the quarter will become inactive, as the secreting cells may be destroyed, but if the suppurative process be not checked, the other quarters may become involved by absorption of the gangrenous material, so it is necessary to treat promptly in order to save the other three quarters.  
2. This is a case of hardening or induration of a portion of the quarter, the result of inflammation. The lump may be reduced by repeated applications of an ointment made as follows: 1 dr. each of iodine and iodide of potassium, mixed with 2 ozs. vaseline.

**COLT SPRAINED IN STIFLE.**

I have a colt sprained in the stifle and a little swollen. I would like to know what is the best to do for him?  
C. R.

Ans.—Place colt in loose stall and give a long rest. Blister the joint once every month with  $\frac{1}{2}$  drs. powdered cantharides, mixed with 1 oz. vaseline, until the lameness and swelling disappear.

**EXCESSIVE QUANTITY OF AMNIOTIC FLUID.**

I have a cow seven years old, had a calf last year. About three months before calving, she began to grow exceptionally large, and kept on increasing in size right up to the time of calving, and by that time she was so large she could with difficulty get through the stable door. When she had her calf, about a barrel of water came from her. She never was any way sick, only looked to be uncomfortable at times. Got through her calving all right, but did not look like the same cow. One would think her whole inside was gone. What would you call the trouble? She is due to calve again in April, and I can see she is going to be the same again. The calf she had last spring was the smallest I ever saw at birth, and did not do much good all summer, though running with the cow.  
E. C.

Ans.—In all pregnant animals there is a quantity of fluid surrounding the fetus or fetuses. As pregnancy advances, this fluid, called the amniotic fluid, increases in bulk, and in some cases is formed in excessive quantities. This condition is not a disease that can be controlled; in fact, it cannot be said to be a disease at all. Some females appear to be predisposed to what we might call the formation of an abnormal quantity of this fluid, and in such cases the health of the animal is not interfered with to a greater extent than to make her larger and more clumsy than usual, and the fetus is usually small. Nothing can be done to prevent this condition, and it is probable parturition will take place in a normal manner.

**WARTS ON STEER AND EMBOLISM IN MARE.**

1. A steer, two years old in the spring, is troubled with warts on his neck and shoulders and between his hind legs, and along his belly there is a cluster of them; some as big as a hen's egg, and hanging down. They began to decay on the outside, smell badly, and fall off. I applied some castor oil, but don't see that it has any effect on them. I would like to know if there is any cure for them?  
2. I have a mare that is over twenty years old, looks well and eats well, and I can't see anything the matter till I begin to work her, and when she goes a little distance she stands a little while and raises her hind feet, turn about, as if in pain. Sometimes she staggers, and after standing for a little she is all right as far as I can see, but will not go far till she acts the same way. She is all right coming back, with a nice load, down hill.  
SUBSCRIBER.

Ans.—1. A surgical operation will be the better way to remove the large warts. The smaller ones can be removed by applying butter of antimony once daily with a feather, occasionally picking off the corroded portions which will be on the surface.  
2. The symptoms shown by your old mare indicate embolism (a partial plugging) of the iliac arteries. There is little benefit to be derived from treatment, especially in a mare of her age. Treatment consists in giving rest and administering about 2 drs. iodide of potassium three times daily. It might be worth while trying this treatment for a couple of months.

**LAME MARE.**

A mare, 11 years old, supposed to be in foal in fall for the first, took lame in shoulder about two months ago, with a slight swelling in leg. Can scarcely back out of stall. Seems worse after taking exercise, which she does daily in yard. Is in splendid heart, and all right other ways.  
SUBSCRIBER.

Ans.—Keep the mare as quiet as possible in a box stall. Do not allow any exercise. Blister the affected parts once every month with the following:  $\frac{1}{4}$  drs. each powdered cantharides and biniodide of mercury, mixed with 2 ozs. vaseline. Clip the hair off the affected parts, and rub the blister well in. Tie so that she cannot bite the part. In 24 hours rub well again, and in 24 hours longer wash well with warm water and soap, and apply some vaseline. Let her head down now, and apply vaseline every day until the scale comes off. Repeat this every month, as long as necessary. Of course, you must be sure of the seat of lameness, else you may be treating the wrong parts.

**CHRONIC DIARRHEA IN CALF.**

A yearling grade Holstein heifer was scoured badly when running on grass. Thought she would do better on dry feed, but there is no improvement. Appetite not very good; has a warm stone stable; fed the same as other cattle that are keeping well.  
E. L.

Ans.—Your heifer has chronic diarrhea. This may be due to constitutional digestion weakness or to disease. Tubercular disease of the digestive organs is a fruitful cause of such conditions. You could have her tested with tuberculin to ascertain whether she is tubercular. You can doubtless arrest the diarrhea temporarily by feeding dry food, as hay and a little oat chop, and giving  $\frac{1}{2}$  oz. each of powdered catechu and prepared chalk and 1 oz. tincture of opium every four hours until the diarrhea ceases. But in order to effect a permanent cure, the cause must be ascertained and, if possible, removed. If the cause be constitutional weakness, careful blinding and time will probably effect a cure.

**SALIVATION IN COLT.**

We have a two-year-old colt that slobbers freely while eating, the saliva sometimes escaping in a stream. It has acted this way for a year. It is fed timothy hay night and morning, and runs in the yard during the day. Its mouth appears all right. It is in fair condition and is growing well. Would you kindly give cause and treatment?  
J. F. B.

Ans.—Salivation is frequently noticed during dentition, and this is probably the cause of it in your colt. If so, it will cease in time, but will probably be noticed in a greater or less degree until four years old, at which age it will have a full mouth of permanent molars. It would be well to have its mouth examined by a veterinarian, as some of the molars may be abnormal in shape and irritating the tongue or cheek; if so, they will need dressing. There may be some other irregularities about the teeth that could be detected and rectified only by a person expert in that line. If the mouth and teeth are all right and the food is of good quality, the cause of the trouble exists in dentition and time alone will remove it. It might be well to change the food. Give clover hay if you have it and a reasonable ration of crushed oats. If you have not got the clover, try good straw and crushed oats for a while.

**INVERSION OF RECTUM IN SOW.**

A sow was taken to a neighbor's to be served by their boar, the sow being in good condition at the time. Had been served all right, but was left with the boar for a period of three days, after which time we noticed a bearing down of the bowels, or, otherwise, her inside hanging out. She has warm quarters at home and was fed on clover tops, scalded, with shorts, and in the place we took her she was exposed to the wind and cold weather, but fed heavily on pure shorts alone. Would like to be advised whether there is a remedy for the case, or would it be wiser to fatten and make pork of her rather than run the risk of losing her? She doesn't seem to be suffering, and feeds all right.  
SUBSCRIBER.

Ans.—Your sow has inversion of the rectum, caused either from straining on account of too much service or else constipation. In either case, if taken in time, and good astringents, as alum water or tannic acid, applied, and the intestine returned and secured by a truss, which would have to be removed occasionally to allow her to defecate, a recovery can be effected, but in a chronic case, such as you describe, treatment becomes less satisfactory and usually an operation is necessary, which can be successfully performed only by an expert. You might try treatment as described, and if that fail you had better feed her for the butcher.

**INDIGESTION IN MARE.**

Have a mare, six years old, apparently in good health. She took sick a couple of weeks ago; ate well; would lie stretched out at full length for an hour or two. She acted thus for a day and then recovered. What is the cause, and cure?  
J. H. P.

Ans.—Your mare evidently suffered from indigestion, and in this case nature asserted itself and effected a cure without extraneous aid. I would advise the administration of a purgative of about 8 drs. Barbadoes aloes and 2 drs. ginger, made into a bolus with a little treacle. Starve her for about 10 or 12 hours, then give the bolus and feed nothing but a little bran, and give water with the chill taken off, in small quantities, but often, until purgation ceases. This will remove the tendency to a recurrence of the trouble. Then exercise regularly, and feed in proportion to the amount of work done or exercise given, and it is probable you will have no further trouble. Treatment for an attack consists in giving an anodyne drench composed of 2 ozs. each laudanum and sweet spirits of nitre and  $\frac{1}{2}$  oz. fluid extract of Belladonna, mixed with 1 pint of water and given as a drench. The dose may be repeated in two hours if necessary.

**DOG AFFECTED WITH FLEAS AND INTESTINAL WORMS.**

I have a dog that is troubled with white worms. His droppings smell bad; he also passes worms in it. He is also troubled with fleas. Can I wash him with anything?  
SUBSCRIBER.

Ans.—Starve the dog for about eighteen hours, then give him in a little sweet milk about two grains of pulverized areca nut for each pound of his weight; that is, if he weighs 20 lbs., give 40 grains, etc. You will have to drench him, as he will not take the medicine voluntarily. To rid him of fleas, wash every few days with creolin, 1 part, water, 100 parts, until they are all destroyed.

**BONE SPAVIN.**

What is the quickest and best cure for a jack spavin on a horse eight years old? He got it while playing in the yard.  
C. S.

Ans.—What is commonly called "jack spavin" is a bone spavin. Treatment consists in firing and blistering. In some cases blistering alone will effect a cure, but in most cases, except in colts, it is a waste of time. In an eight-year-old horse, it is better to get a veterinarian to operate at once.

**BLACK TEETH IN PIGS.**

I had a litter of eleven pigs thirteen months ago; four of them died from black teeth at four days old. I took eight teeth out of each of the others, which I know saved their lives, but one of them was so far gone he never got over it. Now, I would like to know how many teeth little pigs should have in the sides when born, or if any at all. Since May 15th I have raised thirty-four and took eight teeth out of each, at three to four days old, with the common wire nippers.

G. D. S.

Ans.—At birth (or sometimes not for a few days) pigs have twelve teeth on the sides—three in each row above and below. The popular idea of the existence of a disease called "black tooth" in young pigs is entirely erroneous. No such disease exists. In many cases the teeth are of a blackish color, but it is not a diseased condition. In some cases the first tooth in the row or rows is quite sharp and ill-shaped, or pointing in such a direction that there is danger of it irritating the teats of the sow and producing inflammation, which interferes with milk secretion and the general health of the sow and consequently has an effect on the young. In such cases, it is well to break such teeth off with the nippers. The wholesale removal or breaking of the teeth such as you have practiced is certainly irrational and uncalled for. If the so-called "black teeth" are injurious, they should be extracted root and all, as if they cause any trouble other than that mentioned no good will be derived from breaking off the crown, and that certainly is all that you can do with wire nippers.

**COLT WITH WEAK PASTERNS.**

I have a colt about six months old. When foaled it was very crooked in the hind legs and set back so far in the pastern joint that the fetlock pads reached the ground and the toes turned up, and it has not improved. I had it shod with high calkins behind, and that seemed to help it while in the stable, but when it goes out to water, its toes turn up the same as ever. What can I do for it, and will it come right as it grows older?

SUBSCRIBER.

Ans.—Keep the colt in a box stall and do not allow it to run out at all. Get it shod with long-heeled shoes—that is, allow the shoes to extend about an inch or an inch and a half further back than the heel of the foot—have the heel calkins about ½ inch high (not any higher), and do not have any toe calkin. Blister the back of the limb from the elbow to the foot every four weeks. The details for blistering have been given so often in these columns, it is not necessary to repeat. The cause of the condition existing is a weakness of the back tendons and muscles. The blistering will tend to strengthen and shorten them, and will be the means of assisting nature to effect a cure.

**PIGS FEEDING AT WILL.**

Is it good for the digestive organs of a pig to be eating at any or all times, such as is the case where food is constantly kept in self-feeding boxes?

C. W.

Ans.—This manner of feeding is not good for any animal if kept up for a long time. It may answer a very good purpose for a few weeks when pigs are being fed for the butcher, but I do not think it would be a good plan for general use. In order that the best results may be obtained from food, it is necessary that the animal experience a slight degree of hunger at regular intervals, and that he be given no more food at a meal than he will consume. Then the stomach and intestines, after digesting the meal, will be allowed to rest until the next meal, while if food be before the animal at all times he will never be really hungry, and hence not enjoy his food to the fullest extent; neither will the digestive organs be allowed the necessary rest. Still, even where self-feeding boxes are used, it is not necessary (neither do I think it is intended) that food be in them all the time. My idea of the advantages of such boxes is, they allow only a certain amount of food to enter the trough, and as this is eaten more enters, but the pig is forced to eat more slowly and hence will masticate more freely; still, it is neither necessary nor wise to put more food in the box than the pig will eat.

**TAIL CARRIED TO ONE SIDE.**

Have a valuable driving colt which, when driving, carries his tail to one side. Want to know whether you would advise an operation in the shape of cutting the muscles, or not?

HORSEMAN.

Ans.—The colt's tail can be straightened by severing the muscles of the side of the tail to which he carries it. The cutting must be done high up and the muscles must be entirely severed and the tail tied to the opposite side or flogged several times daily until the muscles grow a little and meet. If this precaution be not taken after the operation, the wound will heal quickly without an increase in length of the muscles and the tail will regain its former condition. It requires an expert to perform this operation satisfactorily.

**Miscellaneous.**

**STARTING A FARMERS' INSTITUTE.**

We wish to form an Institute in this district. Will you kindly forward me bulletin and circulars giving the necessary information for organizing and conducting the Institute. Also please let me know whether it is against the rules to discuss questions bordering on politics?

Dauphin District.

J. H.

Ans.—Control of the Farmers' Institutes is entirely in the hands of the Local Government, and they have all the literature pertaining to that department. We would advise you to drop a line to Mr. Hugh McKellar, Department of Agriculture, Winnipeg. One of the rules of the Department is, we think, that no subject shall be introduced that is likely to create a political discussion, and we think the rule is a good one. Very much injury has been done to Institutes in the past through the introduction of party politics. Such discussions convince no one, and only tend to create ill feeling between the different parties. There are innumerable questions for discussion that we can all enter into without creating party strife. This country is comparatively new, and there are many lessons to learn and questions to decide. For instance, the proper preparation of new land, the treatment of meadows, the best varieties of wild and cultivated grasses, drainage, noxious weeds, cultivated fodders, care and breeding and judging of all classes of live stock, farm dairying, proper care of buildings and fences, the home vegetable and flower garden, trees for shelter and

2. The experiments show practically the same gains from feeding rye as from barley. Mr. Mackay, Superintendent of the Experimental Farm, Indian Head, reports a yield of 20 to 21 bushels per acre for spring rye.

3. Would not increase the amount of potatoes fed; in fact, would decrease as farrowing time approaches. Potatoes are composed mainly of starch, an excessive amount of which is not good for breeding stock.

**SEEDING DOWN ON OLD LAND—CULTIVATION.**

I am a new settler in these parts, but quite used to English farming. I have bought a farm south of Winnipeg, and become a subscriber to your paper, and I should be glad if you or any of your readers would advise me on one or two points of cultivation. Last summer I fallowed about sixteen acres, which ought now to be clean, and as the farm is short of hay, I thought to put these sixteen acres into wheat and grass seed as a temporary pasture for 4 or 5 years. Will you kindly tell me what seeds I ought to sow, and the quantities of each? Would they be sown immediately after the wheat, and would the ground have to be rolled, as in the Old Country? Is it possible to grow clover in Manitoba? Do you think Brome grass would pay best? I also started breaking up an old piece of seeds (run out), not much in but wild strawberries. I only got five acres plowed before frost set in. Would you advise me to put this into flax instead of wheat? If so, can you tell me how to proceed: what cul-



**FARM HOME OF CHALMERS BROS., PALMERSTON, ONT.**

ornament, and many other questions that require more light thrown on them. One very important subject that should be taken up at all Farmers' Institutes is how best to draw out the local talent. We think that very short addresses on the particular hobby of each settler is a capital idea, as we all know that nearly every settler is especially successful in one particular line of work.

**ARTICHOKES, RYE AND POTATOES FOR PIGS.**

1. Are artichokes worth growing for pigs—that is, to let the pigs dig them? I am told that once in the ground they will come up every spring. As I have a piece of land, where the pigs could get plenty of water, would like to try them.

2. Is rye good for pigs? Is it as good as barley, and will it give as much to the acre?

3. I have six brood sows that will farrow in April, and am feeding them mostly on raw potatoes, with very little grain. They are in good shape, running out and sleeping in straw-stack, but come in pen to get feed. I feed about 1½ bushels to six once a day. Is there any danger in feeding too much of potatoes? The reason I am feeding so much is they got frozen a little and are getting rotten, and as nearly every potato has some bad on it, cannot use them for house or market.

H. A.

Regina.

Ans.—1. Artichokes have the same feeding value for pigs as potatoes. Artichokes may be sown in the fall and will start to grow early the next year. Would refer you to the report of the Agriculturist of the Central Experimental Farm, Ottawa, for 1901.

tivation is necessary, and when to sow it? Any information will be much appreciated.

P. D. C.

Ans.—P. D. C. might try either native rye grass, timothy or Bromus on the sixteen acres of fallow. The two former may be mixed with the wheat and sown with the drill, care being taken to mix the seed in the drill hopper every round. We believe it is better in sowing grass seed to drill it in an inch or an inch and a half deep, rather than sow it broadcast on the surface. If a drill would sow these grass seeds alone, and some of them will, it would give better results to drill the grain first and then drill the grass seed by itself, crossways. For a permanent pasture, on land that is not required for other purposes, Brome might suit best, but for hay or on land intended to be broken up again in a few years, either timothy or native rye will be found most suitable. These make hay of good quality, easily cured, fair pasture, and are easily got out of the land by breaking and backsetting. The quantities of seed per acre will depend somewhat upon the quality of seed and the condition of the soil, but the following quantities are generally considered best: Brome, 12 to 14 pounds; rye grass (native), 10 to 12 pounds; timothy, 4 to 8 pounds. Rolling will not be necessary on a good summer-fallow, as the soil should be firm and compact, and its use after the drill would only tend to encourage soil-drifting and the evaporation of moisture. If you have a roller and want to use it, do so ahead of the drill. Clover is now being grown with some success in some parts of Manitoba and is worthy of a trial in your locality. Try the common red or the Mammoth red, sowing about

20 pounds per acre, without a nurse crop, cutting the weeds occasionally during the season with a mower.

The five acres of old land plowed late in the fall will probably astonish you with the variety of weeds it will produce next year. Don't sow either flax or wheat on it. You might try spelt (emmer), sowing it early, or, as you say you are short of fodder, why not try corn? A corn crop would enable you to cultivate the land equal to a summer-fallow, at the same time producing a big crop of excellent fodder. It is not necessary to have a silo to profitably use corn; it can be staked in the field and drawn in as required. Read the "Farmer's Advocate" carefully, and keep all issues on file for future reference. You will find many articles of value on just such questions as you ask.

BROODERS AND BROODER HOUSES.

Could a brooder be made out of a large packing box or organ box? Is it necessary to have a house besides, or would a pen do? What temperature should a brooder be kept at?

Oak Lake. A SUBSCRIBER.

Ans.—In this climate a brooder house, which may be a well-constructed shed, is necessary. The temperature of a brooder for the hover part is 90 to 95 degrees Fah., the general room some 10 degrees lower. Brooders should be cleaned out daily. The brooder may be built from a packing box; be sure and have the light in it from overhead. If the chicks crowd together much at night, it is a sign of lack of warmth. Beware of dampness. Would advise you to send for a Cyphers catalogue, advertised in this paper, which contains a lot of plans for houses.

QUANTITY OF CEMENT AND GRAVEL FOR FLOORS AND WALLS.

I am about to build a barn and cow house together, the latter to hold 20 cows. It is 32 x 32 feet, with cellar in alley. I want a cement floor. What quantity of cement, gravel and stone is required? As there has been no cement used in this section, I would like to know the best way to make floor and cellar.

ANDREW MCKNIGHT.

One barrel of cement will make 50 square feet of stable, barn or pigpen floor, or 65 sq. ft. best cellar floor. One barrel of cement will build from 25 to 35 cubic feet of concrete wall, according to quality of gravel and amount of stone to be used. It is not always possible to give a correct estimate for walls, as correspondents do not give full particulars re quality of material they intend using. In such cases we take the average of 30 cubic feet for one barrel of cement. For instance, the walls for barn 40 ft. x 100 ft. x 10 ft., 12 in. thick, would require about 93 barrels cement, 104 yards gravel, or 69 yards gravel and 35 yards stone.

ISAAC USHER.

FOR WALLS.

Barn: say 40 ft. x 60 ft. x 9 ft. — 1 ft. thick. 40 60 40 60

80 + 120 = 200 x 9 = 1,800 cubic ft. wall. 1,800 ÷ 25 = 72 bbls. cement. 1,800 ÷ 27 = 67 cubic yds. gravel and stone; that is, 54 cubic yds. gravel, 13 cubic yds. stone. 1,800 ÷ 33 = 54 days' labor, 1 man; that is, 6 men 9 days.

If no stone were used it would be: 1,800 ÷ 20 = 90 bbls. cement. 1,800 ÷ 27 = 67 cubic yds. gravel.

FOR FLOOR.

40 ft. x 60 ft. averaging 4 inches thick 2,400 sq. ft. = 50 = 48 bbls. cement. 1 of 2,400 ÷ 800 = 27 = 30 cubic yds. gravel. 2,400 ÷ 100 = 24 days' labor, 1 man; that is, 6 men 1 day.

In the walls, we do not take into consideration any deduction for openings.

ESTATE OF JOHN BATTLE.

Where the ground is perfectly hard, smooth and solid, satisfactory floors have been laid with only two inches thick of cement concrete, but we prefer from three to four inches for permanence. For walls, one part good Canadian cement to six parts gravel are the usual proportions, and in floors, one to three. Some have been constructed with a bottom layer one cement to six gravel, and a finishing surface of one to three to even one to two. The cement and gravel should be thoroughly mixed dry first and then worked wet, but not made sloppy, just a good stiff mortar, which can be made level and smooth with trowel or shovel. It should be tamped firmly down as being laid. In finishing, do not use too coarse gravel—that is, gravel in which stones or pebbles will show on surface. We refer Mr. McKnight to various articles on this subject in previous issues of the "Farmer's Advocate." The concrete need not be so strong for cellar floor—that is, less cement can be used. Cellar walls should be constructed with same proportions as ordinary stable walls.—Ed.

William MacFadden, Kansas City, Kansas, January 21st, 1902. "I have been a subscriber to the 'Advocate' for over twenty-one years. All the magazines, making a library of themselves, are carefully compiled, awaiting a grand future binding-see, I consider your Christmas number alone well worth the entire year's subscription."

FARM GOSSIP.

The Government Sale at Ottawa.

Ottawa, Feb. 13th.—The auction sale of stock held here yesterday under Government auspices, met a rather chilling experience, the attendance being small and the prices for those sold, with few exceptions, discouragingly low. The weather was cold and roads heavy with snow. A large proportion of the animals offered were withdrawn, the bids being in many cases less than their value as butchers' stuff. Mr. Geo. Jackson, of Port Perry, Ont., was the official auctioneer. Hon. Mr. Fisher opened the sale with a short address.

Of the 65 Shorthorns entered and catalogued for this sale 45 were sold at prices ranging from \$36 to \$160, 20 being withdrawn or failing to face the auctioneer from some cause, a number being withdrawn on account of the bids not being satisfactory to the owners. The dairy breeds fared much worse, the prices made being very low, and in one or two breeds the most of them being withdrawn, at ridiculously low offers. The pigs also made very low prices, a large proportion being withdrawn.

Tamworth boars brought from \$9 to \$10; sows, \$13.50 to \$16. Berkshire boars, \$8 to \$14; sows, withdrawn. One Yorkshire boar sold for \$23; the other three entered were withdrawn. One sow sold for \$7; balance withdrawn.

Following are the sales of cattle, with prices and address of buyers:

Table listing various cattle breeds and their prices, including Shorthorns, Ayrshires, Jerseys, and Guernsey BULLS.

Table listing Jersey BULLS and Jersey Cows with their respective prices.

Table listing Guernsey BULLS and Jersey BULLS with their respective prices.

Notes from Ottawa.

THE WEST FLOURISHING.—Mr. W. V. Gordon, Winnipeg, formerly of Montreal, on being interviewed, said: "The future of Manitoba and N.-W. T. from an agricultural point of view is exceedingly bright. The wealth brought into the country as a result of the magnificent grain crop last year is enormous. As a grain-growing country, I believe Western Canada cannot be beaten by any other country. It is a pity that more is not known in the East of the wonderful resources of the West. I firmly believe before very long there will be enough wheat grown in Canada to supply the demands of the whole Empire. That is a consideration that we should all keep in mind. We had a marvellously good crop this year, but a very much larger area will be under cultivation next season, and if climatic conditions are equal to what we enjoyed last year, there will be an enormous crop in 1902. There is one feature about the development of the West that should be noted, and that is the manner in which the Americans are beginning to swarm across the land and reap up the rich soil. In many thousands have moved in during the last three or four years. We hope to see a growing western population, and give the cause of prosperity a good working merit in the West." AGRICULTURE.—The people in the County of Bruce, Ont., are the most industrious and energetic of any county in the province. They are engaged in raising a large number of sheep and fully five hundred head of cattle are kept on the farm.

The Village of Metcalf at the close of the annual meeting of the Russell Agricultural Society. The business meeting, which was held in the afternoon, was presided over by Mr. W. C. Edwards, M. P., of Rockland, the largest cattle breeder in Eastern Ontario. Mr. Edwards has been president of the Society for the past twenty years, and was again the unanimous choice of the members. The report presented showed the Society to be in a flourishing condition financially, and the new board of directors decided to enlarge and improve the main building, and also to erect a suitable building for the accommodation of the live stock. Mr. Edwards, in addressing the meeting in the afternoon, congratulated the members on the advancement they had made in agriculture, and advised the directors to increase the prize list, which, if done, said Mr. Edwards, would have a tendency to make the fair more popular. The crowning event of the day was the banquet in the evening, which was attended by the most representative gathering that has perhaps ever convened in the county for a considerable length of time. The hall was lavishly decorated with blunting, evergreens and flags, which were artistically entwined. Conspicuous among the worded mottoes on the walls were noticed "Welcome to Our Guests," "Speed the Plow," and "Our Motto is to Advance in Agriculture." The object of the Society in holding the banquet was to celebrate the winning of the silken banner by the county for making the best exhibit of live stock in the Ottawa Valley and best exhibition, presented by the Ottawa Valley Journal. A popular and pleasing innovation was seen in the presence of ladies, and many of the speakers referred to them as being of great assistance to the Society in the work they were doing.

The Dominion Grange.

The 27th annual meeting of the Dominion Grange was held in Toronto, January 29 and 30. Mr. Jabel Robinson, M. P., the Master, presiding. He reported 76 Granges working, commended the Ontario Agr. College, condemned the growth of trusts and combines, believed that a fairer system of taxation, but little further assistance from the Government, but contended that we should "buy from those who buy from us, unless our people would be injured thereby." Railroads, he said, should be assumed by the Government and controlled by an independent commission.

Mr. George Fisher spoke on the subject of spraying. He had an apparatus with him to demonstrate his remarks, which dealt largely with the fraudulent adulteration of Paris green. The fraud practiced by the sellers and some manufacturers had shaken the confidence of farmers in the effectiveness of spraying. This was to be regretted, as the farmers were just commencing to learn the proper method of spraying, and, of course, with unadulterated materials would obtain good results. But, like nearly everything, as the demand for Paris green increased, in consequence of a general use for this purpose, the quality dropped.

After a discussion on the subject, the Grange decided unanimously to urge upon the Government the importance of giving the farmers protection against adulterated spraying materials.

It was decided to have a committee wait upon the Government to compel railway companies to keep their lines equipped with properly-constructed cattle guards. These present expressed an antipathy against going to law to recover the damages caused by the killing of their cattle on railway tracks. Experience proved that it was usually necessary to mortgage their farms to fight the cases out to the end.

Encouraging reports were received from the agricultural and educational committees.

The election of officers resulted as follows: Master, Jabel Robinson, Middlemarch; Overseer, John McDougal, Milton; Secretary, Wm. F. W. Fisher, Burlington; Treasurer, James Fallis, Newbridge; Lecturer, Jos. Todd, Gifford; Chaplain, W. J. Goodfellow, Craigvale; Steward, J. A. Carswell, Newbridge; Assistant Steward, W. A. E. Perry, Freeman; Gatekeeper, T. C. Osborne, Whitby; Ceres, Mrs. J. Robinson, Middlemarch; Pomona, Mrs. W. Gray, Londesboro; Flora, Mrs. E. Brown, Whitby; L. A. S., Mrs. Warrica, Painswick; Auditors, J. M. Syme, Dalston, and Jas. Allen, Churchill; Ex. Com., Peter McDuffee, Omagh, and F. W. Fisher, Burlington.

The next meeting will be held in Toronto. A vigorous Grange extension campaign is to be instituted.

\$9,100 for an Aberdeen-Angus Bull

and \$6,300 for a cow of the same breed was the record made at a combination auction sale of selections from six herds held at Chicago, Feb. 4 and 5. The bull is Imp. Prince Itto, a Highland champion, imported and sold by M. A. Judy, Williamport, Ind., and bought by B. R. Pierce & Son, Creston, Ill. The cow is Blackcap Judy, bred and sold by Mr. Judy, and bought by C. H. Gardner, Blandinsville, Ill. These are the record auction prices for a bull and a female of any breed in the last 20 years.

New Stock Yards Opened.

The new Union Stock Yards at Toronto Junction received their first consignment last week. The shipment, which included about 400 sheep and 100 lambs, arrived from Galt, en route to Montreal and the British markets.

Montreal Markets.

Montreal, Feb. 17.—There were about 550 head of butchers' cattle, 50 calves and 25 sheep and lambs offered. The butchers came out in large numbers, and trade was brisk, while the prices continue high. Prime steers were sold at 5 1/2c per lb., and several others not so good at from 4 1/2c to 5c per lb.; pretty good cattle sold at from 3 1/2c to near 4c, and common stock at 2 1/2c to 3 1/2c per lb. The calves were all rather young veals, and sold at from \$3 to \$7 each. Sheep sold at from 3 1/2c to 3 3/4c per lb.; lambs at from 4 1/2c to 4 3/4c per lb. Fat hogs sold at from 6 1/2c to 6 3/4c per lb. for good straight lots weighed off the cars.

Chicago Markets.

Chicago, Feb. 19.—Cattle—Receipts, 18,000; good to prime steers, \$6.50 to \$7.20; poor to medium, \$4 to \$6.10; stockers and feeders, \$2.50 to \$5; cows, \$1.25 to \$5.35; heifers, \$2.50 to \$5.50; canners, \$1.25 to \$2.30; bulls, \$2.50 to \$4.60; calves, \$2.50 to \$7.25. Texas steers, \$4.50 to \$5.75. Hogs—Receipts today, 49,000; mixed and butchers', \$5.75 to \$6.30; good to choice heavy, \$6.20 to \$6.40; rough heavy, \$5.90 to \$6.15; light, \$5.50 to \$6.10; bulk of sales, \$5.90 to \$6.20. Sheep—Receipts, 20,000; good to choice wethers, \$1.75 to \$5.25; western sheep and wethers, \$1.50 to \$6; native lambs, \$3.75 to \$6.60; yearling lambs, \$2.25 to \$6.65.

British Cattle Markets.

London, Feb. 19.—Canadian cattle, 6d. to 6 1/2d. 14,000 head of Canadian cattle, 6 1/2d.; sheep,



"Our lives are songs; God writes the words,  
And we set them to music at pleasure;  
And the strain may be glad, or sweet, or sad,  
As we choose to fashion the measure."

**How Royalty Spends Sunday.**

When King Edward and Queen Alexandra were the Prince and Princess of Wales, the following interesting account of how they were in the habit of spending Sunday appeared in The Quiver. The writer says:

"Sunday with their Royal Highnesses the Prince and Princess of Wales is passed in much the same quiet way as with Her Majesty the Queen, inasmuch as religious ceremonies are faithfully observed, and the household and servants are spared all unnecessary duties. The guests wend their way, as the hour of eleven approaches, towards the little Church of St. Mary Magdalene in the park. There is a private foot-way direct from the house to the church gate; by this, the royal family and guests often proceed, driving round by the road only in case of unpropitious weather. Sunday afternoon is quietly spent in the house or park. Dinner is served at half-past seven. Occasionally, however, dinner is a little later, as the Prince and Princess may be attending evening service in one of the village churches near. The small station some two miles away, where the royal family have their own waiting rooms, is closed on Sunday, as no train whatever is run on that day. By this means, the church is kept clear of an attendance prompted by curiosity, and also the men employed have the entire day's rest secured to them. In fact, no unnecessary work in any shape or way is performed on Sunday in any one part of the Prince's domains.

"Sunday at Marlborough House differs slightly from Sunday at Sandringham, but the day is spent in comparative quietude. In the morning their Royal Highnesses attend divine service held in what is known as the German (Lutheran) Chapel. After luncheon, the Princess and her daughters may possibly attend one of the West End churches to hear some popular preacher, or to be present at a children's service. It is not only at Sandringham and Marlborough House that Sabbath observances are rigidly adhered to by the Prince and Princess of Wales, but also in any of the Continental places where they may be staying. There is an old saying, that when you go to Rome do as the Romans do, but our Prince honors this rule in the breach, for, although he has ever been a constant visitor to Paris, yet he has never seen the French Derby, for the simple reason that it is run on a Sunday. In a matter where hundreds and thousands of Christians have followed the fashion of the gay capital they are visiting, and indulged their love of horses and of pleasure, the Prince has set a good example and absented himself. In every way, the Prince and Princess have always faithfully observed the Sabbath, and we, as a Christian people, may congratulate ourselves that our future king and queen will steadfastly uphold the sanctity of the day of God and the doctrines of the Christian Church."

A recent quotation from the St. James' Gazette, of London, England, saying that the King had refused to travel from Scotland to London on Sunday, and has "stunned society by putting all social functions and entertainments on Sunday under the royal ban," would seem to indicate that His Majesty's accession to the throne of the "mightiest empire that has been" has not led to the relaxing of his scruples as to how Sunday should be spent.

If there is any truth in the rumors that are rife about Sunday yachting excursions, mounted paper-chases, and the like, starting from Rideau Hall, it would seem that His Majesty's example has not much weight with society leaders generally at the Dominion capital, where only a few months ago the domestics formed themselves into a mutual protective association in order to get deliverance, among other things, from seven-days-in-the-week bondage through having to dance attendance at Sunday dinners, suppers, etc., as well as on all the other days of the week. Society is fond of following the lead of royalty in many things. Why not also in the observance of the Lord's Day?

A man going by train selected a comfortable first-class compartment, put his bag and stick in one of the corners, and went to buy some papers. When he returned he found his things had been removed and the corner occupied by a woman. He asked her to move, but she would not; he asked her to move, and she refused, so he stormed and raged, and she but he insisted on having his corner. At last the lady said: "Sir, do you know who I am? I am one of the director's wives." "Madam," he said, "I should not mind if you were the director's only wife!"

**"The Orphan."**

Probably the original of this picture, with color, light and shade to relieve it, may have even greater artistic merit than some of those which the "Advocate" has from time to time presented to its readers, but apart from its merit as a work of art, who could honestly admire it as a picture? One is thankful to know that it must be wholly imaginative, for had the artist really seen that poor forlorn little object bleating its hopeless tale of woe by its dead mother's side, he must have snatched it up in his arms and driven those murderous-looking crows away. The writer, who has often seen a somewhat similar scene upon the veldt of South Africa, when the very air was darkened by the cloud of vultures watching the dying throes of a wounded wilderbeest or larger animal, still, while powerless to help it, is well aware that the picture is true to nature, but to look at it within even an hour of bedtime would be, in the case of one of an emotional temperament, a veritable invitation to bad dreams, with a downright "shouting nightmare" as its climax. But perhaps this is the highest possible tribute which could be paid to the genius of the artist. We pay it gladly, but we do not think we desire to add his "Orphan" to our list of favorites. H. A. B.

A poor old laborer lay dying and his wife waited on him with homely care. "John, dear," she said, "do you think you could eat a bit? Is there anything you fancy?" A light came in his eyes. "I seem to smell a ham cooking somewhere," he said; "I think I could eat a little bit o' ham." "Oh! no, John," said his wife, "you can't have that, that's for the funeral."

Time with his scythe, who carries our thoughts both back and forward. Back through the past to when our country first began to grow, and through all the changes that have taken place since then. And forward through the future to all the things that may happen and all the progress that may be made in coming years.

Perhaps it will give a little more sober background to our thoughts if we look at the background of our picture. After all, we feel as we look at the deep blue of the sky and the countless stars, that, proud as we are of our country, it is only a small part of the universe. Let us keep this in mind, and not think too highly of ourselves.

The finest touch of this picture is, to my mind, the motto, "Ich Dien"—I serve. This would be a good motto for us all to take, both as individuals and as a nation. As individuals, we all have our friends, our relations, our homes, to serve. As a nation, we have our fair country and our King. And as both, it is our duty to serve our God, and do the work, great or small, which He has set for us.

This motto might bring us to the last detail of our picture, namely, the "Farmer's Advocate," that useful little burden borne by Father Time. Thinking of what this paper has been during the time marked on Father Time's scythe, from 1866 to 1901, we can truthfully say that the "Farmer's Advocate" has already taken this for its motto, and that it does its best faithfully to serve every one that makes use of it. Penhold, Alberta. MARY SPEAKMAN.



"THE ORPHAN."

**First Prize Essay.**

THE COLORED FRONT COVER OF THE CHRISTMAS "FARMER'S ADVOCATE," AND WHAT IT TEACHES.

What a splendid cover the "Farmer's Advocate" has this Christmas! These words, which I heard a few days ago, will doubtless have been uttered many times while the Christmas number of the "Farmer's Advocate" has been coming in. And they are well deserved, for it is indeed a beautiful picture and full of meaning. Each detail brings its own train of thought, but all these ideas blend together in a whole as harmonious as the picture.

The first detail noticed, and the center of the picture, is the portrait of His Majesty Edward VII., and this is as it should be, for does not the King represent to us the center of our Government? The Territories and all the Provinces have their own Local Parliaments, which all look to the Dominion Parliament as their head, and this, again, centers in the Home Government, represented by our King. Therefore, as he is the center of our Government, it is right that he should be the center of this picture, which is to mean so much to us. It is right, too, that our national emblem—the maple leaf—should surround his picture, as a token of our love and loyalty to our sovereign.

The next figure to strike us is that of Father

**Essay Competition.**

The essay competition brought out a number of competitors, whose work was very creditable. Miss Mary Speakman, of Penhold, Alta., wins the first prize of \$5.00, and Alfred Jackson, Fernton, Man., the second prize of \$3.00. Several very good papers were received, a few of the best of them being mentioned: Ethel Madeline Hicks, Souris; Jenie McFaden, Kansas City, Kan.; Frank Speakman, Penhold; H. L. Briggs, East Slope Ranch, Olds; M. D. Powell, Wapella; "Clarissa," Sutton West; Mrs. A. Neville, Cottonwood, Assa; Ada Walker, ———; Harry Hyde, Crystal City, Man.; Mary A. Bunt, Pincher Creek, Alta. The several compositions showed few errors in spelling, which is to be commended. Through an error in "make up," the first-prize essay in a competition on this same subject, conducted by the Ontario and Eastern edition of the "Farmer's Advocate," appeared in our paper of February 5th. The two competitions were entirely distinct.

**Humorous.**

Mother of two (with a sense of justice): "Now, Tommy, dear, don't be greedy; give dear Billy a bite at your apple." (Tommy reluctantly obeys, and Billy bites—widely.) Tommy: "Here, I saw cheese it, Billy; you take the apple and I'll have the bite."

What is the difference between photography and whooping-cough? One makes prescriptions and the other makes sick families.

A lady went into a shop and asked: "What have you in the shape of oranges?" The shopman replied: "Well, madam, we have tennis balls."

**On Some Practical Topics.**  
(NO. II.)

**A LIVE QUESTION.**

A live question may generally be known by the storm of opposition it has to encounter. Like the sturdy pine tree upon the bare hillside, the harder the wind blows, the wilder the tempest rages around it, so much the deeper does it strike its roots downward, and so much the firmer hold does it have upon mother earth. It lives and deserves to live, for it has gained strength through conflict. Nearly all of the epoch-making movements of the world have, in their turn, been cried down as mere fads. Those from whose clever brains they have been evolved have even gone down to their graves not only with their labors unrecognized, but they themselves considered as having been mere visionaries. Yet their work has lived. The seed they sowed has, though slowly, germinated at last, and in its full fruition has proved a blessing to the world. Progressive movements have as many foes in the ranks of the merely indifferent as amongst the active oppositionists. The former simply refuse to consider them at all. "The world," they say, "does very well as it is; why should we bother our heads about changing its conditions? Let well alone." If these do not help, neither do they very seriously hinder, whereas the oppositionists really help, just where they try to hinder, and therefore have a value quite beyond their merits or intention, for it takes two battledores to keep the shuttlecock from falling to the ground. Then, there are what Octave Thanet calls the "after-witted men, who are always a little behind the occasion." They come in very usefully when once they have grasped their subject. Their brains may have been "slow in solution," but when at last they have become awakened to the merits of a question, they can be depended upon to fight for it against all odds.

Was it not the notorious claimant of the historical Tichborne trial who originated the oft-quoted remark that "Some has brains and no money, and some has money and no brains"? What cannot be achieved by those who not only have brains, but also money, and who, in a spirit of philanthropy and enlightened patriotism, devote both brains and money to the good of their country?

The golden key placed in the hands of the educationists of Canada by such noble men as Lord Strathcona and Sir W. C. Macdonald should unlock a large storehouse of treasures for the children not only of to-day but of generations yet to come.

The very existence of our public-school system, which, if it has some faults, has also many virtues to commend it, proves how thoroughly alive have been, and are, the legislators of the Dominion to the necessity for affording educational advantages to the children of the land, whose training has rightly been called a national concern. Their danger has been one of overdoing rather than of underdoing, the outcome of a failure to recognize the true definition of education; i. e., that school should be the happy training ground for life of the whole human being, morally, mentally and bodily, not merely for a part of the individual child or for a section of the community. The brain-clever pupil has hitherto been educated at the expense of the finger-clever pupil, and the Canadian educationists of to-day are only beginning to give expression to what they have long dimly felt as an injustice to both. In other lands, schools have long been established, and have amply justified their existence, along the lines of co-operation between head and hands, including technical instruction, manual training, domestic science, teaching and practice of agriculture in allotted grounds, school dairies and school gardens. Hitherto there has almost been what one of our most earnest women workers for the introduction of domestic science once called "a complete divorce between intellectual culture and domestic duties," a divorce which has tended to educate the girl away from her home instead of making her realize that there is no greater scope for the trained mind than in the faithful and competent discharge of her daily tasks within the walls of woman's realm—her own home; and caused the boy to believe that intellectual culture would be thrown away upon him if he should have to spend his days upon the old homestead. In other words, the children of both sexes alike have been dealt with as houses provided with windows on one side of them only, instead of their builder having planned for the "admission of light from every quarter of the intellectual compass." But better counsels are about to prevail. The live question of which we treat is no new one. It has gone through all the stages of passive indifference and of the active opposition born of wilful ignorance, whilst the hearts of those who have so faithfully fought for a fair hearing to be given to it, can thank God and take courage. Meanwhile, there is every indication that the swing of the educational pendulum is going to bring about a happy medium in school methods, and the live question of "What shall we do with it?" will receive its wise and practical answer from those at whose disposal has been placed the munificent gift from Sir William Macdonald.

H. A. B.

**The History of Little Jack Horner.**

BY E. YATES, FARMER.

"Little Jack Horner sat in a corner,  
Eating some Christmas pie;  
He put in his thumb and pulled out a plum,  
Saying, 'What a good boy am I.'"  
This is a nursery rhyme so often repeated that every child has it by heart, and here is the origin of the story:  
When Henry VIII. suppressed the monasteries and drove out the old monks from their nest, the title deeds of Mella Abbey, including the sumptuous grange, built by Abbot Bellwood, were demanded by the commissioners. The Abbot of Glastonbury determined that he would send them to London, and, as the documents were very valuable and the roads infested with thieves, it was difficult to get them to the metropolis in safety. To accomplish this end, however, he devised the following plan. He ordered a pie to be made, as fine as ever seen on a refectory table; inside he put the documents, as rich a filling as pie ever had. He entrusted this to a lad named Jack Horner to carry up to London and deliver safely into the hands for whom it was intended. The journey was long, the day was cold, the boy was hungry, the pie looked tempting, and the chance of detection was small, so the boy broke off a piece of pie. To his surprise, he beheld the parchment; pulling it forth innocently enough, he wondered how it got there. Tying up the pastry, he journeyed on, and when he arrived in town the parcel was delivered; but the title deeds were missing—Jack had them in his pocket—the juiciest plums that had ever been made into a pie. Great was the rage of the commissioners, heavy the vengeance they dealt out to the monks. Jack kept his secret, and when peaceable times were restored he claimed the estates and received them.

"I'll tease my sister till she's mad,  
I hope she won't tattle-tale to Dad."  
He went to his sister and said to her:  
"I see on your dress a little burr,  
Because you are so grand and gay  
You'd better flick it off to-day.  
Or p'raps you'd better call a maid  
If you are yourself afraid."  
"Oh!" she said, "you silly boy,  
You're always trying to annoy,  
You'd better go and feed your bird  
Till you can find a better word."  
So Sam went off to feed his bird,  
But did not find a kinder word  
For his younger sister Jane.  
At last he felt a dreadful pain,  
For you see this greedy child  
Had eaten food not very mild;  
And so you see it served him right  
This very dreadful food to bite.  
Alas! for him the doctor came  
And questioned him and gave him shame;  
His conduct he then had to tell  
Why that he was now not so well.  
He wished the doctor would go away  
And far away from him would stay.

MARJORIE.

Now, I hope you won't give in without trying, even though you may never have attempted to write verses. When people think they can't do a thing, and yet keep at it, they often succeed, much to their own surprise. Did you ever hear of the two frogs who went on an exploring expedition and fell into a jug of cream? The sides of the jug were steep and slippery, so, after a few attempts to jump out, one of them said:  
"It's no use, we can't get out, we might just as well die at once."  
"You may die if you like," said the other, "but I shall keep at it as long as I can."  
Then the dismal frog cheered up, and they both began to jump and splash about energetically. What do you think happened? Something they never expected, as they knew nothing about churning. The cream suddenly turned into butter, and our heroes climbed on top and made a high jump for liberty.

They succeeded by "keeping at it," and there is no reason why anyone should fail in his ambition. Only keep on trying, no matter how hard it seems to win. If you don't get exactly what you are aiming at, you will surely get something better. As one little girl found—

"It's a funny thing that lessons,"  
Said a kindergarten small,  
"Are easy when I study them,—  
Don't bother me at all.  
But if, instead of work, I play,  
They're dreadful hard to get.  
I get mixed up in every way  
And cry my 'kerchief wet.'"

COUSIN DOROTHY.

**Do You Know It?**

Here is an amusing game: Paste or pin several newspapers together. Cut a number of holes in them about eighteen inches apart, and each a little larger than the human eye.

Now fasten this big paper round three sides of a clothes-horse. Some of the party go inside and look through the holes in the paper, placing their faces close to it. The rest remain outside and try to decide the owner of each of the various eyes beaming upon them.

Strange to say, however familiar all the players may be, they will find this a very difficult task.

Try it and see. The game is well worth the very slight preparation required.

**Cheerfulness at the Table.**

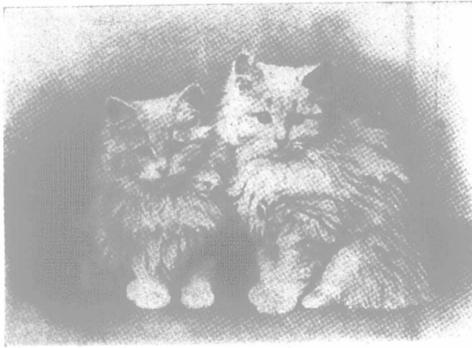
An old lady, who looked as though she might have belonged to the "Sunshine Society" all her life, was asked by a friend for the secret of her never-failing cheerfulness. Her answer contains a suggestive lesson for parents. "I think," said the clever old lady, "it is because we were taught in our family to be cheerful at the table. My father was a lawyer with a large criminal practice. His mind was harassed with difficult problems all the day long, yet he always came to the table with a smile and a pleasant greeting for everyone, and exerted himself to make the table-hour delightful. All his powers to charm were freely given to entertain his family. Three times a day we felt this genial influence, and the effect was marvellous. If a child came to the table with cross looks, he or she was quietly sent away to find a good boy or girl, for only such were allowed to come within that loving circle. We were taught that all petty grievances and jealousies must be forgotten when mealtime came, and the habit of being cheerful three times a day, under all circumstances, had its effect on even the most sullen temper. Grateful as I am for all the training received in my childhood home, I look back upon the table influence as among the best of my life."

Much is said and written these days about "table manners." Children (in well-bred families) are drilled in a knowledge of "good form," as to the use of the fork and napkin; proper methods of eating the various courses are descanted upon; but training in the most important grace or habit a child should have, that of cheerfulness at the table, is too often neglected.

The Orientals had no family ties of affection until they began to eat at a common table. Let the gathering at mealtime be made the most happy hour of the day, and the influence on the children may be beyond estimation.—(Canadian Churchman.)

**THE CHILDREN'S CORNER.**

**Two to Make It.**



Friends so true these kittens are—  
Little Fluff and Floss—  
Don't they love to roll a ball,  
Play at pitch and toss!  
Fluff is rather cranky, too,  
If you put her out;  
Like some children that we know,  
She can sulk and pout.  
But dear little Flossie knows  
What the Spaniards say,  
"Two it takes to make a fight,  
One the strife can stay."  
Copy Floss, and you will find  
That the words are true.  
If you're friendly, bright and kind,  
None can fight with you.  
If your friend is angry, then,  
Never storm and fret,  
For two wrongs don't make a right—  
Never did it yet.  
When you're angry, stop and think,  
Be careful what you say:  
"Two it takes to make a fight,  
One the strife can stay."

COUSIN DOROTHY.

**Our Competitions.**

Did you ever try to write poetry, children? A small niece of mine, who is just eleven, sent me an original poem the other day—called "Naughty Sam"—and I thought it would be a good idea to have a poetical competition for once. Prizes will be given for the best original poetry on "Canadian Country Life." All who are under fifteen may compete. Write your name, age, and address on the back of your poem, and address to "COUSIN DOROTHY, BOX 92, NEWCASTLE, ONT." The competition closes on the first of April. Don't be afraid to try. I don't expect any of you to rival Tennyson or Longfellow, but you can surely describe country life in some sort of rhyme. If there are enough competitors, they will, as usual, be divided into classes.

Here is the little poem I mentioned:

**Naughty Sam.**

"I'll tell you now of naughty Sam—  
He wouldn't wear his best new tan,  
He said it seemed so like a girl,  
Clad in the pretty tan a whiel."  
"You must wait till Sunday," his mother said,  
"I'll wash some on your early head."  
But when she saw the little child  
As soon as I was finally  
And when the little girl saw that  
He was a little red cap that day,  
At last he thought he'd play a trick,  
And in his hand he held a little flick.

**Mollie's Irish Notes Continued.**

Among the many delightful visits which I have paid since I left Canada, there is none that I feel more inclined to mark with a red letter than my visit to Newtownbutler, County Fermanagh. My friend, Mrs. J., had spent some years in London, Ontario, before her marriage, therefore it was a great pleasure to me to see her in her own nice home, with her two bright-faced, clever little children, and to be able to congratulate her in person on her matrimonial happiness.

We had many mutual friends over the water to chat about, and I was entrusted with kindly greetings, which shall be delivered all in good time. I was not allowed to waste a moment, but was shown many points of interest during my stay in County Fermanagh. Amongst these were the beautiful park and gardens of Col. Sanderson, the Irish member of Parliament; at Lord Erne's, another show-place in the north of Ireland, I saw the ruins of the old, as well as the new, castle, most beautifully situated amidst romantic surroundings overlooking Loch Erne. I think I never noticed before such a wealth and variety of creepers anywhere as those which covered the walls of Loch Erne Castle. I spent a day at the Belleck china works, and watched with interest the processes which produced each kind, from the heaviest class of pottery to the finest grade of exquisite egg-shell china. There was first the crushing up of the hard flint stone, then its conversion into a soft mortar. This, on being stirred up, looked like cream, which, after being poured into moulds, passed into drying and firing ovens.

When we drink our cup of tea or place our plates upon the hospitable board, I wonder if we realize through how many hands and through what complicated processes each has passed to prepare it for service?

My friends arranged that I should visit their farms, inspect their stock, and be impressed with the fact that there were no horses in the world to be compared with those of old Ireland. I had often heard of the warm Irish heart, of the clever Irish tongue so quick at retort, of the Irishman's apparently transparent candor and yet of his sudden assumption of a density which could conceal an opinion or a purpose; I had heard, and now had confirmation, of his patient endurance of privations, of his uncomplaining efforts at earning a bare subsistence or of arriving at starvation point without hope utterly dying within him. I saw more than one family circle composed of father and mother, six to ten children, a pig or a goat in the living room, and the chickens roosting in the rafters overhead, all subsisting upon a miserable pittance of eight shillings a week. In spite of ragged garments and bare feet, in spite of a diet of potatoes and buttermilk, the youngsters managed to enjoy their rollicking fun, whilst their parents were never so ignorant, never so poor, as to be other than tender and kind to their little ones. Of course, in Ireland, as elsewhere, industry brings its reward, and unthrift and laziness their natural punishment, but it would take a wiser head than Mollie's to read the riddle which seems compounded of the absentee landlord and the Irishman's love for the old sod, which makes so many still cling to it instead of following the wiser example of those who have adopted Canada as a home, and who have helped, by their thrift, talent and industry, to make "its desert blossom as a rose." To observant eyes the Irish people have many special claims to our admiration. They give years (some I met had given from twelve to thirty years) of faithful service to the families with whom they lived, and to whose members they offered a willing respect, which betokened kindly reciprocation. "Did I see any beggars?" Well, I cannot deny that I did, but for every dole I gave, often but a copper coin, I earned so many benedictions and received such comically doubtful compliments that I was most amply repaid. When you read this, you in Canada will probably be gathering round the stove after a long sleigh drive in an atmosphere hovering over zero point, so you will not care to hear just now of my delightful week at the Irish seaport of Bundoran, County Donegal, with its rocky shore, its bathing machines or houses on wheels, and of the lovely daily swim in its health-giving waves. That was in August, and even in Bundoran one would hardly want a dip in the sea in January. Amongst the things I did not do was to kiss the Blarney-stone. The wonder is that anyone survives the attempt. If you have ever seen a picture of the process you will not be surprised that I did not try it. I have always had a prejudice against standing with my head upon nothing (there's a bull for you), even at the risk of missing "to grow eloquent," which is the reward of the adventurous spirit, man or woman, who kisses the Blarney-stone.

Do you think I did not hear mention of Ire-

land's patron saint? Was I not nearly caught in one or two inaccuracies when I was trying to show that we knew all about him in Canada? For my consolation I was given the accompanying lines, which will at least show that I was not the only one who had got mixed over the question of "St. Patrick's day in the morning."

**ST. PATRICK.**

On the eighth day of March it was, some people say, Saint Patrick at midnight he first saw the day, While others declare 'twas the ninth day he was born, And 'twas all a mistake between midnight and morn; For mistakes will occur in the hurry and shock, And some blamed the baby, and some blamed the clock.

But with all their cross-questions, sure, no one could know If the child was too fast, or the clock was too slow.

The first faction-fight in Old Ireland, they say, Was all on account of St. Patrick's birthday. Some fought for the eighth, for the ninth more would die,

And who would not see right, sure, they'd blacken their eye.

At last both the factions so positive grew That each kept a birthday and Pat then had two; Till Father Mulcahey, who showed them their sins, Said, "Sure, no one could have two birthdays but twins."

He said, "Boys, don't be fighting for eight or for nine, Don't be always dividing, but sometimes combine; Combine eight and nine—seventeen is the mark, Let that be his birthday." "Amen," said the clerk.

If he was not a twins, sure our history will show He was worth at least any two Saints that I know. So they all got blind drunk, which completed their bliss, And kept up the practice from that day to this.

I am afraid you dear temperate Canadians will think I should have suppressed the last two lines, but I offer you the poem, whilst I do not recommend the practice. Adieu.

MOLLIE.

**Ingle Nook Chats.**

My dear Guests,—

"Oh the snow, the beautiful snow,  
Filling the sky and the earth below;  
Over the archways, over the street,  
Over the heads of the people we meet."

If our new friend 1902 be as generous with other good gifts as he has proven himself in dealing out "the beautiful," we shall be fortunate indeed. Letters in response to the last contest are pouring in from all parts of the Dominion, and I cannot help wondering if any of my guests are as nearly snowed in as we are. One little friend comes all the way from "Merrie England," where Sir Winter is not quite the absolute monarch we know. What a picture would greet her, could she but look out from the window where I sit! A broad expanse of immaculate white, broken only by trees and the neighbors' buildings, with here and there an occasional glimpse of a high fence, for everything of smaller dimensions is snugly hidden under mother earth's great blanket. "Ever on the dreary height down comes the snow" might be our refrain, for it still continues to fall.

What a sermon it is on united effort and the power of little things! Any one of those tiny flakes, if allowed to fall upon our hand, would vanish instantly, so feeble it is; and yet this wonderful white cover enveloping everything is the result of these apparently helpless atoms falling upon one another.

I was in the city during the last great storm, and could not help contrasting its effects there and in the country. Here the fair sky-blossoms seem to fall caressingly and lovingly, as if striving to cover all that might have been unlovely, and when once more the sky is clear, a vision of beauty greets us everywhere. There the pure crystals fell with touch as gentle, it is true, but only to be trampled and sullied by the hurrying, anxious, eager crowd, each bent upon his own quest; never a pause in that swift tide of life long enough for the purifying influence of the snowflakes to become perceptible. And even thus, I thought, is it with human life in the great cities of the world. All is haste and bustle and worry, with rarely a moment for calm reflection, for that "closing of our eyes and looking steadily into ourselves," which we are told is, apart from its spiritual advantages, "a wonderfully soothing process." "It is solitude—and solitude is the mother-country of the strong. To shut

one's eyes and turn the thoughts inward is like sleep, and, like sleep, gives strength and peace." Here, in nature's own domain, untrammelled by the restrictions of society, and while next season's resources are calmly resting 'neath the snow, we may prove to the full the truth of these words, and true we shall certainly find them.

There! I am drifting, even as the snow that now lies piled in forms of dreamlike beauty; but the merry jingle of bells awakens me to the fact that a laughing group of typical Canadian boys and girls are clamoring for admittance at the door of the Ingle Nook. I am pleased to note an occasional guest from among "children of a larger growth," a courtesy from my older readers which I very highly appreciate.

**OUR COMPETITIONS.**

Nothing seems to draw out such a merry crowd as a good puzzle. Already one hundred and nine papers have been received for Contest XVII., and the time limit is nearly up. This is as it should be, and as I love to have it.

"Leo Carleton," and others—There are no rules to follow, to gain admittance to the Nook, except to write with pen and ink and on one side only of paper (this refers to contests only). Yes, "Leo," all have the privilege of writing letters to the Hostess, whether they try any contest or not; letters to the Nook are always welcome, so come again. Thank you "Brownie"; same to you, little girl. I thank all my guests who have expressed so many kind wishes for the Hostess and her work.

**CONTEST XVIII.**

Will be quite distinct from anything we have yet had, viz., a drawing competition. Three prizes will be given for the best drawings sent in on or before March 20th. The drawing may be of an animal, a building and surroundings, a flower or tree, or a bit of landscape. It must be drawn on thick paper, and must be the unaided work of the sender (a statement to this effect must accompany work). The sender must state to which class he belongs. Classes will be divided as follows: I., all over eighteen years of age; II., fifteen years and up to eighteen; III., all under fifteen years of age; and one prize will be given in each class. Name and address must be attached to drawing, but a pen-name may be used for publication when desired.

Young and old have an equal chance, and I hope to discover much artistic talent among my guests.



A SCENE IN A TYPICAL IRISH VILLAGE.

**Recipes.**

**JUGGED HARE OR RABBIT.**

Cut the rabbit up into joints, dredge with flour and fry in boiling butter. Then put into a stewpan, with one teaspoonful of thyme, two onions, six cloves, three whole allspice, half teaspoonful pepper and salt to taste, cover with water; let it simmer gently till tender, which will be about 1½ hours, or longer, should the rabbit be old. Add quarter pint of port wine and two tablespoonfuls red currant jelly about ten minutes before taking from the fire. This should be properly cooked in a jar closely covered, inside a stewpan of boiling water, taking four hours to cook.

**SHREWSBURY CAKES.**

One quarter pound each of butter and sugar, six ounces flour, one teaspoonful grated lemon peel, one egg; mix and roll as thin as possible. Cut out with cutter, and bake.

**SPOTTED DICK.**

Chop half pound suet, and rub into one pound flour, mixed with one teaspoonful of baking powder and a pinch of salt. Make into a stiff paste with milk, roll out one-half inch thick, and spread quarter pound currants or raisins over it. Roll it up and wet the edges, then tie up in a wet pudding cloth floured on the side on which the dough is laid. Leave room for pudding to swell, then tie tight, plunge into boiling water, and boil 1½ hours. This paste will also do for any fruit or "rolly-poly" puddings.

**CURATE'S PUDDING.**

Cook and wash one pound potatoes, add two ounces butter and the grated rind of a lemon, quarter cup of sugar; then add two well-beaten eggs and the juice of the lemon. Stir all well together, place in buttered baking dish, and bake 30 minutes. When done turn out and serve hot.

Send all work within time given above to the address below. Wishing you all a pretty valentine.

THE HOSTESS.  
Ingle Nook Chats, Pakenham, Ont.

## THE QUIET HOUR.

### God Knows and God Cares.

"I know not what will befall me!  
God hangs a mist o'er my eyes;  
And o'er each step on my onward path  
He makes new scenes to arise;  
And every joy He sends me  
Comes with sweet and glad surprise.

"I see not a step before me,  
As I tread the days of the year,  
But the past is still in God's keeping,  
The future His mercy shall clear;  
And what looks dark in the distance  
May brighten as I draw near.

"For perhaps the dreaded future  
Is less bitter than I think;  
The Lord may sweeten the water  
Before I stoop to drink;  
Or if Marah must be Marah,  
He will stand beside the brink.

"It may be He is keeping  
For the coming of my feet,  
Some gift of such rare blessedness,  
Some joy so strangely sweet,  
That my lips can only tremble  
With the thanks I cannot speak."

I have just been reading a story of the Franco-German war, and those vivid pictures of sorrow and anxiety for absent husbands, brothers and sons, made me think of the sadness even now caused by the fighting in South Africa. How many are looking anxiously for news of their boys, hoping for good tidings, yet fearing the worst! They are so far away, and we powerless to help them. There are others who bear heavy burdens of anxiety, pain or sorrow, feeling as though it were impossible to obey the command, "Rejoice in the Lord Always."

Are you anxious about a dear friend, uncertain of his fate? Remember that God knows, if you do not, and He cares far more than you do. If you are powerless to help, He is not. Did you ever read the wonderful story of our Lord's life, with the special purpose of noticing His sympathy? Sometimes, as in the case of the widow who was mourning for an only son, it is directly stated that He had compassion on her. Sometimes His sympathy is shown in act or word, which reveals the quick insight and loving thought of our Elder Brother.

I have not time to speak of many cases, but will mention a few where His love was strong to help, although not manifested miraculously, but only by a look, a word or a touch. In the midst of the terrible excitement of the mock trial, He was ready with the look which was strong enough to win back the erring disciple to repentance and courage. There was a living power in the hand laid so tenderly on the loathsome leper from whom all men shrank; a power to reach the shrinking soul, apart from the miraculous power which healed the body. There was loving sympathy in the way He invited Himself to visit Zaccheus, the hated publican, who was accustomed only to contempt and scorn. Think of the thrilling power of that one word "Mary," which turned despair into ecstasy in a moment. Think of the thoughtful tenderness of that special message to St. Peter, who must have felt that he had very little right to be considered a disciple.

What He was then He is now, "the same yesterday, to-day, and forever." He loves each one of us with an everlasting love, and surely we can trust Him to order everything for the best. As Miss Fowler says: "At one time, like everybody else, I thought that I knew better than God, and I tried my utmost to teach Him what was the right thing for me and the Church, and I confess that I was grieved, not to say reproachful, when He did not follow my advice. But now I just sit still, and let Him take all the responsibility."

"O restful, blissful ignorance!  
'Tis blessed not to know;  
It keeps me quiet in those arms  
Which will not let me go;  
And hushes my tired soul to rest  
On the heart that loves me so.

"So I go on not knowing,  
I would not if I might;  
I would rather walk in the dark with God  
Than go alone in the light;  
I would rather walk with Him by faith  
Than walk alone by sight.

"My heart shrinks back from the trials  
Which the future may disclose,  
Yet I never hid a sorrow  
But what the dear Lord chose.  
So I press the coming tears back,  
With the whispered words, 'He knows.'"

H. A. B. has drawn my attention to the parable of farm life in the last part of Isa. xxviii. If you read it you will find that the greatest care is taken in preparing the ground and sowing the different kinds of seed in the place best suited to each. Then, when the grain is to be threshed, it is not all treated alike. Some kinds are beaten out carefully with a flail, while others are broken

with the heavy threshing wheels, or bruised with hoofs. "Bread corn is bruised," and if the Captain of our salvation was made "perfect through sufferings," we can hardly expect to be gathered as good wheat into God's great granary without being first purged from the husks and chaff which cling so closely to us. The Divine Husbandman never makes mistakes either in our environment or our training. God knows and God cares—cares so much for our real good that He does not hesitate to cut very deeply sometimes. Certainly He loves too much to give us any unnecessary pain, so we may rest satisfied in those strong yet tender Hands, feeling sure that anything that comes from Him must be for our real and lasting good.

"'Tis the Master who holds the chisel;  
He knows just where  
Its edge should be driven sharpest,  
To fashion there  
The semblance that He is carving;  
Nor will he let  
One delicate stroke too many,  
Or few be set  
On forehead or cheek, where only  
He sees how all  
Is tending— and where the hardest  
The blow should fall  
Which crumbles away whatever  
Superfluous line  
Would hinder His hand from making  
The work divine.

"With tools of Thy choosing, Master,  
We pray Thee, then,  
Strike just as Thou wilt, as often,  
And where, and when  
The vehement stroke is needed,  
I will not mind,  
If only Thy chipping chisel  
Shall leave behind  
Such marks of Thy wondrous working  
And loving skill,  
Clean carven on aspect, stature,  
And face, as will,  
When discipline's ends are over,  
Have all sufficed  
To mould me into the likeness  
And form of Christ."

Think what it means to be a member of Christ's mystical body, the Church, of which He is the living Head. As every pain in every member of a body is flashed like lightning along the nerves to the brain, so—as Robertson beautifully says—"there is not a single throb, in a single human bosom, that does not thrill at once with more than electric speed up to the mighty heart of God.

We are not required to be stoics, hardening ourselves until pain is hardly felt. God surely intends us to feel, for insensibility to pain is a very dangerous symptom, either in soul or body, and He will very likely cut deeper still if we try to harden ourselves. Let us trust Him utterly and unreservedly, for He knows what is really for the best—and certainly we don't. Let us seek to win the great gift of patience.

"While I lay prone, Pain stood at my right hand,  
And with hot fingers seared her furrows wide  
Through nerve and muscle; till to longer stand  
Her cruel tortures seemed too hard! I cried,  
'Enough!' but sounded in my ear  
A tender voice, 'A little longer, dear!'

"Whiles, the sweet speaker beckoned toward the night,  
And broad-browed Courage took his place by Pain,  
And so we faced, until the morning light,  
Courage and Pain and I; nor e'er again  
I cry, 'Enough!' but meekly turn to hear  
Great Patience speak, 'A little longer, dear!'"

HOPE.

### Some Winter Ways with Beef.

#### BEEF STEW.

Cut two pounds of the cheaper pieces from the bones, and then into inch pieces, roll in flour and fry brown in a saucepan, with a little fat and a sliced onion. Put the bones into cold water and heat slowly to boiling, add the meat and  $\frac{1}{2}$  teacupful of canned tomatoes. Simmer an hour, then add a carrot cut in squares. Cook until the meat is tender, adding a few potatoes, also cut in squares. Serve with a garnishing of toast cut in pieces around the meat dish.

#### MOCK SAUSAGE.

Chop very fine a pound of cold beef, add to it four tablespoons of mashed potatoes, a beaten egg, season highly with salt, pepper and sage; mix well. Shape into small flat cakes with the hands, and fry in a little fat like pork sausage.

#### ROAST BEEF WITH YORKSHIRE PUDDING.

Take the roast beef from the pan, skim off all the fat dripping into a pan in which the pudding is to be baked, make a batter with two eggs beaten separately (very light), salt, one cup of milk, one cup of flour. Unless the eggs are very light, add a little baking powder. Bake in the beef dripping for ten minutes in a hot oven.

#### BEEF STOCK.

Get a knuckle of beef, cut the meat all off the bones into small pieces, break the bones, put them into a kettle with the meat, allow one quart of water for every pound of meat. When it begins to boil, skim as long as any scum rises. Set the kettle on the back of stove, so that the meat will cook slowly for five hours, then add salt to season, and skim out meat and bones. Strain the rest and set away to cool, then skim all the fat off and you will have a fine jelly ready for soup.

### BEEF LOAF.

Chop fine four pounds beef without any fat, add to it three dozen soda biscuits rolled fine, four eggs, one cup milk, one tablespoon ground mace, salt and pepper to taste, one tablespoon melted butter; mix well, and put in a tin, packing it well; baste with butter and water, and bake two hours. This will slice well when cold, and can be eaten either cold or hot.

### Old Foggy Farm Women.

Not long ago I called on a town woman, who remarked: "Why don't you write up for the 'Farmer's Advocate' these old foggy farm women who spend their time patching quilts and sewing rags? Why do they not buy their cloth and have a prettier quilt, with the covers all of one kind, without cutting up to sew together again?" I nearly smiled out loud, for I quite agreed with her on the method of quilt-making, but I did not quite agree on the "old foggy farm women." It is a well-known fact that the village and town women are just as "old foggy." Indeed, at our local fairs it is just as often the village woman who shows the many-patched quilt. Last fall I saw one made of two colors of cashmere, new, and of good quality. Instead of the cover being of one color and the lining of the other, it had all been cut into tiny strips and sewn up again log-cabin pattern, and I had the extreme bad taste to see no artistic beauty in it, but (I would like to emphasize that "but") it was not the old foggy farm woman, it was a Town Woman who exhibited it.

I once, in a Farmers' Institute address, used words somewhat as follows:

"Any young woman who buys new cloth to cut up in little pieces to sew together again is a fit subject for the lunatic asylum." Perhaps I was rash, though it does look to me like a crazy piece of work, but I forgot that one might be insane in this one line but be perfectly sane on every other subject, and so might be left at large for many useful years.

Then, the gorgeous hooked mat and the rag carpet are extravagant luxuries if one has a sensible regard for mind and body; and they, too, almost as frequently grace the floors of the village woman as of the farm home. Do they pay for the time and strength wasted in making and shaking them? Of course, those who hook mats do not consider the time wasted, as the work is done in supposed leisure moments. This is where the mischief comes in. Our leisure moments should not be spent in extra and unnecessary work, be it patching quilts, sewing rags or embroidering center-pieces. We should consider we have minds to improve and to keep from deteriorating. We might just as well be built without brains if we put them to no better use than to plan sewing rags.

Our pioneer ancestors had not the wealth of reading matter, nor had they the educational advantages we have, but they had time for social intercourse and for a life "near to nature's heart."

We neglect to entertain, because we are too busy patching quilts and doing lots of other useless things. My town friends say: "Why cannot the farmers brace up and be somebody? Give little social evenings, and not live so much to themselves?" Of course, select little parties are very pleasant, and I being (or, not being) "an old foggy farm woman," give and attend them about a dozen times during the year, not counting the evenings when boys and girls drop in for music or a quiet game. Do the "old foggy" town women entertain oftener?

I decidedly disapprove of the every night away from home which is so prevalent both in town and country; some classes going to parties, others to revival and prayer meetings, where, perhaps, only the emotional part of one's nature is aroused. We should also remember we have bodies to improve and to keep healthful. We are placed in this world to enjoy its beauties and its pleasures and to be as nearly perfect as possible. To do this we must make our recreation partake largely of physical exercise, for if we have not healthy bodies we must expect to be less perfect in spirit and mind. If we would drop the rag recreation and go out skating, walking, tobogganing, or take other lively physical exercise, in company with congenial people, new brightness would come to the eyes, yellow complexions would turn white, bleached cheeks would become rosy, minds would become fresher and more able to grasp grander ideas and to think better thoughts. In conclusion, while I admit there are "old foggy farm women," I refuse to believe that we are all "old foggy," or that we are more so than are our sisters in towns and villages. Old foggyism means being behind the times, old-fashioned in our ideas and methods. Let us show the world that we are up-to-date farm women, if not in our dress, at least in our thinking capacity, and in our methods of spending our working and recreation hours.

Ailsa Craig, Ont.

M. E. GRAHAM.

The Quality of Mercy.

The clocks were striking six when the editor of "The Great Evening Daily," enclosing a printed slip of thankful regret in the worn folds of a rejected manuscript, tossed the latter across the desk to his typewriter and said he thought he would call it half a day and go home.

He lingered, after changing his coat, to look down for a moment upon the flood of humanity that every day ebbed and flowed in the street below, and what he saw seemed to affect him as Arden's airs affected the fool whom Jacques met in the forest—it set him moralizing. "If people would only reason things out instead of giving way to the momentary impulse of sentiment, we'd have a more comfortable world of it. Your maudlin charity-giver means well, but for want of head work he does a deal of damage. Now, there's that cripple down there on the pavement who walks on his back and has pencils for sale. The sight of him, shoving himself along away down there at your feet, works on your feelings and, though you have a pocket full of pencils already, you are weak enough to feel like buying another from him just to keep the sight of him from haunting you all the way home and spoiling the taste of your muffins. Nevertheless, every cent's worth of such unnatural support serves to encourage him in a course nature has not fitted him for, and withdraws an equal amount of support from the serious worker of whom it is the due."

"He doesn't seem to be getting very rich on it," ventured the typewriter, whose womanly sympathies were plainly with the man who walked on his back.

"No," said the editor, "he doesn't get rich, nor does the old blind woman get rich who waylays you with another stack of pencils in Carter's Alley and unobtrusively asks you ten cents for one if you look soft enough to pay it; and neither does the half-legged Jew in the same business get rich who whines out his plaint at you under the City Hall. The sentimental patronizing of this Coxie's army of lame, halt and blind mockeries of merchants not only does not make any of them rich, but tends directly to keep reputable tradesmen poor—men like my old friend Poole, the stationer, who is trying to live respectably in the world and bring up his family in a civilized manner, to eat fish with a fork and all that; he can hardly make both ends meet nowadays. It's not right, because it isn't natural. Nature's way is to encourage the strong and mercifully remove the weak from the unequal struggle; and, depend upon it, her

way is the best. If men would only let her have her head she would work out life for us on a better plan than was ever dreamed of in the philosophy of any charity board on earth." With the delivery of which dictum the editor departed.

In a moment he was back. "Have you an umbrella?" he asked of the typewriter.

"No," she replied, "I did not bring any this morning."

"You'd better come along with me as far as the car, then," he said; "I have one, and it looks to me as though it would rain in a minute or two."

"I suppose," she remarked, with a mischievous twinkle in her eye as they stepped together into the street, "the natural method would have been to let me go home in the rain and learn through the experience of a bad cold to be more provident in the future."

But the editor's thoughts were on generalities just now. The thoughtless consider nature cruel, he continued; "but she is only a little cruel in order to be very kind. Take a sick cat, for instance; there's a deal of instruction in the case of a sick cat. She crawls out of sight somewhere, and if nature does not work a cure the cat dies. That means she is out of her misery, and all surviving catdom is relieved of that much competition for scraps. And so through all the natural world; it's a beautiful system. Nature knows her business, and if not interfered with she would develop the best and weed out the incapables that are a drag on the world's business and a burden to themselves. But, no, the marplot man will put his clumsy fist in the machinery, disarranging the natural order; and so we have a world of unnecessary sociological problems. You never read Spencer's "Synthetic Philosophy," perhaps?"

"No," said the typewriter.

"It's beautiful," said the editor. "If it's like what you have just been talking about," the typewriter observed with some spirit, "I should think so—for well people."

There was a growl of summer thunder, and a few drops of rain came pattering down. The editor raised the umbrella.

The two were in front of a little sidewalk stand whereon an old woman displayed for sale a handful or so of dusty sweets that a couple of dimes would have bought. There were half a dozen sour-balls, some bits of mint twist, a few cinnamon creams, at one cent each—all perishable in the rain—and the poor soul was troubled. Through the gray hairs blown by

the rising wind across her wrinkled forehead, she looked anxiously up at the clouded sky, her trembling hands outstretched to make sure if it were yet dropping. She had no umbrella and no oilcloth to protect her stock in trade; it was a moment of imminent danger.

The editor's eye had taken in the little scene and his step faltered. There was something about the withered hands that had suddenly brought to mind the thought of other hands that had ministered to his needs in years gone by as only a mother's hands that were vanished now from the earth forever. "I am going to buy that old woman out," said the editor.

The typewriter laughed outright, and following close upon the heels of the laugh two happy tears rolled down her pretty face.

"I think," she said a moment later, as she tumbled a medley of gritty candies into her bag, thinking the while of certain sweet-toothed little folks at home. "I think there is something in the human heart that has not been taken into account in your "Natural Philosophy"—something that will last longer, too."—(Charles Francis Saunders.)

The Valentine Rose.

"Oh, ho!" cried Dan Cupid, "what's this that I see? Where notes come with roses 'tis plain they want me!"

And he peeped o'er her shoulder, the impudent elf! To spy out a few lines of the billet himself.

"Dear Phyllis," it ran, "would that I could disclose My heart to your eyes, as doth this happy rose,

"But grant that its fragrance may breath forth some part Of the love that I bear you, oh, heart of my heart!"

And she, as she toyed with the flowers, drooped her eyes, Saying softly, "The foolish boy—such a surprise!"

But Cupid avers, and we know that he knows, That his heart caught her heart in the heart of the rose.

—Beatrice Hanscom.

Advertisement for VINGENT & MACPHERSON, The Leading Western Undertakers and Embalmers, Rosser Avenue, Brandon.

SOME IDEA OF THE AGEMENT IN Western farm lands may be got from the transactions of the firm of Osler, Hammond & Nanton for 1901, whose operations in land are only surpassed by the Land Department of the C. P. R.

John Lippington of Bredenburg, Assn., passed through Winnipeg the first week of February with a carload of pure-bred stock purchased in Ontario. Having been well satisfied with a purchase made a year or so ago from J. & W. Watt, Mr. Lippington went straight to this famous herd of Shorthorns and selected six head of very choice, fine-quality things, including the four-year-old Paternoster Bays and a roan calf at foot, also a Matchless, by Royal Victor 34681, and a Mina, by Col. Bruce and out of a daughter of Royal Sailor. Five Clydesdales, four fillies and a stallion foal, were also selected from Messrs. Watt's stock.

beautiful pair of yearling fillies. Included in the lot was a Standard-bred filly by Sir Oliver Mowat, and 20 pure-bred Leicester sheep, the latter from the flock of Messrs. Watt.

J. B. Jickling, of Carman, has added to his flock of Angoras, recently, one buck and three does.

We desire to draw the attention of our readers to the advertisement of the dispersion sale of the Wavertree herd of Galloways on Friday and Saturday, Feb. 28th and March 1st, at the Stockyard's sale barn, South Omaha, Neb. Possibly never before has been offered such a fine lot of Galloways, the reason for the herd being placed on the market being the decease of the owner. No expense has been spared to get the best blood into this herd, and as a consequence it is made up of first-class cattle, many of whom are prizewinners.

In all, some 113 lots will be offered—cows with calves at foot counting as one lot. Bids may be wired to the auctioneers, Cols. J. W. Sparks and R. E. Edmondson. While this herd has furnished a large number of winners at the shows, once an animal won it was relegated to the breeding ranks, and as a consequence the standard of prolificacy ranks high in this herd. Only the best imported blood has been brought into the herd, by means of such superb animals as Gallant General Gordon (Imp.) 5374 (3352), 3rd at the World's Fair, and Woolf (Imp.) 15055 (7245), the champion bull at the Nebraska and Missouri State Fairs. The catalogue is well gotten up, and contains the pedigrees of the cattle, together with remarks on each individual. As this breed is famous for its hardiness, its capacity for making gains in flesh on rough feed, and its long curly hair, it will be in order for those of our readers desiring to start a herd or procure a herd header to attend this sale by proxy or in person. As an evidence that these cattle are bred for the desired end of all beef cattle—the block—the catalogue states that in the steer classes at the last Chicago show the Wavertree herd won every first prize offered. Inspection of the herd is invited. The terms of the sale are cash. No reserve. Send for a catalogue to Dr. W. H. B. Medd, Dundee, Minnesota.

Advertisement for THE DE LAVAL SEPARATOR CO. featuring the text "Yes! All talk looks alike on paper, but should there be any question in your mind in regard to the merits of Cream Separators, then ask some one of authority in such matters. Put the question plain and insist on a yes or no answer, and no beating about the bush. Then there is the best of all—test. The self-satisfying test of one in your own dairy, under all the varying conditions existing in everyday dairy work, will tell the tale. Such a test is the one that makes the little "hollow-bowl" fellows send the ambulance around to gather up their dead and wounded ambitions." Includes address: 248 McDermot Ave., Winnipeg, Manitoba.

Advertisement for Brandon Seed House Seeds. Text: "What shall the Harvest Be? SEEDS SOWN AND THEIR KIND IS ONE DETERMINING FACTOR. Brandon Seed House Seeds ARE RELIABLE. GOOD SEEDS AND PURE ARE WHAT YOU WANT. OUR 1902 ILLUSTRATED SEED ANNUAL MAILED ON APPLICATION. A. E. MCKENZIE & CO., BRANDON, MANITOBA. The Seed House of Western Canada."

Advertisement for DRAFT HORSES OF ALL AGES. Text: "FOR SALE: DRAFT HORSES OF ALL AGES. OWING to lack of range, we have decided to cut our herd of draft horses down to one-half, and sell 2,000 head at greatly reduced prices. This great selection of mares, geldings and growthy youngsters of all ages represents the results of seventeen years of judicious mating to strictly high-class Percheron, English Shire, Clydesdale and Hackney sires. We can furnish high-grade brood mares and fillies with foal to imported and home-bred registered stallions, and have always on hand a large and first-class selection of registered and high-grade Percheron and English Shire stallions, also registered mares and fillies of same breeds. Correspondence solicited. Inspection invited. LITTLE MISSOURI HORSE COMPANY, W. G. CLARK, SUPT. GLADSTONE, NORTH DAKOTA. Jan. Smith, Galbraith's, Manitoba, ported from Scotland. He weighs about 1,500 lbs., and yet with all his fatness, noted for his Medalist, to a company of 100,000, he moves as if he were a feather. The Arrola district is fortunate in such, out of Crosby, Jewell, and is in this selection."

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**FARMER'S ADVOCATE**  
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**BEGIN TO CANVASS AT ONCE** FOR NEW SUBSCRIBERS. The Christmas number for 1901 will be sent FREE to all who now subscribe for 1902. Subscription Price, \$1.00 per Annum.

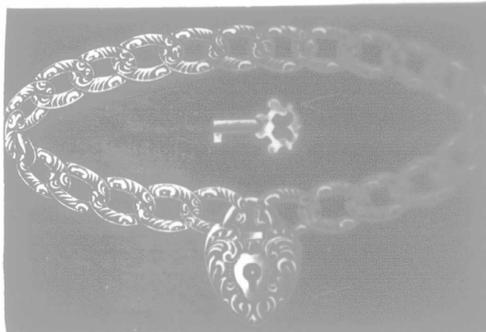
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Containing the Old and New Testaments, according to the authorized version, together with new and revised helps to Bible study—a new Concordance and an indexed Bible Atlas, with SIXTEEN FULL-PAGE ILLUSTRATIONS, PRINTED IN GOLD AND COLOR.

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Would retail at from \$3 to \$4. We will send (carefully packed, post paid) this Bible to anyone sending us the names of TWO NEW SUBSCRIBERS to the FARMER'S ADVOCATE at \$1.00 each.

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For 2 new subscribers. Sterling silver for 3 new subscribers. For each additional new subscriber, two Sterling Silver Friendship Hearts.

Write for a sample copy of the Farmer's Advocate, and begin to work for these premiums. Cash must accompany new names.

**THE WM. WELD COMPANY, LIMITED, WINNIPEG, MANITOBA.**

The advertise sale of registe bred Shortbr brought together and breeders and breeders was in S., who wite efficiently. The demand for spring did not "bull" prices getting their figures. The average lot, \$165. Several one going success in helped the time it looked to bid for fe up on them, and things. Several of the with a stud, in wh Neeppawa, J Middleton, W Black, Carroll Jaw, were est ers. The buye tained were

Princess Sou Neeppawa Jenny June Horn Marguerite Lillian Meeg wood, Dotu Queen Nata mers, Hay Mosette Webster, Natalie Carievale Carmen Moose Jaw Princess Har man, Elba Gracia (92 Westhall Gretna (92 Brandon Lady Lee Ella (7651) raine Lady Jett Oak Lake Lady Lipton der, Roubie Carrie Princess Ma Queen Canna (927 Catrine-B.

Baron of due, Sour Peter the Watson

Among the the first- 1901. Jone noted Pilgr 1900, and Q the Bradwa taik.

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The gener cry of the L.L. was Brandon, J farmers at present. Provisional following p canvass for the 2,650 of twenty d of \$83,720 capital is that only At the ma made an e balance, it a very shap The meet prospects fig 10 in Manitoba a earnest abe manufactory at Brandon saw the a large group the consume ing the \$100 will expected th relation of time of the time for busines reser at dire after a th with one a the Br Johnson, fa dete, Jno St. M. E. plan They they a po they a rocky with the p tations the

**GOSSIP.**

**MACMILLAN'S SALE OF CLYDESDALES.**

The advertised announcement of this sale of registered Clydesdales and pure-bred Shorthorns and other stock brought together a large crowd of farmers and breeders of pure-bred stock. The venue was in charge of Dr. Fisher, V. S., who wielded the auctioneer's gavel efficiently. The prospects of a strong demand for work horses the coming spring did not seem to be inclined to "bull" prices at all, the buyers all getting their purchases at reasonable figures. The Shorthorns were a good average lot, a yearling bull bringing \$165. Several grade cows sold well, one going at \$53. Mr. Macmillan's success in the show-rings no doubt helped the attendance, although for a time it looked as if people were afraid to bid for fear of the price being run up on them. There was no reserve, and things went off very smoothly. Several of the purchases were made with a view to starting Clydesdale studs, in which particular S. Benson, Neepawa; J. Jones, Elkhorn; Jno. Middleton, Webster, Cartwright; D. Black, Carroll; and T. D. Watson, Moose Jaw, were especially fortunate purchasers. The buyers, animals and prices obtained were as follows:

Mares and Fillies.	
Princess Sonia (8548)—S. Benson, Neepawa	\$330
Jenny June (9051)—J. Jones, Elkhorn	345
Marguerite (8539)—S. Benson	275
Lilian Macgregor (8832)—Greenwood, Douglas	285
Queen Natalie (5669)—W. Chalmers, Hayfield	155
Mosette (8232)—J. Middleton, Webster, Cartwright	340
Natalie (351)—Jno. McQueen, Carrievale	165
Carmen Sylva—T. D. Watson, Moose Jaw	350
Princess Hamline (8841)—C. Freeman, Elkhorn	300
Gracia (9269)—J. G. Weightman, Westhall	275
Gretna (9284)—J. D. McGregor, Brandon	222
Lady Dee (9272)—T. D. Watson	295
Ella (7651)—Lon Thompson, Deloraine	210
Lady Jeffrey (9280)—Cameron, Oak Lake	200
Lady Linton (9283)—Andrew Elder, Routhwaite	222
Carrie (7469)—L. Thompson	205
Princess Mackay (9286)—Jno. McQueen	185
Canna (9278)—D. Black, Carroll	180
Catrine—D. Black	350

Stallions.	
Baron of Avenel (9796)—T. Perdue, Souris	375
Peter the Great (6799)—T. D. Watson	260

Among the lot was Baron of Avenel, the first-prize year-old at Brandon, 1901; Jenny June, a half-sister to the noted Pilsen champion at Winnipeg, 1900; and Queen Natalie, the mother of the Bradwardine syndicate horse, Montauk.

Average for 21 head	\$266 02
Average for 19 mares	260 78
Average for 2 stallions	317 50

**MANITOBA WILL MANUFACTURE BINDER TWINE!**

The general meeting of the shareholders of the Brandon Binder Twine Co., Ltd. was held in the Opera House, Brandon, Jan. 22nd, when over 400 farmers and business men were present. The reports from the Provisional Board brought out the following prominent facts: That the canvass for stock has resulted in securing 2,650 subscribers, who hold shares of twenty dollars each, making a total of \$83,720 now subscribed. As the capital is \$100,000, it will be seen that only \$16,280 remain to be taken. At the meeting each shareholder was made an agent to secure stock. The balance, it is expected, will be taken in a very short time.

The meeting was enthusiastic, and the prospects for the Company are promising. It is evident that the farmers of Manitoba and the Territories are in earnest about the project, and hope, by manufacturing this agricultural necessity at Brandon by a farmers' company, to save the middlemen's profits and a large proportion of the money paid by the consumer for freight. The policy of limiting the stock held by one person to \$100 will be rigidly adhered to. It is expected that the factory will be in operation by May 1st, and that 200 tons of the finished product will be ready for next harvest. The shareholders re-elected the board of provisional directors with one exception, after a thorough investigation of the work done by them. The following constitute the new board: N. Wolverton, farmer, Brandon, President; W. T. Johnson, farmer, Wawanessa, Vice-President; Jno. Hanbury, W. Zink, F. W. Smith, E. L. Christie, and V. E. Tanner, Mr. S. H. Christie was subsequently appointed Secretary-Treasurer. The plans for the building now in course of construction were laid on the table. They show a brick factory 45x200, a power-house 30x36, a warehouse 80x200. The brickwork of the factory was almost completed and the roof framed when the cold stopped the work. The foundations of the warehouse are in. As soon as the weather will permit, the

work will be pushed on rapidly, and by April 15th the factory and power-house will be ready for the machinery. The contractor, Mr. Jno. Hanbury, and the President, Mr. N. Wolverton, have just returned from an extended trip through the Northern States and Ontario, where they first visited a large number of twine factories to see machinery in operation, then all the plants where such machinery is made, and, after most thorough investigation, bought the machinery from THE WATSON MANUFACTURING CO., of Paterson, N. J. This machinery, for a three-ton-a-day plant, is not only of the very best make, but has all the latest improvements, many of them found in no Canadian factory and in but one factory in the United States. They also ordered two 75-horse-power boilers and a 100-horse-power Wheelock engine, all this machinery to be on hand not later than April 15th.

**Agricultural Institute Meetings.**

First Series—1902.

**NORTH-EAST ASSINIBOIA.**

Speakers: G. H. V. Bulyea, Commissioner of Agriculture; Angus Mackay, Superintendent Experimental Farm, Indian Head, Assa; M. Brennan, Blackwood, Assa.

Place of Meeting.	Date and Hour.
Fleming	Feb. 24th—2 p. m.
Moosomin	Feb. 25th—2 p. m.
Hilburn	Feb. 26th—2 p. m.
Tantallon	Feb. 27th—2 p. m.
Churchbridge	Feb. 28th—2 p. m.
Saltcoats	Mar. 1st—2 p. m.
Logberg	Mar. 3rd—1 p. m.
Yorkton	Mar. 4th—2 p. m.
Ebenezer	Mar. 5th—1 p. m.
Crescent	Mar. 6th—2 p. m.
Summer	Mar. 7th—2 p. m.
Olsen	Mar. 8th—1 p. m.
Whitewood	Mar. 10th—1 p. m.

**MAIN LINE EAST.**

Speakers: C. W. Peterson, Deputy Commissioner of Agriculture; George Harcourt, B. S. A.; George Lang, Dominion Forestry Inspector.

Place of Meeting.	Date and Month.
Wolseley	Feb. 24th—2 p. m.
Ellisboro	Feb. 25th—2 p. m.
Pleasant Forks	Feb. 26th—2:30 p. m.
Abernethy	Feb. 27th—2 p. m.
Kenlis	Feb. 28th—7 p. m.
Indian Head	Mar. 1st—7 p. m.
St. Qu'Appelle	Mar. 3rd—2 p. m.
Qu'Appelle Station	Mar. 4th—2 p. m.
Ridgeway	Mar. 5th—2 p. m.
McLean	Mar. 6th—2 p. m.
Balgonic	Mar. 7th—1:30 p. m.
Sintaluta	Mar. 8th—2 p. m.
Summerberry	Mar. 10th—2 p. m.
Grenfell	Mar. 11th—2 p. m.
Edgewood	Mar. 12th—1 p. m.

**SOUTH-EASTERN ASSINIBOIA.**

Speakers: T. M. Willner, Territorial Chief Inspector of Noxious Weeds; D. Drummond, of Prof. Robertson's staff; N. M. Ross, B. S. A., Assistant Superintendent of Forestry for the Dominion.

Place of Meeting.	Date and Hour.
Wapella	Feb. 24th—2 p. m.
Fairmeade	Feb. 25th—2 p. m.
Glen Adelaide	Feb. 26th—2 p. m.
Arcola	Feb. 27th—2 p. m.
Dalesboro	Feb. 28th—2:30 p. m.
Alameda	Mar. 1st—2 p. m.
Gainsborough	Mar. 3rd—2 p. m.
Elmore	Mar. 4th—1 p. m.
Carduff	Mar. 5th—2 p. m.
Oxbow	Mar. 6th—2 p. m.
Estevan	Mar. 7th—2 p. m.
North Portal	Mar. 8th—2 p. m.
Weyburn	Mar. 10th—2 p. m.
Yellow Grass	Mar. 11th—2 p. m.
Moose Jaw	Mar. 12th—2 p. m.

**NORTHERN ALBERTA.**

Speakers: T. M. Willing; D. Anderson, of Prof. Robertson's Staff; M. Brennan, Blackwood, Assa.

Place of Meeting.	Date and Hour.
Edsburys	Mar. 12th—2 p. m.
Olds	Mar. 13th—2 p. m.
Raymond	Mar. 14th—2 p. m.
Red Deer	Mar. 15th—2 p. m.
Clover Bar	Mar. 17th—8 p. m.
Agricola	Mar. 18th—2 p. m.
St. Saskatchewan	Mar. 18th—7 p. m.
Rabbit Hills	Mar. 19th—2 p. m.
Leduc	Mar. 20th—2 p. m.
Wetaskiwin	Mar. 21st—2 p. m.
Ponoka	Mar. 22nd—2 p. m.
Lacombe	Mar. 24th—2 p. m.

**WEST ASSINIBOIA AND SOUTHERN ALBERTA.**

Speakers: W. R. Stewart, President Territorial Horse Breeders' Association; D. Drummond, N. M. Ross.

Place of Meeting.	Date and Month.
Point Elma	Mar. 13th—2 p. m.
Caron	Mar. 14th—2 p. m.
Raymond	Mar. 15th—1 p. m.
Stirling	Mar. 17th—7 p. m.
Waparth	Mar. 18th—2 p. m.
Cardston	Mar. 19th—2 p. m.
Mountain View	Mar. 19th—7 p. m.
Fishburn	Mar. 20th—1 p. m.
Medicine Hat	Mar. 21st—2 p. m.
Maple Creek	Mar. 22nd—1 p. m.

**SASKATCHEWAN.**

Speakers: George Lang; T. G. Raynor, B. S. A., of Prof. Robertson's Staff; A. G. Hopkins, B. Agr. D. V. M., late Instructor Animal Husbandry, Wis. Agr. College.

Place of Meeting.	Date and Month.
Regina	Mar. 13th—2 p. m.
Coltonwood	Mar. 14th—2 p. m.
Lumsden	Mar. 15th—2 p. m.
Smithville	Mar. 17th—7 p. m.
Southern	Mar. 18th—3 p. m.
St. Louis	Mar. 19th—2 p. m.
Red Deer Hill	Mar. 20th—1 p. m.
Colleston	Mar. 21st—1 p. m.
Prince Albert	Mar. 21st—7 p. m.

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Capital Stock, \$100,000. 5,000 Shares at \$20 Each.

This is an INVESTMENT and not a SPECULATION.

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Date \_\_\_\_\_ P. O. \_\_\_\_\_

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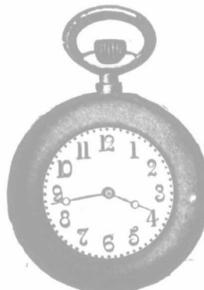
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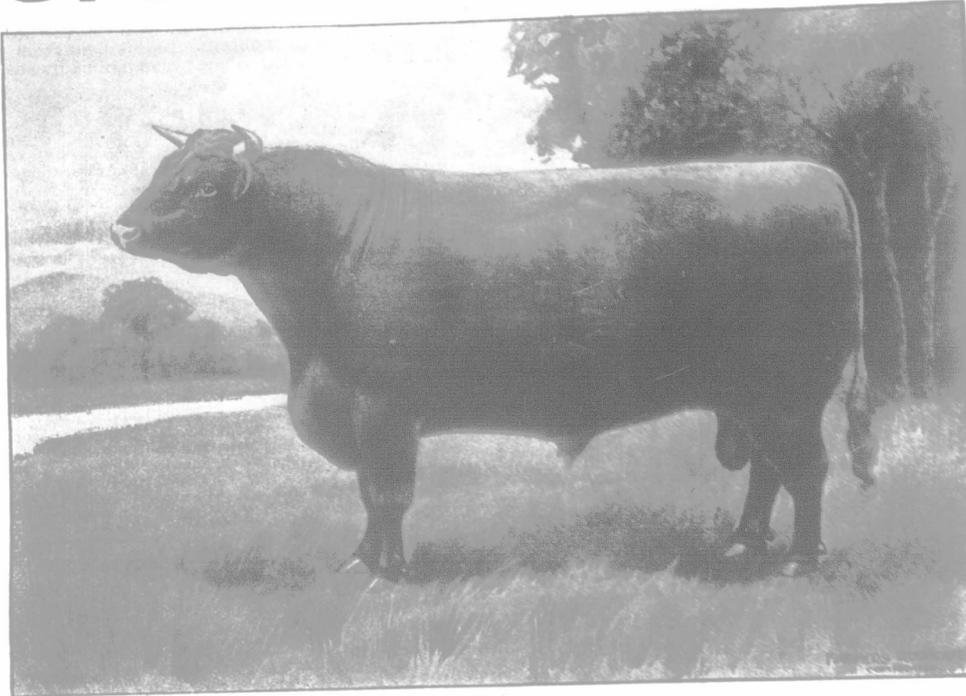
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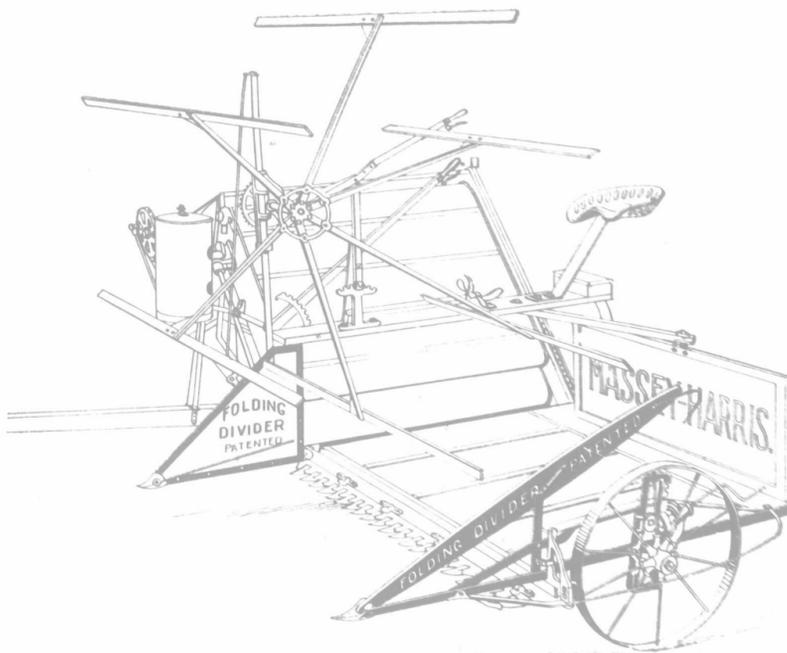
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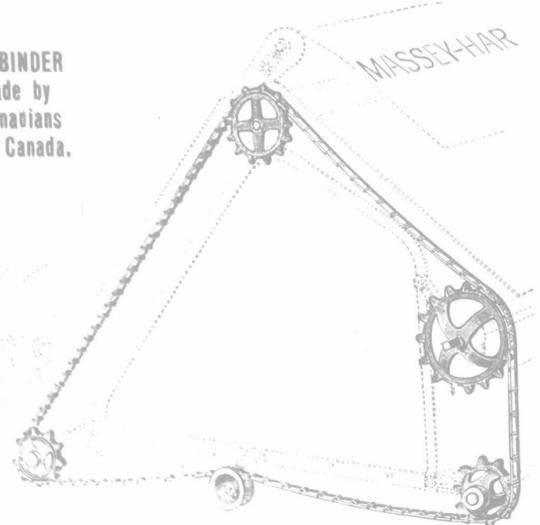


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**GOSSIP.**

It is a far call from Chicago to Brandon, Minn., but a noted Clydesdale breeder, Mr. J. H. Smith, of that city, has just returned with the Gold Medal, the second prize of \$100, for a three-year-old, his made the trip, and his wife and two children accompanied him. The trip was made by a syndicate of Minn. and Wis. breeders.

The following Western men attended the annual meeting of the Dominion Breeders' Association in Toronto, Feb. 4th: Jas. Bray, Longburn, Ont.; Andrew Graham, Pomroy, J. J. Carberry, Carberry, Man., and J. A. Carberry, Alta.



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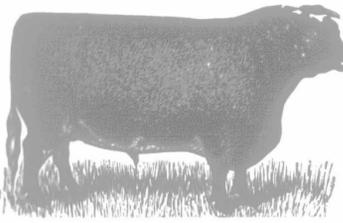
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Boars all sold. A few sows left. Order at once or you will be too late. Some choice White P. Rocks and Pekin ducks. Address:

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**DISPERSION SALE OF SHORTHORNS.**

The subscriber will sell at auction, at his farm at Britannia, Ont., 4 miles from Streetsville Junction, C. P. R.; 6 from Brampton, G. T. R. and C. P. R.; 7 from Port Credit, G. T. R., on

**THURSDAY, MARCH 20,**

his entire herd of 35 head of high-class registered Shorthorns—28 females and 7 bulls, including the stock bull, imp. Scotland's Fame—29663—, by Scottish Archer, dam Kibbean Beauty 3rd. 18 breeding cows, besides heifers in calf or with calf at foot. A grand lot of young bulls fit for service. Catalogues sent on application.

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Important Dispersion Sale

OF HIGH-CLASS HERD OF

HOLSTEIN - FRIESIAN CATTLE.

THE SUBSCRIBER WILL SELL AT PUBLIC AUCTION, AT HIS FARM, TWO MILES FROM NORVAL STATION, G. T. R., AND FIVE MILES FROM BRAMPTON, G. T. R. AND C. P. R., ON

THURSDAY, MARCH 6TH, 1902,

His entire herd of 26 registered Holstein cattle—22 females and 4 bulls. Included in this herd is the great cow, Beauty of Norval, which made the highest record for milk production and second highest for butter in the Pan-American Model Dairy test. The dam of this cow, three sisters and a son are also in the sale. The yearling bull, Sir Pieterje Posch, son of Alta Posch, who holds the record for a three-year-old cow, having given in a seven-days official test 586 lbs. milk, containing 21.661 lbs. fat, equal to 27 lbs. 1 oz. butter, heads the herd, and will be sold. A span of general-purpose mares by imp. Clydesdale sires, and in foal, will be sold, as well as other work horses, and all implements and chattels of the farm. The sale of these will commence at 10 o'clock, the cattle sale at 1 p. m. Teams will meet the 9.30 west and 11.20 east trains at Norval station. The whole will be sold without reserve, as the owner has leased his farms. Terms.—For cattle: 8 months' credit, on approved joint notes. —om

CATALOGUE SENT ON APPLICATION.

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FOR supplementing the supply of whole milk or for enriching separated or skimmed milk, or if necessary for raising the calves without any milk whatever after a few weeks old. It is the most popular calf food on the market.

Price: 50-lb. bag, \$2.25; 100-lb. bag, \$4.00; f. o. b. Brandon.

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Latest detective stories.

Six 10 cent ones for 25 cents. A sample love story to ladies for 1-cent stamp for postage. Red Star News Company, London, Canada.

12 SHORTHORN BULLS.

ALL UNDER TWO YEARS OLD.

PRICE, FROM \$100 UPWARDS.

At the Toronto Industrial, 1900, the herd was awarded first for aged cows, three-year-old cows, two-year-old heifers, sweepstakes for female any age, first for herd (bull and four females), and first for breeder's herd.

Yonge Street trolley cars, from Union Station, Toronto, pass the farm several times a day.

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IT PAYS TO ADVERTISE IN THE FARMER'S ADVOCATE.

DR. PAGE'S ENGLISH SPAVIN CURE

For the cure of Spavins, Ring bone, Curbs, Splints, Windgalls, Capped Hoof, Strains or Bruises, Thick Neck from Distemper, Ringworm on Cattle, and to remove all unnatural enlargements.

This preparation (unlike others) acts by absorbing rather than blister. This is the only preparation in the world guaranteed to kill a Ringbone or any Spavin, or money refunded, and will not kill the hair. Manufactured by DR. FREDRICK A. PAGE & SON, 7 AND 9 YORKSHIRE ROAD, LONDON, E. C. Mailed to any address upon receipt of price, 2/6 each in agents.

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Clydesdale Stallions FOR SALE.

One seven-year-old One three-year-old Three two-year-olds

Also a few horses and fillies of good quality. I. Devitt & Sons, Freeman P. O., Ont. Burlington, June 10, 1901.

Wm. Brash, Ashburn, Ont., BREEDER OF CLYDESDALE HORSES and SHORTHORN CATTLE.

GOSSIP.

The handsome new catalogue of the Prairie State Incubator Co., just received, is a large volume, pages 84 by 11 1/2, printed in two colors throughout, with several handsome colored inserts and more than fifty full-page groups showing scenes on poultry farms, besides numerous smaller illustrations. A full description is given of the Prairie State Incubators and Brooders, and a complete report of their show record. Another attractive thing about the catalogue is that while it is said to have cost probably \$15,000 to print the first edition, a copy will be sent free to any one interested in poultry. Write to Prairie State Incubator Co., Homer City, Pa., and mention this paper.

Mr. O. Sorby, Woodlands Horse Stock Farm, Guelph, Ont., writes: I have just sold the two-year-old Hackney stallion, "Guelph Performer," to the Messrs. Hastings Bros., of Crosshill, Ont. He was shown for the first time last fall, and won first prize at Toronto, London, and Ottawa. At Ottawa he competed against horses from the celebrated American stud of Dr. Seward Webb. His dam, "Miss Baker," has won six silver medals at Toronto; also numerous other prizes at London, Ottawa, and New York. The sire, "Square Shot," is well known here, and his pedigree is a sure guarantee that he will produce high-steppers, which are so keenly sought for at the present time.

A. B. Armstrong, Codrington, Ont., in ordering a change of advertisement, reports an extra good season's trade in both Yorkshire swine, poultry and collie dogs, and is already booking orders for eggs for hatching from superior stock. Our imported W. Wyandottes and Barred Plymouth Rocks are splendid specimens of their respective breeds. Mr. Armstrong adds: Our Yorkshires were selected in the first place for length, smoothness, and easy-feeding qualities, and have not disappointed us. Our stock boar, Summer Hill Model, has proved to be one of the best investments we ever made. He stamps his likeness on all his progeny, and gives them the right bacon type. The collies we are offering are a handsome lot, the dam's breeding being first-class, and, better still, she is a splendid worker. The puppies are sired by Imported "Roughlan Sandy." The incubator we are offering for sale is a 150-egg Safety, and is in first-class condition; as good as new, and does good work in hatching.

REMARKABLE TEST FOR BROOD MARE.

Blue Earth, Minnesota.

To Farmers and Breeders: I think it my duty to let others know the good I received by using "International Stock Food." I had a nice mare and wanted a colt from her, but it seemed I could not get one, as she aborted for 3 successive years, at 7 months. Just at the start of the 4th year of breeding her I received an "International Stock Food" and found in it a guarantee that "International Stock Food" would prevent abortion. I bought some of it and fed as directed, and my mare raised the nicest colt I have ever seen. I used it right along and it kept mare and colt in very fine condition. "International Stock Food" is a great preparation for all breeding animals. Very truly yours, Edward Katzung, Sr.

(Copy.) Our \$1,000 Cash Offer.

We hereby agree and bind ourselves to pay anyone \$1,000 in cash to prove that our testimonials are not genuine, unsolicited statements received through mail from parties who have thoroughly tested "INTERNATIONAL STOCK FOOD." The originals are on file in our office, subject to your examination. Capital paid in, \$1,000,000. INTERNATIONAL STOCK FOOD CO., 530 Minneapolis, Minn.

DIRECTUM (2.054).

The Standard-bred trotter, Directum (2.054), portrayed in our Horse Department of this issue, is a game race-horse and a sire of extreme speed, several of his colts showing a gait of 2.10. Several of them sold as yearlings for \$2,000 each, one three-year-old mare, Emma Winters (2.17), bringing \$8,000 at a public auction. The family of Directum has been furnishing world champions for over one-third of a century. Commencing with the great Dexter (2.174), Jay Eye See (2.10), Phallos (2.134), Nancy Hanks (2.04), Direct (2.09), etc., and then Directum, "the noblest Roman of them all." He held the world's stallion trotting record from 1893 to 1900, and was finally overtaken by a horse of his own blood, but who had two years more of careful training, being six years old before he reached the mark set by Directum as a four-year-old. He was raced very hard and often as a four-year-old, and won 13 world records at that age. He was purchased at \$12,000 by the International Stock Food Company, of Minneapolis, Minn., as head of their farm stud. They also own the trotting stallion, Bottomwood (2.17), sired by Newwood, dam by Manbrino Boy, and the trotting stallion, International King, sired by St. Vincent (2.13), dam by Chimes, and the trotting stallion, International Prince, sired by Island Wilkes (2.137), dam by Florida J. Hambletonian Jr. Any reader of the "Farmer's Advocate" writing the International Stock Food Co. stating how many horses he owns or breeds, will receive a copy of Directum and a lithograph in six colors.

Horse Owners

Look to your interests and use the safest, speediest and most positive cure for ailments of your horses, for which an external remedy can be used, viz.

GOMBAULT'S CAUSTIC BALSAM

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SECOND ANNUAL ONTARIO PROVINCIAL AUCTION SALE

OF PURE-BRED CATTLE AND SWINE will be conducted under the auspices of The Dominion Cattle, Sheep and Swine Breeders' Associations

at GUELPH, ONT., FEB. 26th, 1902.

Selected stock. Nothing but good representatives of each breed will be allowed to enter and be put up for sale. Orders to buy may be placed with the Secretary, and will be honorably discharged.

Reduced Passenger Rates. Special Rates to Buyers.

A grand opportunity for anyone wishing to procure registered stock. For copy of rules, catalogue and full particulars apply to

A. W. SMITH, President, Maple Lodge, Ont. A. P. WESTERVELT, Secretary, Parliament Bldg., Toronto, Ont.

FOR SALE: ONE PURE-BRED CLYDESDALE STALLION.

A first-prize winner at Toronto as a three-year-old. For full particulars address: W. J. CHURCH, ARTHUR, ONTARIO.

FOR SALE: A Pure-bred Clydesdale Stallion

Bred from imported stock; five years old; brown in color. GEORGE MARTIN, CROMARTY P. O.

FOR SALE: CLYDESDALES and SHORTHORNS.

Stallions from sucking foals up. Brood mares and fillies of superior quality and breeding. A few grand young Shorthorn heifers, bred in the purple. Special mention, the great four-year-old stallion "Prince Lyon." THOS. GOOD, Richmond P. O., Ont. R. R. Station, Stittsville, C.P.R.

CLYDESDALE AND HACKNEY STALLIONS AND MARES

FOR SALE: THE CLYDESDALE STALLION

CHARMING LAD 2923

Rising 3; large size and very smooth; has won 6 prizes and a gold medal at Ottawa Exhibition. LORD STANLEY 2537, rising 2, also a prizewinner. CLOTH OF GOLD 2959, 5 years old; first-prize winner at Toronto and first and sweepstakes at London. Also brood mares and a number of very fine foals of both sexes. TWO HACKNEY stallions; also two mares rising 4 and 5 years old; large, handsome, high-steppers, well broken to drive. Size, action and quality combined in all. Inspection invited.

O. SORBY, GUELPH, ONTARIO.

WM. SMITH, COLUMBUS, ONT.,

IMPORTER AND BREEDER OF

Clydesdale Horses & Shorthorn Cattle

ZANIBAR PAINT—Killing two birds with one stone. The farmer who procures Zanibar Paints and implements with Zanibar Paints. He is saved the expense of buying new implements and painting his buildings, and adds a handsome profit to the prosperous appearance of his possessions. The results are beyond question. The Zanibar Paint Co., of Toronto, Ont., make a specialty of Zanibar Paints for this purpose at a price within the reach of all.

WANTED A Practical Shepherd. W. H. GIBSON. POINT CLAIRE P. O., P. C. Huntlywood Farm. Ont.

SHORTHORNS.

TIORNSHILL HERD. ESTABLISHED 27 YEARS. Imp. Prime Minister and Sailor Champion now at head of herd, which are all bred on straight Scotch lines, and are of the up-to-date kind. Present offering: some choice young bulls.

REDMOND BROS., Millbrook Sta. and P. O.

GOSSIP.

IMPORTANT SALE OF HOLSTEINS IN SIGHT.

Dairymen throughout the Dominion and the United States will be interested in the announcement in our advertising columns of the dispersion sale by auction, without reserve, on March 6th, of the entire herd of 26 head of high-class Holstein-Friesian cattle belonging to Mr. William McClure, Norval, Ont., at his farm, two miles from Norval Station, G. T. R.; five miles from Brampton, G. T. R. and C. P. R., and 20 miles west of Toronto. It is rarely that so good an opportunity offers to secure at one's own price selections from so notable and useful a herd. The herd was established some 12 or 15 years ago, the foundation stock having been carefully selected from leading Canadian and American herds, and high-class bulls of the best breeding and character have been continuously used in building up and improving the cattle in dairy orn and performance at the pail till there are few herds on the continent to-day more uniform in type or of higher average capacity in dairy performance. Those who watched the work of the cows in the Pan-American Model Dairy test last year could not but be favorably impressed with the excellent record of the Holsteins from start to finish, standing steadily at the top of the list in milk yield, in milk solids, and in net profit in the production of milk solids, and evidencing clearly their ability to hold out well for a lengthened term of lactation.

Mr. McClure's great cow, "Beauty of Norval," 1401, included in this sale, a model dairy cow in type, conformation and performance, made in the six-months test at the Pan-American the highest milk record of the 50 selected cows of ten different breeds in "The Model Dairy," and stood second in butter production, having yielded in the six months, under adverse conditions, 3,140 lbs. of milk and 328 lbs. of butter. She is now in the prime of life, being only seven years old. She was sired by Siepkie's Mink Mercedes Baron 31, and is out of Auggie Lady of Luraine 378, and is now in calf to the grand yearling bull, Sir Pietertje Posch, now at the head of this herd and in the sale, a son of the noted young cow, Alta Posch, who holds the world's record for a two-year-old and a three-year-old cow, having given in an official 7-days test, at 2 years 11 months and 28 days old, 21 days after calving, 586 lbs. of milk, an average of over 83 lbs. per day, containing 21.661 lbs. fat, or equal to 27 lbs. 1 oz. butter in a week, 80 per cent. fat. This young bull was sired by Worthemall 3rd's Sir Pietertje 1243, and the dam of Alta Posch is the great cow, Altje Posch 4th 65, who holds the highest record in a public test, having given in two days, at the Provincial Dairy Show in 1900, 114 lbs. milk in 48 hours, testing 4.28 per cent. butter-fat.

There are included in this sale the dam of Beauty of Norval, three of her sisters, a two-year-old daughter, and a capital one-year-old son, sired by Baron Witzyde, and most of the herd are bred deeply in the same prepotent blood lines, while many of the females are in calf to this rarely, richly-bred bull, Sir Pietertje Posch. Space will not admit of individual mention of all the good things in the herd, but suffice it to say there is nothing inferior in it, and scarcely one that does not rank well above mediocrity. The sale will be entirely without reserve, as Mr. McClure has leased his farms and is retiring from farming. The prospects for the dairy business will warrant dairymen in seeing this opportunity to secure some of the best dairy stock available.

E. DeWitt & Son, Freeman, Ont., write: "Offering of Clydesdales includes our stock horse, Grandeur 2nd 2216. He is not only one of the largest Clydesdales in Canada, but is also a horse of fine quality, and has proved himself a getter of the right sort of draft horses, and is just the horse to get the big geldings that are now in such demand. Nickel Steel is a fine rich bay, with white face and hind feet, a low-set, thick coat, with strong, flat, clean bone, heavy muscles, and as his name indicates, a strong constitution. He is a grand horse for breeding up, where the other horse might be too large. The two-year-olds are a good smooth lot of strong-boned colts, and will make big horses of the right kind. The mares are in good breeding condition, of the low, compact type, with good feet and plenty of milk and good action. Here are a few others that are noticeable throughout the herd: Good sound feet; strong, deep chest; deep chested; strong muscular development; deep chested; short, thick necks; broad loins; closely fitted; and good barrels, with good legs.

Holstein-Friesian Breeders.

The nineteenth annual meeting of the Holstein-Friesian Association of Canada was held at the Balmer House, Toronto, Feb. 4th. Some of those present were: Messrs G. A. Gilroy, Glen Buell, Jas. Rettie, Norwich; S. R. Beck, South Cayuga; R. S. Stevenson, Ancaster; A. C. Hallman, New Dundee; M. Richardson, J. W. Richardson, Caledonia; G. W. Clemons, St. George; Wm. Suhring, Sebringville; J. H. Patten, Paris; W. G. Ellis, Toronto; Alfred Rice, Currie's; Geo. Rice, Currie's; Reesor, Locust Hill; Adams, Carleton West; H. Welsh, Weston; Rife, Hespeler; Macklin, Streetsville; Clarkson, Summerville; Wm. McClure, Norval; W. A. Clemons, Ottawa; W. H. Simmons, New Durham.

The annual report showed the Association to be in a very flourishing condition.

ANNUAL REPORT FOR 1901-02. Registrations of animals under one year (members) 460. Registrations of animals under one year (non-members) 119. Registrations of animals over one year (members) 88. Registrations of animals over one year (non-members) 11. Registrations of imported animals 10. Re-registrations of Canadian-bred animals 2. Duplicate certificates of registry 4. Total 694. Total last year 677. Transfers for members 211. Transfers for non-members 70. Transfers (after 90 days from date of sale) 60. Total 341. Last year 279. Total bulls now registered 2,251. Total cows now registered 3,517. Total bulls now transferred 871. Total cows now transferred 1,343. Twenty-two new members have joined the Association during the year.

FINANCIAL STATEMENT.

Receipts. Balance from last audit \$ 816 14. Registry and transfer fees 873 70. Membership fees 105 00. Annual dues 109 00. Sale of Herdbooks (Vol. I.) 5 25. Interest 9 55. Total \$1,918 64. Disbursements. Salary, Secretary-Treasurer \$ 300 00. Special prizes 145 00. Expenses, Executive Committee, etc. 76 73. Dominion Cattle Breeders' Association 60 50. Printing minutes, certificates, etc. 44 75. Postage stamps 32 00. Stationery 5 75. Sundries 1 75. Balance on hand 1,252 16. Total \$1,918 64. Copies of Herdbook on hand: Vol. I., 70; Vol. II., 2; Vol. III., 57; Vol. IV., 60. Total, 189.

The officers were elected as follows: A. Gifford, Meaford, president; Jas. Rettie, Norwich, 1st vice-president; H. Bollert, Cassel, 2nd vice-president; R. S. Stevenson, Ancaster, 3rd vice-president; A. C. Hallman, New Dundee, 4th vice-president. The directors appointed for two years were Geo. Rice, Currie's, and G. A. Gilroy, Glen Buell. Messrs. Patten and Suhring were re-elected auditors, and G. W. Clemons, St. George, secretary-treasurer.

A grant of \$100 was made to the Provincial Winter Fair; \$100 for Toronto Industrial; \$25 for Maritime Winter Fair; \$25 for St. John or Halifax; \$25 for Brandon; and \$25 for New Westminster, B. C.

A grant of \$5.00 was made for each cow that is accepted in the Record of Merit. An additional prize of \$5.00 was made for the cow standing highest in each class, there being four classes, as follows: Two-year form; three-year form; four-year form, and full-age form.

Messrs. Wm. G. Ellis and Edward Adams, Carleton West, were appointed delegates to Toronto Fair; Messrs. Clemons and Bollert to London; Messrs. Gilroy and Joseph Fletcher to Ottawa; Mr. Stanley A. Logan to Halifax and St. John; Mr. Jas. Glennie to Winnipeg. Messrs. Stevenson and Bollert were recommended as judges for Toronto Fair; Suhring and Beck for London; Hallman and Bollert for Ottawa; Bollert and Rettie for Winnipeg and Brandon.

A long discussion took place on the motion that the fee on animals imported from the United States be raised, and it was decided to charge a registration fee of \$5.00 on females and \$10.00 on males on all such imported animals.

Deep regret was expressed at the death of Mr. E. D. Tilson, a member of the Association, and a resolution was passed that a letter of condolence be forwarded to the family.

The meeting was closed by an interesting address on "How to improve our breed of cattle by breeding and feeding," by Mr. Geo. Rice.

Dominion Shorthorn Breeders' Annual Meeting.

The 16th annual meeting of the Dominion Shorthorn Breeders' Association was held in Toronto on Feb. 4th. The President, Mr. Robt. Miller, presided, and in his opening address congratulated the members on the prosperous state of the industry. The heavy snow-storms of the previous few days had rendered travelling difficult, and the attendance was consequently not as large as last year, but some 200 members were present, including several from Manitoba, among whom were Messrs. Andrew Graham, Pomeroy; Jas. Bray, Longburn, and J. G. Barron, Carberry; and Alberta was represented by Mr. John A. Turner, Calgary. The Secretary's report showed that the registrations are steadily increasing, the increase in Vol. 17, issued last year, being 2,582 in excess of the record of the previous volume. More registered cattle had been sold and shipped from Eastern Canada in the last year than in any previous year, the greater number going to the U. S., but a great many to the Northwest and British Columbia.

The financial statement showed that the receipts during the year were \$12,131 and the expenditure \$12,880. The credit balance on December 31st last was \$7,471. One thousand two hundred and fifty-five yearly subscriptions were received, and 8,874 registration fees for pedigrees and 3,019 transfer fees were paid, both being largely in excess of the previous year.

The report of a committee composed of President Miller, Richard Gibson, W. D. Flatt and Arthur Johnston was adopted unanimously, as follows, after a brief discussion: "We, the members of the Dominion Shorthorn Breeders' Association, at our annual meeting, resolve that the tubercular test is unreliable, unnecessary, and in many cases injurious, and that we urge the discontinuance of the compulsory use of the toxine by the Dominion Government Department of Agriculture. It was resolved that we also fail to see the object now of requiring a 90-days quarantine on imported cattle, as there is no contagious disease in Great Britain requiring its enforcement to such length of time.

Upon motion of Capt. T. E. Robson, M. P. P., seconded by Mr. H. Smith, it was resolved that the matter of changing the Canadian standard of accepting pedigrees recorded up as high as Volume 30 in the English Herdbook take effect when the American Association adopt the same rule.

The Association also passed a resolution asking the directors of the World's Show at St. Louis to appoint Mr. W. E. Skinner as Live Stock Director of the Exhibition. A motion favoring the condensing of pedigrees and the use of smaller type in Vol. 18 of the Herdbook, and that the list of transfers be omitted, was carried, as was also a motion granting \$100 from the funds of the Association to charge the salary of a man to take charge of shipments of registered stock to the West. On motion, it was resolved that new members be given the volume of Herdbook containing the pedigrees of the dams of the young animals recorded by them, and that subsequently, as each year's membership fee is paid, they be given the volumes in succession as published.

Officers elected for 1902: President, Robert Miller, Stouffville, Ont.; 1st Vice-President, William Linton, Aurora, Ont.; 2nd Vice-President, W. G. Pettit, Freeman, Ont.; Vice-Presidents from Provinces: A. W. Smith, Maple Lodge, Ont.; E. G. Boyer, Georgetown, P. E. I.; W. H. Ladner, Ladner's Landing, B. C.; James A. Cochrane, Hillhurst, Que.; George A. Fawcett, Sackville, N. B.; Jno. A. Turner, Calgary, Alta.; G. A. Archibald, Truro, N. S.; W. A. Heubach, Touchwood Hills, Assa.; J. E. Smith, Brandon, Man. Directors: James M. Gardhouse, Highfield; T. E. Robson, M. P. P., Ilderton; Edward Jeffs, Bondhead; H. Smith, Hay; Thomas Russell, Exeter; W. G. Cargill, Cargill; S. Dymont, Barrie; John Isaac, Markham; Geo. Raikes, Barrie; C. M. Simmons, Ivan; W. J. Biggins, Clinton; Wm. B. Watt, Salem; James Tolton, Walkerton; W. D. Flatt, Hamilton; John Davidson, Ashburn, Executive and Finance Committee: Robert Miller, W. D. Flatt, J. Smith, Arthur Johnston, W. G. Pettit. Delegates: To Dominion Cattle Breeders' Association—John Isaac, Markham and T. E. Robson, M. P. P., Ilderton; Industrial Exhibition, Toronto, Hon. John Dryden and Robert Miller; Western Fair, Henry Smith, Hay, and C. M. Simmons, Ivan; Central Fair, Ottawa, R. R. Sangster, Lancaster, and D. McLaren, Dunmore; Provincial Exhibition, Nova Scotia, C. W. Holmes, Amherst, and E. C. Dickie, Fort William; Provincial Exhibition, New Brunswick, Senator Josiah Wood and George A. Fawcett, Sackville; Provincial Exhibition, Prince Edward Island, C. G. Gardner, Charlottetown, and E. G. Boyer, Georgetown; Winnipeg Industrial Exhibition, Hon. Thos. Greenwood, Crystal City, Man., and W. S. Lister, Middlechurch; Secretary and Editor, Henry Wade, Parliament Buildings, Toronto.

PLANT TREES.—Don't wait till the last minute before ordering trees for spring planting. It will pay you to make your selection early. See advertisement of the Winona Nurseries, Winona, Ont., and write them for their catalogue and prices.

Canadian Ayrshire Breeders' Annual Meeting.

W. F. Stepien, Trout River, Que., the President, presided at the annual meeting of Ayrshire Breeders' Association in Toronto on February 5th. He considered the Ayrshire the best commercial cow, eminently fitted for the dairy. Canadian Ayrshires kept up their reputation at the Pan-American, where they won 75 per cent. of the prize money offered for this breed. He advised an early selection of animals for St. Louis.

According to the Secretary-Treasurer's report, 1,476 animals were recorded in 1901, a trifling decrease when compared with the registrations of the year before, but the membership increased from 190 to 226; \$85.50 was paid to the Dominion Cattle Breeders' Association to make the members of the Ayrshire Association members of it. This was given for prizes at the Provincial Winter Fair for Ayrshires. The meeting approved of having three judges at the Toronto Industrial, two to act in each section and one as referee, alternately, and also recommended Mr. Skinner for the post of Director-General of Live Stock at the St. Louis Exposition. A good exhibit will be sent there, if the Dominion and Provincial Governments give as good transportation facilities as were given to the Pan-American. The Dominion Government was asked to accept the nomination of the judges from the Association for the St. Louis Show. It was decided to discontinue the use of ear tags. The Secretary was instructed to confer with the Live Stock Commissioner and Secretary of the Cattle Breeders' Association as to the payment of \$250 promised to the Ayrshire Association.

The list of officers for 1902 is as follows: President, F. W. Hodson; Vice-President, Senator Owens, Montreal. Vice-Presidents: For Ontario, N. Dymont, Clappison's Corners; Quebec, R. Ness, Howick; Manitoba, Geo. Steele, Glenboro; Assiniboia, C. W. Peterson, Regina; British Columbia, A. C. Wells, Chilliwack; Prince Edward Island, Hon. T. Rogers, Charlottetown; Nova Scotia, F. Black, Amherst; New Brunswick, M. H. Parlee, Sussex. Directors for Western District: W. W. Ballantyne, Stratford; Wm. Stewart, Menie; A. Hume, Menie; A. Kains, Byron; J. C. Smith, Hintonburg; J. G. Clark, Ottawa; F. W. Hodson, Ottawa. Executive Committee for Eastern Division: R. Hunter, Senator Owens, Napoleon LaChapelle. For Western Division: Wm. Stewart, W. W. Ballantyne, J. C. Smith, Revising Committee: F. W. Hodson, Senator Owens, J. C. Smith, R. Ness, H. Wade. Secretary-Treasurer, H. Wade. Delegates: To Toronto Industrial, W. W. Ballantyne and Wm. Stewart; London, A. Kains (Byron) and Geo. Hill (Delaware); Ottawa, F. W. Hodson and Jas. Yuill (Carleton Place); Sherbrooke, T. D. McCallum (Danville), R. Ness (Howick), Napoleon LaChapelle, and A. Drummond; Cattle Breeders' Association, W. W. Ballantyne and H. Wade. Mr. David Beaming, Williamsstown, was unanimously made a life member.

The expert judges for fairs were selected as follows: Toronto Industrial—Prof. J. H. Grisdale, Ottawa; A. Kains, Byron; W. W. Ballantyne, Stratford. London—Geo. McCormack, Rockton; Thos. Bradshaw, Ottawa. Ottawa—A. Kains; T. D. McCallum, Danville, Que. Sherbrooke—Jas. Boden, Ste. Anne de Bellevue; A. Drummond, Kineston—J. H. Douglas, Warkworth. Quebec—Horace Lamarche, St. Esprit, Que.; Jno. Morin, Belle Riviere, Que.

B. H. Ball & Son, Brampton, Ont., write: "Mr. A. E. Aiken, of 'Woodlawn Farm,' Hagersville, Ont., has purchased one of the Jersey bulls advertised by us, and the following letter received from Mr. Aiken explains itself: 'The young bull, Royal Prince, arrived in splendid condition. He is feeding well, and is quite at home I am perfectly satisfied with him, and believe he will make a grand sire. Four young bulls bred by us are heading herds in British Columbia. Two sons of Brampton's Monarch are heading the leading herds in Manitoba. We have also sent one to Quebec, two to Nova Scotia, three to Newfoundland, and several to the United States, besides the numerous herds in Ontario that are well headed by bulls from the Brampton herd. This growing trade is not to be wondered at when one reviews the records of this herd at the leading Canadian fairs.'

SHORTHORNS AT AUCTION.

Mr. F. A. Gardner, Britannia, Ont., announces in our advertising columns the dispersion sale of his entire herd of 35 head of Shorthorn cattle at his farm near Streetsville Junction, C. P. R., on Thursday, March 20th. The herd is composed of useful cattle of good sound Scotch and Scotch-topped families, many of the cows being excellent milkers. The imported bull, Scotland's Fame 26063, a grandson of the noted Scotch Archer, and of the favorite Kibbears Beauty family, heads the herd, where he has been in service for three seasons, and has left his impress on the young stock, which are uniformly of the low-set, thick-fleshed sort. The cows, of which 18 are of breeding age, as well as a number of heifers, are in calf or have calves at foot. There are 7 young bulls of considerable size, and the auction will be held at 10 o'clock, and extended to the afternoon will be given to those who wish to bid. In the meantime, a list of the animals should be sent for the catalogue, and written orders should be mailed to applicants for catalogue and prices.



### A Flower Garden Free

We want 50,000 new customers to use our seeds. Send your name with Ten Cents, and state where you saw this advertisement. We will mail our Handsome Catalogue for 1902, and include, Free of Charge, our Special 50 cent Flower Seed Collection—Asters, Giant Comet; Morning Glory, new Japanese; Sweet Peas, large flowering; Poppy, new double; Verbena, Mammoth, enclosed in a Coupon Envelope.

#### Envelope Worth 25 Cents.

The empty envelope, when returned, will be accepted as 25 Cents cash payment on any order amounting to one dollar or upwards, for Seeds selected from our catalogue. Your opportunity for a pretty garden without cost.

The Steele, Briggs Seed Co., Limited, Toronto, Ont. "Canada's Greatest Seed House"

## MAPLEWOOD HACKNEYS.

PROPERTY OF FREDERICK C. STEVENS, ATTICA, N. Y.,

Have won more challenge cups, more championships, more first prizes, and more value in prizes during the past seven years than all the other Hackneys of America combined.

### THIS IS THE PLACE TO BUY FOUNDATION STOCK.

Stallions of all ages, mares in foal, young mares and fillies. The best three carriage horse sires in America at the head of this stud: Langton Performer, Clifton 2nd, and Fandango.

SEND FOR CATALOGUE TO E. T. GAY, MANAGER, ATTICA, N. Y.



LATELY IMPORTED A FRESH LOT OF

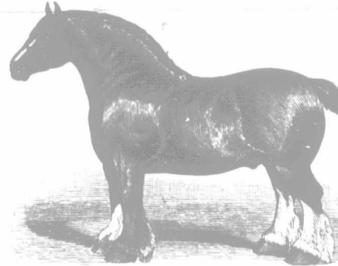
## Glydesdale Stallions,

Comprising sons and grandsons of many of the most noted Scotch showyard winners and sires, all in the pink of condition without surplus flesh, and personally selected to meet the best Canadian markets, having, without exception, the best of bone, hair, feet, and action, coupled with true Clyde character. I will make further importations as the times demand. Inspection invited. Prices consistent with quality.

ROBERT GRAHAM, Ringwood P. O., Ont.

Stouffville Station, G. T. R., and telegraph office.

## Imported Stallions for Sale.



FOURTH consignment, per steamship from Glasgow, due to arrive end of February, 1902.

DALGETY BROS., DUNDEE, SCOTLAND, the largest importers and exporters of horses in Canada, have on hand just now a choce selection of above, including several prizewinners. Our fourth consignment this season, Largest and best lot from Glasgow show. They combine size, quality and action, and all good colors; age, from two years upwards; and will be for sale at

### BLACK HORSE HOTEL, FRONT STREET, TORONTO, ONT.,

on Wednesday, March 5th, for one week; after that at our own stables, London, Ont. Any one in need of a good stallion should not miss seeing our stock before buying. Prices right. Apply.

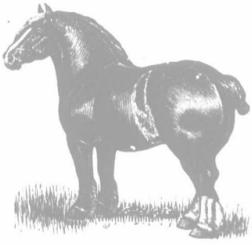
JAMES DALGETY, 229 HYMAN STREET, LONDON, ONTARIO.

## JOHN BRIGHT, MYRTLE, ONTARIO.

BREEDER OF

### Clydesdale Horses

### AND SHORTHORN CATTLE.....



#### SHORTHORNS.

For Sale: 16 head of bulls and bull calves; also a large and choice lot of cows and heifers of all ages.

#### CLYDESDALES.

11 registered mares, 6 of which are in foal to such notables as Royal Cairnton, Prince Patrick and Lord Lyndock; also 2 young stallions.

Myrtle P. O. and R. R. Stn., G. T. R. and C. P. R.



We beg to call your attention to a new and indispensable article in

## Barclay's Patent Attachment

FOR THE CURB OF

### BALKING AND KICKING HORSES.

Will control any vice known to a horse. Invaluable for breaking-in colts. Can be adjusted in two minutes, and used with any harness, vehicle or implement. Sent, charges paid, to any part of Canada, with full directions for use, on receipt of price, \$5. Reliable representatives wanted. For further information, address

THE BARCLAY MFG. CO., Brougham, Ont.

## 4 Imp. Clydesdale Stallions

31 Imported Shorthorn Cows and Heifers. 7 Canadian-bred Cows and Heifers. 3 Imported Shorthorn Bulls. 5 Canadian-bred Bulls.

GEO. ISAAC & BROS., BOMANTON, ONT. CORNBURG STATION, G. T. R.

#### GOSSIP.

### Robt. Miller's Sale of Shorthorns.

The heavy snowstorms and high winds of the first days of February militated somewhat against the success of Mr. Robert Miller's sale of Shorthorns at Stouffville, Ont., on the 5th inst. The snowdrifts, which in many places made roads almost impassable and seriously delayed trains, doubtless prevented many who had planned to be present. The day was bitterly cold, making it almost impossible to follow the sale closely throughout, yet a good crowd of representative breeders and farmers, among whom were five or six Manitoba breeders, and as many from the States, found their way to the sale and took most of the animals at very satisfactory prices. No special preparation of the cattle for sale had been made, and while all were in good breeding condition, and hence in the best possible condition for buyers, the most of them would have sold much higher had they each carried two hundred pounds more of beef. No sensational prices were made, and none were expected, but the average of \$306 on those sold was considered a very fair result under all the circumstances. The highest price for a female, and the highest price for the day, was \$650 for the roan five-year-old cow, Imp. Broadhooks 20th, which fell to the bid of Mr. E. C. Attrill, Goderich, Ont. The highest-priced bull was Imp. Prince of the Forest, an exceedingly good roan coming two years old in March, and sired by the Duthie-bred bull, Squire Nonpareil, bought by J. & D. Chinnick, Chatham, Ont., at \$635. Mr. R. W. Barclay, of Iowa, as auctioneer, ably conducted the sale, and won golden opinions by his tact, courtesy, and cleverness. We give below a list of the animals sold, with their age and the prices and address of purchasers:

#### COWS AND HEIFERS.

- Golden Rose 2nd (imp.), 3 years; Geo. Harding & Son, Waukesha, Wis. \$525
Golden Rose 3th (imp.), 1 year; W. D. Platt, Hamilton. 400
Butterfly Queen (imp.), 2 years; John Miller & Sons, Brougham. 550
Duchess of Gloster F., 2 years; E. C. Attrill, Goderich. 250
Daisy Duchess of Gloster, 3 years; Arthur Johnston, Greenwood. 225
Village Rose, 2 years; E. C. Attrill, Goderich. 210
Village Bird, 5 years; W. D. Platt. 375
Lady Sirius, 8 years, and calf; Geo. Harding & Son. 225
Lady Clara 6th, 1 year; Arthur Johnston. 400
Lady Lavender, 1 year; Geo. Harding & Son. 400
Village Maiden, 1 year; Wm. Fishbeck & Son, Howell, Mich. 150
Missie White Stockings, 4 years; W. D. Platt. 325
Missie of Neidpath 10th, 10 years; W. D. Platt. 400
Lady Dorothy 12th (imp.), 5 years; Geo. Harding & Son. 525
Nonpareil of Riverview, 8 years; J. G. Barron, Carberry, Man. 125
Flower Girl 12th (imp.), 1 year; W. D. Platt. 175
Bracelet, 1 year; Wm. Fishbeck & Son. 260
Claret Princess 10th, 1 year; J. A. McHivray, Exford. 220
Princess Claret 10th, 3 years, and calf; W. D. Platt. 150
Claret Princess 6th, 6 years; Jno. McFarland, Woodstock. 175
Flora 92nd, 3 years; Hudson Fisher, Queenston. 385
Broadhooks 20th (imp.), 5 years; E. C. Attrill. 650
Pennan Broadhooks (imp.), 1 year; Jno. Miller & Sons. 350
Ness, 2 years; Geo. Harding & Son. 320
Claret Princess 11th, 2 years; R. Miller, Pickering. 180
Roan Buttercup 8th, 2 years; John Lee, Highgate. 170
Lovely Gem 3rd, 2 years, and bull calf; W. D. Platt. 500
Anna Millicent, 2 years; Geo. Harding & Son. 150
Claret Princess 14th, 8 months; J. Leask, Toronto. 175
Elysabeth, 5 years, and calf; E. Robson. 215
Burdock, Netting, 10 months; E. C. Attrill. 125
Duchess of B. 3rd, 3 years; Geo. Harding & Son. 250
Jewel 3rd year; John Miller & Sons. 200
Red Lady 1st year; John Miller, Pickering. 120

## OAKLAWN FARM

THE GREATEST IMPORTING and BREEDING ESTABLISHMENT IN THE WORLD.



### PERCHERONS, FRENCH COACHERS.

On hand upward of 500 HEAD.

Our late importations included the Principal Prize Winners at the Great Shows of France.

At the recent INTERNATIONAL LIVE-STOCK EXPOSITION at Chicago, the Oaklawn Percherons won every Championship, First Prize, and Gold Medal and every Second Prize in classes.

Notwithstanding the superior quality of our horses and the amply fair and certain terms of our breeding guaranty, backed by our well-known responsibility, it is a fact that our prices are lower than can be obtained elsewhere in America. Catalogue sent on application.

DUNHAM, FLETCHER & COLEMAN, WAYNE, DU PAGE CO., ILLINOIS

## CLYDESDALES

Shires and Hackneys.

OUR new importation of Clyde, Shire and Hackney stallions, comprising winners at leading shows in England and Scotland, arrived at our stables January 22nd. We have now over 20 imported stallions, all of which we are offering at living prices, including the champion Shire stallion, Belshazzar.

Bawden & McDonell, Exeter, Ont.

## Smith & Richardson

COLUMBUS, ONT., IMPORTERS OF

### CLYDESDALE STALLIONS.

Our latest importation of 4 stallions is the best we ever made, weighing from 2,000 to 2,200 lbs. and of the well-known Darnley and Prince of Wales breeding. We have a number of pure-bred mares; also some young Canadian-bred stallions and fillies. Write for prices.

Railway Stations: Oshawa, G. T. R.; Myrtle, C. P. R. Long-distance telephone at Columbus.

### IMP. CLYDESDALES AND AYRSHIRES.

The three iv p. stallions, Copyright, Baron Frederick and Baron Laing, and the Canadian-bred stallion, Laurentain, Ayrshires all ages; and poultry, utility breeds, Eggs for sale.

ROBT. NESS & SONS, Howick, Que., P.O. & Sta.

### Shires, Shorthorns, and Lecesters.

Young stock of both sexes for sale. Imported Prince Louis = 3208 = heads the herd. Write for prices or come and see them.

John Gardhouse, Highfield P. O., Weston, G. T. R. and C. P. R.

## Clydesdales

Two stallions for sale, rising two and three years old. Correspondence solicited.

Josiah Hallman & Sons, Washington, Ont.

## The Sunnyside Herefords.

Imp. Sunny Slope Tom 1st at head. The blood of Lord Wilton, Garfield, Grove 3rd, Beau Real and Diplomat represented. Special offering: 3 bulls, 8 to 14 mos; 6 young cows and heifers. Inspection and correspondence solicited. 2 choice registered Berkshire boars, price \$10.00 each.

O'NEIL BROS., Southgate, Ont. Lucan station, G. T. R. Ilderton station, L., H. & B.

### 6-POLLED ANGUS BULLS-6

Six young bulls, from 6 to 16 months old; prize-winners among them. All for sale.

Alex. McKinnon, Hillsburg P. O. and Station.

### HEREFORDS.

Seven bulls, from 12 months to 2 years old, by Clarion and Clarion 2nd, and out of dan s from imp. stock. Also a few choice heifers. Write for particulars.

R. J. MACKIE, Oshawa P. O. and Station.

### BULLS.

Prince of the Forest (imp.), 1 year; Geo. Harding & Son, Waukesha, Wis. 625
R. W. McKays, 10 months; Chas. 210
Grand old cow, 5 years; John 175
Village Bird, 5 years; Geo. 140
Harriet & Son

# CONSUMPTION

## Prevented and Cured.

Four marvelous free remedies for all sufferers reading this paper. New cure for Tuberculosis, Consumption, Weak Lungs, Catarrh, and a rundown system.

# FREE.

- Do you cough?
- Do your lungs pain you?
- Is your throat sore and inflamed?
- Do you spit up phlegm?
- Does your head ache?
- Is your appetite bad?
- Are your lungs delicate?
- Are you losing flesh?
- Are you pale and thin?
- Do you lack stamina?

These symptoms are proof that you have in your body the seeds of the most dangerous malady that has ever devastated the earth—consumption.

Consumption, the bane of those who have been brought up in the old-fashioned beliefs that this disease was hereditary, that it was fatal, that none could recover who were once firmly clasped in its relentless grip.

But now known to be curable, made so by the discoveries of that man whose name has been given to this new system of treatment.

Now known to be preventable and curable by following and practicing his teachings.

The new system of treatment will cure you of consumption and of all diseases which can be traced back to weak lungs as a foundation.

It is not a drug system, but a system of germ destruction and body building.

Not guesswork, but science. Not a step backward, but a stride out of the old ruts. The Slocum System consists of Four Preparations which act simultaneously and supplement each other's curative action.

You are invited to test what this system will do for you, if you are sick, by writing for a

**FREE TRIAL TREATMENT** and the Four Free Preparations will be forwarded you at once, with complete directions for use.

The Slocum System is a positive cure for Consumption, that most insidious disease, and for all Lung Troubles and Disorders, complicated by Loss of Flesh, Coughs, Catarrh, Asthma, Bronchitis and Heart Troubles.

Simply write to the T. A. Slocum Chemical Company, Limited, 179 King Street West, Toronto, giving post office and express address, and the free medicine (the Slocum Cure) will be promptly sent.

Persons in Canada seeing Slocum's free offer in American papers will please send for samples to Toronto. Mention this paper.

### Corn Planting

must be well and carefully done, as the future crop depends upon it. For all purposes, in any soil, on all kinds of ground nothing equals the



**SPANGLER CORN PLANTER.**

It saves time, labor, money and insures the crop. You know when it is working; you can see the corn on its way to the ground. Made with or without fertilizer attachment. New device for sowing peas, beans, cowpeas, corn, etc. We also make the famous Spangler Low-Down Grain and Fertilizer Drill. Write for catalog and etc.

SPANGLER MANUFACTURING CO., 518 Queen St., York, Pa.

## High-class Herefords

We have for sale the following choice young stock, which have been bred from imported and American sires. Intending buyers will do well to inspect the following: 18 young bulls, 2 aged bulls, 20 young heifers. Correspondence invited. -om

A. S. HUNTER, DURHAM, ONT.

## INGLESIDE HEREFORDS.

A few choice heifers and young bulls by **Mark Hanna**, sweepstakes bull at Pan-American.

Shropshire Sheep and Tamworth Swine.

**H. D. SMITH,** Compton, Quebec, Ont.

## HIGH PARK STOCK FARM.

GALLOWAYS of the choicest breeding and most fashionable strains. Inspection or correspondence invited. **A. M. & ROBERT SHAW,** P. O. Box 294, Brantford, Ont.

FOR SALE **ABERDEEN-ANGUS BULL** Nine months old. Sire Fairy Prince No. 307, dam Lyma No. 11. E. P. No. 123. For particulars apply or come to see. **JNO. J. BELL,** G. T. R. Station, Elm Dale, Ont. Waverley P. O.

### GOSSIP.

H. C. Graham, Ailsa Craig, Ont., advertises two young Shorthorn bulls, bred from good milking families, of the same strains as the young cow shown by them at the Provincial Dairy Show, Guelph, in Dec. last, and which did excellent work in that trial.

Dalgely Bros., Dundee, Scotland, have consigned to their Mr. James Dalgely, London, Ont., the fourth shipment of high-class Clydesdale stallions direct from the Glasgow Spring Show. This is described as the largest and best shipment the firm has made. The horses will be on view at the Black Horse Hotel, Toronto, March 5th, for a week, and after that at London, as per advertisement in this issue.

Cicely, the champion Shorthorn cow at the Toronto Industrial and Pan-American Exhibitions last year in the herd of W. D. Platt, Hamilton, and sold at his Chicago sale in November to J. G. Robbins & Sons, Horace, Ind., has produced a healthy roan heifer calf, sired by Imp. Consul, second-prize winner at the Highland Society Show in 1900, and sold by Mr. Platt last year to go to the Argentine Republic.

At a dispersion sale on Jan. 15th, of the herd of Holstein cattle belonging to M. J. Jones, Villa Nova, Norfolk Co., Ont., good prices were obtained, considering that the sale was only locally advertised. Several of the cows and heifers bringing from \$100 to \$150 each, and one, Daisy B. DeKol 3rd 2308, brought \$200, falling to the bid of Matt Richardson & Son, Caledonia, Ont., who secured five of the best in the sale.

D. Milne & Son, Ethel, Ont., write: "Our sales of Shorthorns for last month were: A pair of heifer calves, 12 and 13 months old, to Mr. W. H. Watt, Salem, Ont.; a young bull to James McQueen, Arthur, Ont.; a 24-month-old Rosebud heifer and a six-year-old cow to Robt. Miller, Stouffville, Ont.; a three-year-old Golden Drop cow and an eight-month-old calf to W. D. Platt, Hamilton, Ont. We have quite a lot of young heifers and cows of the most fashionable Scotch families. Also some young bulls: good color, etc.; lots of size and style.

Mr. H. D. Smith, Compton, Que., in ordering change of advertisement, writes: "I am glad to be able to report the Ingleside Herefords all doing well this winter. The calf crop is most promising—so far nearly 30 head, all by Mark Hanna, and more to come. The demand for bulls keeps up well, and at present I have only two left for sale over 12 months old. I have a nice lot of heifers all ages. Your paper continues to keep me busy answering enquiries for stock.

Mr. William Linton, Aurora, Ont., places an advertisement in this issue of imported Shorthorn bulls and heifers from his old-established Sheriff Hutton herd, descended direct from the famous herd of his late father, whose bulls made a great record as winners of championship honors at the Royal Show of England, and from which the late Mr. Cruickshank on more than one occasion selected his sires for the evolution of his noted herd. Mr. Linton's farm is readily reached from Toronto, being on the line of the Metropolitan Electric Railway, and only 24 miles north of Toronto, on Yonge street. Write him for particulars, or call on him.

**A GREAT HORSE SALE**  
At the late Fasig-Tipton sale of trotting horses in New York City, 585 head sold for \$220,265, an average of \$377. The topper was Oakland Baron (2,094), by Baron Wilkes, dam Lady Mackay by Silver Threads, to Jacob Ruppert, New York, for \$15,700. Oakland Baron cost the Penn Valley Farm \$10,000. The next highest horse was Advertiser (2,154), by Electioneer, dam Lulu Wilkes by George Wilkes, \$5,300. One old scrubby mare sold for \$35.

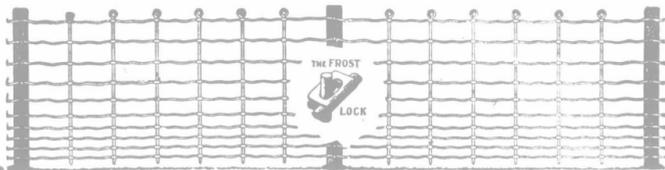
### SHROPSHIRE SPECIAL PRIZES.

Richard Gibson, Delaware, Ont., writes: "In case you may not have received a report of the specials offered by the Shropshire Sheep Breeders' Association, I send you a list. At Chicago International Live Stock Exposition \$600 is offered, viz.: Same classifications as last year, but five prizes of \$10, \$8, \$6, \$5, \$3 are offered to each of the eight classes, while the championships for best ram and best ewe are reduced to \$1 each.

Pat Sheep Division.—The classes of wethers and wether lambs each have five prizes, viz.: \$15, \$10, \$7, \$5, \$3; pens of lambs have \$15, \$10, \$7, \$5, and champion \$20. Grades and Crosses.—Three classes of wethers and wether lambs are assigned \$16, \$12, \$8, \$5, \$3; while the championship remains the same as last year, viz., \$20.

Indianapolis.—Same as last year, the Shropshire Association paying one third as much as the Indiana directorate offer.

Minnesota State Fair.—Same as last year, \$7, \$50.  
Toronto Industrial.—Flocks over a year and under, as last year. Four cash prizes are offered of \$12, \$8, \$6, \$4. Champion ram \$20; champion ewe \$20.  
Provincial Winter Fair.—\$100. Classification same as last year. To win in breeding classes it is not necessary to be American bred. Imported wethers cannot compete.



## The Frost 10 Wire and 6 Stay Fence

is the strongest and heaviest wire fence made—good openings for good agents; write us at once for terms. Ask for catalog.

THE FROST WIRE FENCE CO., WELAND, ONT.

## LESS LABOR AND MORE MONEY ON THE FARM.

BUY A LOW-DOWN, THICK-FLESHED

## Hillhurst Shorthorn Bull,

Scotch-topped, from Cumberland, Gloucestershire, or Canadian dairy strain, and raise DEEP-MILKING, BIG-FRAMED COWS AND BABY BEEF in nature's way. Many cows that do not pay board at the pail will give a handsome return in growing beef. Four handsome young bulls, seven to nine months old, reds and roans, by the celebrated imported sires, "Joy of Morning" and "Scottish Hero," for sale at moderate prices. Low freights.

M. H. COCHRANE, COMPTON CO., P. Q., G.T.R., 117 MILES EAST OF MONTREAL. HILLHURST STATION.

The Best Is Always Cheapest, Especially When the Cheapest Is Best.

YOUR FENCE WILL BE STRONGER, LAST LONGER AND COST LESS IF BUILT WITH A

## LONDON FENCE MACHINE.

Any one can weave 50 to 75 rods per day. The money saved on 50 rods will pay for a machine. A post card will bring you our prices and new catalogue with scores of pointers on building fence.

THE LONDON FENCE MACHINE COMPANY, LTD., LONDON, ONTARIO.

## BELLEVUE SHORTHORNS.

Both sexes. IMPORTED AND HOME BRED. All ages. Prizewinners at home and abroad.

**EDWIN BATTYE,** GORE BAY P. O. AND PORT. MANITOULIN ISLAND, ONT.

### FOR SALE:

Nine Shorthorn bulls, from 8 to 15 months old. Also pure-bred Clydesdale stallion, bred from imported stock, rising 2 yrs.; brown in color. **McDONALD BROS., WOODSTOCK, ONT.**

**JOHN DRYDEN,** BROOKLIN, ONTARIO.

BREEDER OF **CRUICKSHANK SHORTHORNS AND CHOICE SHROPSHIRE SHEEP.**

Choice Young Bulls and Ram Lambs for sale. Write for prices. -om

## Mercer's Shorthorns for Sale

BULLS and heifers from such families as Matchless, Clarets, Missies, Stamfords, Fashions, Buttercups, Isabellas, Princesses, Beatrices, and other choice families. Herd headed by Village Squire = 2993 = (he by Abbotford), assisted by a son of old Royal Sallor (imp.). Cows and heifers in calf. Four nice young bulls. Our herd stands at the head of the show-ring in this northern country. Over 40 head now in the herd. Intending visitors drop a card and they will be met at the C. P. R. station, Markdale, one mile from farm. Write for prices. No business, no harm. Our motto: "The best is none too good." -om

**THOS. MERCER, MARKDALE, ONT.**

**COCKERELS FOR SALE.** Barred Rock, W. Wyandotte, Buff and Black Orpington, and Houdan; also Pekin drakes. Prices, \$1.00 to \$2.00. Eggs, \$1.25 per setting. -om

**C. W. BEAVEN, PRESCOTT, ONT.**

## FOR SALE: TWO EXTRA GOOD SHORTHORN BULLS

Twenty months old; red; also younger ones, as well as a number of heifers or young cows in calf or calf at foot.

**YORKSHIRE SWINE—BOARS AND SOWS.** -om

**RICH. GIBSON, DELAWARE, ONT.**

## HIGH-CLASS SCOTCH SHORTHORNS

of the following families, for sale at moderate prices: Village Girls, Broadhooks, Beaufort Roses, Missies, Clarets, Marr Floras, Nonpareils, Minas and other choice families. Write for catalogue. Shropshire rams and ewes for sale as usual. -om

**ROBERT MILLER, Stouffville, Ont.**

### FOR SALE:

**SHORTHORNS:** 7 young bulls, from 8 to 10 mos. old, sired by Let's Lad and out of deep-milking cows. **H. E. HIND, Bagrville P. O. and Station, G. T. R. and M. C. R.** -om

### SHORTHORNS, SHROPSHIRE, COTSWOLDS.

We are now offering a number of heifers and heifer calves; a few bull calves; a number of cows; all bred in the purple and as good as the best. Also Shropshire and Cotswold sheep. -om

**JOSEPH BELL ESTATE, Bradford P. O. & Sta.**

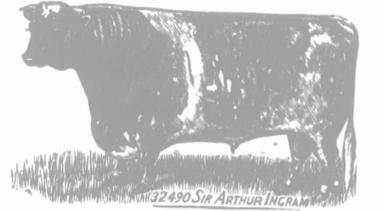
### WE HAVE FOR SALE

## 10 SHORTHORN BULLS

From 6 to 18 months old. Nearly all from imp. dams, and sired by the imp. Golden Drop bull, Royal Prince. Catalogue upon application. -om

**John Miller & Sons, Brougham P. O. CLAREMONT STATION, C. P. R. ONT.**

**Wm. Linton,** 1833 AURORA, ONT., 1902



Has for sale three imported Shorthorn bulls and a few heifers, various ages; also a few home-bred bulls fit for service. This is one of the herds that the late Amos Cruickshank used to resort to for stock bulls. Aurora is 24 miles north of Toronto, by Metropolitan R. R. Can leave Toronto any time during the day, and be back in Toronto in two hours and a half. -om

## J. & W. B. WATT, SALEM, ONTARIO

(POST AND TELEGRAPH OFFICE), BREEDERS OF—  
Shorthorn Cattle, Clydesdale Horses, Leicester and Oxford Sheep, and Berkshire Pigs.

Our herd contains such families as Matchless, English Ladys, Mildreds, Village Buds, Missies, Stamfords, Clarets, and Marthas. Royal Wonder = 3482 =, junior champion of 1901, now heads the herd. A choice lot of young bulls and a few females for sale. We offer our whole flock of Leicesters for sale—thirty five ewes and ewe lambs and fifteen rams.

Farms 2 miles from Flora Stn., G.T.R. and C.P.R., 12 miles north of Guelph.

PLEASE MENTION FARMER'S ADVOCATE.

"VIGILANT" NEST

SLIDING-ADJUSTABLE (Patented Can. & U.S.)

The only nest in the World which positively prevents hens from eating their eggs.

Simple-Effective-Durable

No springs - Eggs cannot break. The inclined nest gathers them safely in lower section. Prevents fleas, or parasites, etc. Everlasting, never failing, comfortable. Thousands now in use. Ask your dealer for it or write to L. P. Morin, Inventor, Mr. 12 Antoine St., St. Hyacinthe, Que.

Price 45c. each. AGENTS WANTED.



Family Knitter



Cheapest, Simplest, Best.

Price, \$8.00.

Write for circular.

Dundas Knitting Machine Company, DUNDAS, ONTARIO.

SHORTHORNS

Seven choice young bulls, from 9 to 12 months old. Also a few choice heifers, in calf to the grandly bred Marr bull, Spicy Marquis (imp.). JAS. GIBB, Brooksdale, Ont.

Bonnie Burn Stock Farm, 40 rods north of Stouffville Station, Ont., offers Shorthorn bulls and heifers with calf. Shropshire ewes with lamb, and Berkshire pigs. All at farmers' prices. Inspection invited. D. H. RUSSELL, Stouffville, Ontario.

SHORTHORNS.

Fashionably bred, of both sexes and all ages. Nothing reserved.

H. PARKER, Durham P. O. and Station.

SHORTHORNS (IMPORTED).

Five choice young bulls, from 6 to 10 months old, by Imp. Capt. Mayfly, out of Indian Chief dams.

JAMES A. CRERAR, Shakespeare P. O. and Station, G. T. R.

ROSEVALE SHORTHORNS

Are of the up-to-date sort. We have for sale a number of young bulls and heifers of all ages. Marengo Heydon Duke (imp.) heads the herd. W. J. SHEAN & CO. Caledon, Ont.

J. R. McCallum, Iona Station, Ont.

Offers young SHORTHORN BULLS and HEIFERS, of choice breeding, at reasonable prices. Iona Stn. on M.C.R., half a mile from farm.

Shorthorns

For Sale: Choice young cows and heifers in calf to Imp. bull. A few choice heifer calves. Bulls of various ages. Shropshire ram lambs, out of Imp. Mansell-bred ewes. Prices moderate.

G. A. BRODIE, BETHESDA, ONT. Stouffville Station, G. T. R.

Maple Lodge Stock Farm.

ESTABLISHED 1854.

SHORTHORNS.—First-prize milking strains, best Scotch breeding. Young bulls and heifers for sale.

LEICESTERS.—A grand lot of ewes, bred to our imported rams, and a few choice rams, now for sale. Also Bronze turkeys.

A. W. SMITH, Ailsa Craig Station, Maple Lodge P. O., G.T.R., 3 1/2 miles.

Shorthorn Bulls.

Scotch-bred, good color, lots of size and style - rare good ones. Also females all ages. Write for particulars, or, better, come and see them.

DAVID MILNE & SON, ETHEL P. O., Huron Co., Ont.

Ethel Station, G. T. R., half a mile from farm.

MILKING SHORTHORNS.

2 young bulls of good milking strains and of quality for sale. Come and see them at our farm.

H. C. GRAHAM, AILSA CRAIG, ONT.

GREEN GROVE HERD OF SHORTHORNS.

This herd is headed by the famous show bull, Spicy Robin - 28239 - bred by J. A. W. B. Watt, grandson of Imp. Royal Sater, and of the noted English family and contains such models as Nonpareil, Spicy Marquis, Myrtle, Fairchild, and many others. Short horns of both sexes. Also choice bits of other breeds, about 1000, old, for sale. Address: George D. Fletcher, Binkham P. O., Ont. Erin Shipping Station, C.P.R.

George D. Fletcher, Binkham P. O., Ont. Erin Shipping Station, C.P.R.

Erin Shipping Station, C.P.R.

A QUICK, SHARP CUT

DEHORNING KEYSTONE KNIFE

is the safest, quick, sharp cut. Cuts from four sides at once. Cannot crush or tear. Most humane method of dehorning known. Highest award World's Fair. Write for free circulars before buying.

Owned and Manufactured by R. H. MCKENNA, V. S., Picton, Ont.

Owned and Manufactured by R. H. MCKENNA, V. S., Picton, Ont.

GOSSIP.

The opening sale of Shire horses for the year in England was held at Tring Park on Jan. 15, when a large selection from Lord Rothschild's stud was disposed of. The average for forty head was £217 14s. 10d., which was considerably higher than that realized at the last sale at Tring, and has only twice been exceeded in the annals of the breed. The sixteen brood mares made the great average of £294 6s. 6d., the highest price being 750 gs., given by Mr. R. W. Hudson, for the champion mare, Alston Rose. Another noted prize mare, The Nun, went to the Duke of Westminster at 410 gs., and the same price was paid by Mr. Kearns for Windley Blossom. Other high prices were 440 gs. for Saxon Girl (Mr. P. L. Mills), 300 gs. for Dorothy Drew (J. Blundell Maple, M. P.), 410 gs. for Royal Rose (Mr. Victor Cavendish, M. P.), 410 gs. for Victoria's Queen (Sir J. Blundell Maple, M. P.), 410 gs. for Fortress (Mr. Hamar Toogood), 410 gs. for Birdall Stately (Mr. A. Henderson, M. P.), and 350 gs. for Sunset (the Marquis of Winchester).

Mr. Geo. D. Fletcher, Binkham, Ont., when ordering a change of advertisement, writes: "The Green Grove herd of Shorthorns was never in a more prosperous condition nor contained a choicer lot of young stock than at present. The heifers by Spicy Robin 28259, some of which are already bred, add greatly to the value of the breeding herd. Mysie 46th, of massive, fleshy, low-down type, has been a good show cow and is a valuable breeder. She is the dam of Miss Mysie, which sold at S. C. James' sale, Iowa, in Oct. last, for \$1,075. Lillian Butterfly, a large roan cow of good type that has been of great value in the herd as a breeder, has a four-months-old roan bull calf, got by Spicy Robin, which bids fair to make a grand show bull, and is almost the image of his sire. Verberna Languish, a long, smooth cow, has a choice red heifer calf, one month old, got by Spicy Robin, which is full sister to the fifteen-months heifer sold by me at the Provincial sale at Guelph last year for the highest price of any female at the sale. Crimson Puchsia 12th, a choice young cow of the Crimson Flower family, is without a Canadian-bred sire in her pedigree, and has a sweet, blocky, roan bull calf one month old, sired by a good imported bull. Nonpareil 53rd is another grandly-bred young cow, having a straight Nonpareil pedigree, without a Canadian-bred sire. She has a choice four-months roan calf of good type. A number of the other cows have calves at foot, all of which are promising lookers and the remainder are almost due to calve. I have a few choice young bulls on offer, one eighteen months old, which has been used some in the herd; the others are under one year and sired by Spicy Robin. Also a few good females for sale. I have also a choice litter of Yorkshire pigs about four months old, dam Princess Beauty 5222; sired by Eric Boy 2629, a grand prize-winning boar bred by Jos. Featherston, Streetsville.

REDMOND BROS.' SHORTHORNS.

Thornhill Stock Farm lies in the County of Durham, about 1 1/2 miles from Millbrook, which is the P. O. and R. R. station of the owners, Messrs. Redmond Bros. This farm for the last 27 years have been breeding Shorthorn cattle. The herd was founded on Duchess blood. Later acquisitions were of the well-known Marigold strain, a family noted for their extremely thick, beefy carcasses. The present herd of 25 head are all of this family, and sired by the following Scotch-bred bulls: Challenge 2933, bred by the Messrs. Watt, sired by Barrington Hero, and out of one of Mr. Watt's famous Matchless cows. Charley Mitchell 11 1273, by the Kinellar Nonpareil bull, Imp. General Booth 54353; dam Dry 12th by Imp. Statesman, Imp. Prime Minister 129938 is at present at the head of the herd, winner of first prize at Toronto, Hamilton and London, as well as gold medalist. His lieutenant in service at present is that grand thick, fleshy, beautifully-moulded bull, Sailor Champion 27235, also bred by Watt's. He is sired by Imp. Royal Sailor 18959, dam Violet's Bud 23611, by Imp. Warfare. He is a rich roan, four years old, and is a typical, up-to-date, short-legged animal, and is beef to the ground up. Another important bull used extensively on this herd was Imp. Royal Warrior 64741, sired by Royal James 54972; dam Nonpareil 22nd. He was a straight, Campbell-bred Nonpareil. The following pedigree of one of the cows will show the breeding of the herd: Marigold 17502, by Challenge (above described); dam Rosabella 2nd 4507, by Baron 326, g. d. Rosabella 4306, by Oxford Chief 900. Another exceedingly fine cow is Matchless, Vol. 17, by Imp. Prime Minister, dam Marigold 3rd 20431, by Charlie Mitchell. In this herd are about a dozen breeding cows that are genuine quality of the low-down, beefy sort, that show enormous breadth and depth, and are well adapted to the trade. There are a few heifers, some yearling, by Sailor Champion, that are extra good ones. There are also many other cattle by the same sire that are well-proportioned, and will surely be purchasers. They are entered to be sold at the Guelph sale that are extra choice.

DR. HESS' STOCK FOOD

IS A GUARANTEED MILK PRODUCER.

W. T. S. Bear, manager of the Oregon Dairy Farm, Franklin, Pa., has the following to say:

DR. HESS & CLARK, ASHLAND, O.: Dear Sirs,—Ten days ago we began feeding Dr. Hess' Stock Food to a dairy herd of 35 cows, part grade Jerseys and part Red Polls. All were suffering from indigestion, owing to heavy feeding of grain through the entire summer; all were falling away in milk; some were so bad as to bloat, and refused to eat for several days. Tried all manner of feeds and combinations, but only partially succeeded in checking the decrease in milk. Two days after we began feeding Dr. Hess' Stock Food they began to mend and increase in milk, until they are now gaining an average of two pounds of milk per head per day, without any increase of feed or change of feed or any other conditions. I think the improvement wonderful, especially when we consider that it was done while the temperature was between 10 and 20 degrees above zero, and the first cold snap at that, which is always the worst. Yours truly, W. T. S. BEAR, Manager Oregon Dairy Farm.

Feed Dr. Hess' Stock Food to your cows; if it don't pay, your money will be refunded. 7-lb. sack, 65c; 12-lb. sack, \$1.00; 25-lb. sack, \$2.00; 50-lb. sack, \$3.75; 100-lb. sack, \$7.00.

SOLD BY DEALERS GENERALLY, OR ADDRESS:

THE GREIG MANUF'G COMPANY, CANADIAN AGENTS, MONTREAL, QUE.

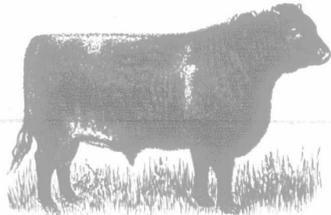
FREE.—Dr. Hess' scientific veterinary work, giving the symptoms and latest treatment on stock diseases, will be mailed you for the asking. Address:

DR. HESS & CLARK, ASHLAND, OHIO.

Spring Grove Stock Farm.

Shorthorn Cattle AND Lincoln Sheep.

HERD prize and sweepstake at Toronto Industrial Exhibition, 1897 and 1898. Herd headed by the Marr Missie bull, Imp. Wanderer's Last, last of the



get of the great sire Wanderer, of the Cruick shank Brawith Bud tribe. High class Shorthorns of all ages for sale. Also prizewinning Lincolns. Apply on

T. E. Robson, ILDERTON, ONT.

Scotch Shorthorns

BREEDING FEMALES ALL IMPORTED.

Imp. Golden Drop Victor our present stock bull. Eleven young bulls and some young cows for sale at reasonable prices.

H. CARGILL & SON,

Cargill Station, G. T. R. CATALOGUE FREE. ON Cargill, Ontario.

ARTHUR JOHNSTON, GREENWOOD, ONTARIO.

BREEDER OF POST OFFICE AND TELEGRAPH OFFICE. IMPORTER OF

SHORTHORNS ONLY.

FOR SALE: 9 imported bulls and bull calves. 11 home-bred bulls and bull calves, from imported cows and by imported bulls. 17 home-bred bull calves. A large and excellent lot of young cows and heifers of various ages.

RAILWAY STATIONS: PICKERING, G. T. R., 22 MILES EAST OF TORONTO. CLAREMONT, C. P. R., 28 MILES EAST OF TORONTO.

Advertisement for "OSHAWA" STEEL SHINGLES. Includes an illustration of a house with a gabled roof covered in shingles. Text describes the shingles' superiority, locking mechanism, and ease of installation. THE PEDLAR PEOPLE, Oshawa, Ontario. Eastern Branch, 22 Victoria Sq., Montreal.



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"Hello! Is this Mr. Wise, the McCormick agent?"

"Yes, who is this?"

"This is Bright of the Brookdale Farm. — Say, have you any more new, right-hand McCormick binders like the one Wilson bought?"

"Yes; just unloading our third car today."

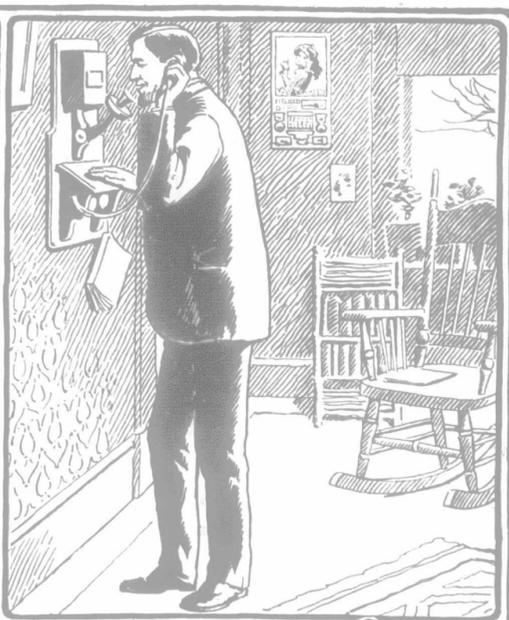
"Have these binders got the folding divider, new needle, hardened knotted parts, reversible trip hook and new pitman shield?"

"Yes, sir; all of 'em."

"Well, set aside two binders for me. Guess I'd better have 500 pounds of McCormick twine, too; Manila brand. — And, say, Wise, send me one of McCormick's World-Centre books."

"All right, Mr. Bright. The binders will be ready for you any day, and I'll mail the book. Thank you; good-bye."

"Good-bye."



IF YOU ARE INTERESTED IN HARVESTING MACHINES, WRITE FOR BEAUTIFULLY-ILLUSTRATED BOOK ENTITLED "THE WORLD-CENTRE."  
Address: P. W. Stanhope, General Agent, McCormick Harvesting Machine Co., Toronto, Ont.

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WYEBRIDGE, ONT.,  
IMPORTER AND BREEDER OF  
**SHORTHORNS,**  
**OXFORD DOWNS**  
AND  
**BERKSHIRE PIGS.**  
Young stock always  
on hand. om



**Shorthorns and Berkshires**  
Four young bulls, 6 to 12 months old. Pigs, 2 to 6 months old. Pairs supplied not akin. om  
**MAC CAMPBELL, NORTHWOOD, ONT.**

**W. G. PETTIT & SON,**  
FREEMAN P. O., ONT.,  
IMPORTERS AND BREEDERS OF

**Scotch Shorthorns and Shropshire Sheep,**

Are offering 10 Imp. bulls from 10 months to 2 years old; 10 home-bred bulls from Imp. stock, 10 to 15 months old; 40 Imp. cows and heifers, all ages. Home-bred cows and heifers all ages. Also a grand lot of ram and ewe lambs and yearling ewes for sale. om

Burlington Jct. Stn. Tele. & Phone, G. T. R.

**SHORTHORN BULLS.**  
RARE GOOD BULLS. SCOTCH-BRED BULLS.

Write for bull catalogue free.  
**H. SMITH, Hay P. O., Huron Co., Ont.**  
Exeter Station on G. T. R., half a mile from farm. om

**Shorthorns and Leicesters.**

Herd Established 1855.  
A number of young bulls, cows and heifers for sale. Imported Christopher = 28859 = heads the herd of large cows of grand milking qualities. Also a number of Leicesters of both sexes, from imported foundation. om

**JAMES DOUGLAS,**  
CALEDONIA, ONT.

**SEED OATS**

NEW IMPROVED WHITE LIGOWO OATS.  
The Improved Ligowo Oat is a large, white, plump variety, with a branching head and stiff straw; a vigorous grower; very prolific and early and free from smut. Price, 75 cents per bushel. Bags, 20 cents each. om

**GEO. MILLER, MARKHAM, ONTARIO.**

**"ORCHARD HILL" SHORTHORNS.**

Herd comprises representatives of best Scotch-bred families, with Lord Lavender at head. Young animals of both sexes for sale. om  
**ARTHUR JOHNSTON, Vandeleur, Ont.**

**LAKE VIEW STOCK FARM.**

SCOTCH SHORTHORNS, both sexes, all ages. As good as the best. om  
Meadow Station, G. T. R. North, om  
**JAMES BOWES,**  
Strathairn P. O.

**Shorthorns, Yorkshires and Berkshires**

For immediate sale, 2 bulls 10 months old, 1 bull 18 months old; bred right and built right. Also pigs of both breeds, both sexes and different ages. om  
**C. J. CARRUTHERS, Cobourg P. O. & Stn.**

### Shorthorns, Cotswolds & Berkshires

**FOR SALE:** Nine young bulls from 6 to 18 months old, sired by Prince George = 28773 =, a Scotch-bred bull of the Miss Ramsden family, and from good milking dams. Cows, heifers and heifer calves. A choice lot of ewe lambs. Young pigs of the bacon type from 2 to 6 months old. om  
**F. BONNYCASTLE & SON, CAMPBELLFORD, ONTARIO.**

### Shorthorn Cattle, Lincoln Sheep

Imp. Prim's Minister at head of herd. Imp. Clippers, Miss Ramsdens, and other Scotch families. Lincolns won more than half the money and first for flock at the Pan-American; International, Chicago, 1901 and 1902. om  
**J. T. GIBSON, om DENFIELD, ONT.**

### QUEENSTON HEIGHTS SHORTHORNS

SCOTCH AND SCOTCH TOPPED  
In service: Derby (imp.) = 32057 =; Lord Montalis, by Collynie Archer (imp.) = 28891 =. A few young cows with calf at foot or in calf to imported bull. Also two bulls, 10 months. Moderate prices. om

**HUDSON USHER,**  
QUEENSTON, ONT. om  
FARM 3 MILES NORTH NIAGARA FALLS

### HAWTHORN HERD

of deep-milking Shorthorns for sale. Six young bulls of first-class quality and breeding and from 11 dairy cows. om  
**WM. GRAINGER & SON,**  
Londesboro, Ont.

### SHORTHORNS (imported)

One bull, 2 years old, and 1 imported cow, and 7 home-bred heifers. om  
**THOS. RUSSELL, EXETER, ONT.**

**SHORTHORNS:** We are offering 3 extra choice yearling bulls, all from imported sires, straight Cruickshank, with Lavender and Miss Ramsden dams. om  
**THOS. ALLIN & BROS.,**  
Oshawa, Ont.

### Shorthorns, Berkshires, Leicesters

An offering at present the grand stock boar, Crown Prince; also some young ones. om  
**ISRAEL GROFF, ALMA, ONTARIO.**



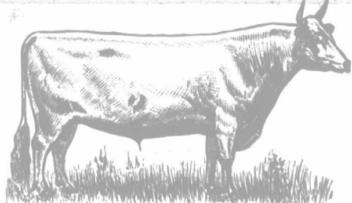
**T. DOUGLAS & SONS, STRATHROY, ONT.,**  
BREEDERS OF

### Scotch Shorthorns.

100 HEAD TO SELECT FROM.  
Herd headed by Imp. Diamond Jubilee = 28861 = and Double Gold = 37852 =. February offering: 14 grand young bulls and cows and heifers of all ages. Farm 1 mile north of town. om

### Rapids Farm Ayrshires.

**REINFORCED BY RECENT IMPORTATIONS** of 2 bulls and 20 cows, selected from noted Scotch herds, and including the male and female champions at leading Scottish shows last year. Imported Douglasdale of Dam of Aber, champion at the Pan-American, heads the herd. Representatives of this herd won the first herd prize at the exhibitions at— om



Toronto, London and Ottawa in 1900, and at the Pan-American in 1901.

Come and see or write for prices.

Young Bulls and Heifers for Sale, bred from High-class Imported Stock.

### Robert Hunter, Manager

for W. Watson Ogilvie, Lachine Rapids, Quebec.

### SCOTCH SHORTHORNS.

We are now offering a few young bulls, from 6 to 11 months; also a few heifers, from 6 months to 2 years; all showing No. 1 quality. om  
**W. G. HOWDEN, om COLUMBUS P. O.**

**SHORTHORNS:** We are offering for sale 8 bulls, from 8 months to 3 years old, by Mungo 2nd and Scottish Bard. Also a few cows bred to Baron's Heir. om  
**ROBT. GLEN, Owen Sound, Ontario.**

### SHORTHORNS.

One bull, 1 year old; two bulls, 7 months old; a few heifers of choice breeding and superior quality. om  
**AMOS SMITH,**  
Listowel station, Trowbridge P. O., Ont.

### Centre Wellington Scotch Shorthorns

Young bulls, heifers and young cows for sale. Farm adjoining town on G. T. R. and C. P. R. Correspondence solicited. om  
**H. B. Webster,**  
Box 66, FERGUS, ONT.

**For Sale:** Very heavy, massive cows of Bates and Cruickshank breed. Two-year-old heifers in calf. Stock bull, Imperial 2nd, No. 28883. Bull calf, 11 months (Caucopper Boy 2nd = 39878 =), dam Flora = 32974 =; also dark red heifer calves. John McFarlane, Dutton, Ont. om

**WM. SMITH, COLUMBUS, ONT.,** will offer at Guelph sale, February 26th, one Mina bull, Wylie = 37290 =, 14 months old, and two Mina heifers 2 years old, Wedding Gift 11th = 41896 = and Wedding Gift 15th = 41897 =. Heifers served by imported Meadow Lord = 36067 =. om

**Scotch-bred Shorthorns** AT OAK GROVE ARE famous for size and quality. Eight bulls from 10 to 15 months old; reds and roans. Several heifers at prices that will save you money. Also Collie pups. **L. K. WEBER,** Hawkesville P. O., Ont., Co. Waterloo, St. Jacob's Station, G. T. R. om

**Hillside Shorthorns and Shropshires.** Bulls, from 8 to 18 months old; heifers, various ages, of true type and fashionable breeding; also 25 ram lambs and 15 ewe lambs, from imp. sire. Will quote prices right for quick sales. om  
**L. Burnett, Greenbank P. O., Ont.; Uxbridge Stn., G. T. R.**

**Maple Glen Stock Farm.** EXHIBITION OFFERING: Two bull calves under 1 year. Also a Sylva and an Abbekirk bull calf, with spring and fall heifer calves of Sylva breeding, bred from winners and ones that will make winners. Prices according to quality. om  
**C. J. GILROY & SON,**  
Brockville, on C.P.R. and G.T.R. Glen Buell, Ont.

### IMPORTED JERSEY BULL

FOR SALE:  
The prizewinning sire, imported

### DISTINCTION'S GOLDEN

Is docile and sound. His get have won the family prizes for three years at Toronto Exhibition. om

APPLY  
**ROBERT DAVIES,**  
THORNCLIFFE STOCK FARM, TODMORDEN,  
or 34 Toronto St., Toronto.

### SUCCESS WITH HOLSTEINS

depends on starting right. Brookside has furnished foundation stock for some of the best herds in the country. We have 250 head, and if you want to establish or strengthen a herd, can supply you with animals of the right sort. We have 50 young bulls on hand, and females bred to the best sires living. Let us know just what you want. Catalogue of bulls now ready. We also have six fine thoroughbred Jersey Red boards, 6 months old, for sale, \$9 to \$10 each. om  
**HENRY STEVENS & SONS,**  
LAONA, OSWEGO CO., N. Y.

### 4 HOLSTEIN BULLS 4

FOR SALE: From 4 to 7 months old, having sires in their pedigrees from such strains as Inka, Netherland, Royal Aggie, and Tritonia Prince, and out of imported females that have proven their worth at the pail. **THOS. B. CARLAW & SON,** Warkworth. om

### F. L. GREEN,

BREEDER OF  
**Jersey Cattle and Yorkshire Pigs.**  
Choice stock of each sex for sale. om

PICKERING STATION, G. T. R. **GREENWOOD P. O.**  
CLAREMONT STATION, C. P. R.

### FOR SALE: A SPLENDID LOT OF

### Jersey Cattle.

41 HEAD TO CHOOSE FROM.

Close descendants of my most noted prizewinners, and closely related to many animals I have sold that have won easily in the Northwest and all over Canada. My shipments last summer ranged from Manitoba to State of Delaware, U. S. om

**MRS. E. M. JONES,**  
BOX 324, BROCKVILLE, ONT., CAN.

**FIRE Safety**  
is best secured by using "Safe Lock" Shingles on all your buildings.  
Prevents many fires and makes others easier controlled. The Safe Lock Metal Shingles are lightning proof too and keep out the snow and rain.  
Small Shingle showing construction mailed free.  
The Metal Shingle & Siding Co., Limited  
PRESTON, ONT.



**CARRIAGES**  
AT FIRST COST.



NO. 10. PIANO BODY, PRICE \$32.50.

By our system of selling carriages direct to the customer, you can purchase a buggy, phaeton or other high-grade carriage, or harness, one-third less than from a local dealer. Why not?

**Deal Direct With the Maker**

and save two profits? We give the broadest guarantee with each purchase. You can return the vehicle, and we will pay freight both ways, if you are not thoroughly satisfied. Our complete illustrated catalogue, showing many styles of vehicles and harness, with detail description of each, mailed free.

ADDRESS:

**INTERNATIONAL CARRIAGE CO.,**  
BRIGHTON, ONT.

**To Rid Stock of Lice**  
AND ALL SKIN DISEASES,  
Also to Keep Poultry Healthy

**WEST'S FLUID**

Which is also a SURE CURE OF CONTAGIOUS ABORTION. STANDARD SHEEP DIP IS CHEAP AND GOOD. Pedigree forms free to customers. Manufacturers:

**The West Chemical Co'y,**  
TORONTO, ONT.

Agt. for Manitoba: **W. R. ROWAN,**  
132 Princess St., Winnipeg.

**Free for five wrappers:** Lee's book, containing 386 pages, 3,000 recipes for home and farm. Prof. A. V. M. Day's English Tonic Powders (5 separate packages) for horses, cattle, hogs, sheep, and poultry. They make health and flesh. Mail us the front part of five wrappers and receive book FREE.

Price: 35c. a package, 5 for \$1.50.

**For Dairy Cows**  
Feed Day's Butter-fat Producer.

It makes more milk and butter-fat; gives the butter color; imparts a flavor to the butter that is not obtained by any other feed. Write us a post card for free sample. Warranted purely vegetable.

**The Day's Stock Food Co., Toronto.**

**SAVE ONE HALF YOUR FUEL.**  
I placed a Winnipeg Heater in my dining room, which is over 100 ft. long. It was connected with the kitchen stove, the water heat, and the boiler. I consider it a great economy. Write for particulars.  
Toronto, Sept. 29, 1902.  
J. SPENCER, M.D.



**The Winnipeg Heater Co. of Toronto, Limited**  
77 Victoria St. Toronto, Ont.

J. & W. Russell, Richmond Hill, Ont., advertise 12 young Shorthorn bulls, all under two years old, bred from their noted gold medal and sweepstakes herd at the World's Fair and the Toronto Exhibition. See the advertisement and write them for particulars.

**STEWART'S SHEEP SHEARING MACHINE**  
Highest and Only Award at Pan-American Exposition.  
1902 Model, price including grinder, only \$1850

Will be fitted with the wonderful Stewart Shear same as supplied with the \$65.00 Power Machine. No owner of 10 Sheep or more can afford to shear by hand even though the work be done for nothing. Don't butcher your sheep. Shear with this machine, and get ONE POUND WOOL EXTRA PER HEAD. Will more than cover the whole cost of shearing. Send today for valuable book on shearing. It is free and will save you money.

**CHICAGO FLEXIBLE SHAFT CO.,**  
150 La Salle Ave., Chicago, Ill.

**BRAMPTON JERSEY HERD**  
Offers: 3 St. Lambert bulls from 6 to 14 months old, out of high-testing cows; 1 yearling and 5 bull calves, sired by Brampton's Monarch (imp.). Four young bulls sired by him won 1st, 2nd and 3rd prizes under one year, and 1st prize under six months, also 1st, 2nd and 3rd at London and Ottawa, in 1901. The best is none too good. These young bulls have never been beaten. Get one to head your herd.

**B. H. BULL & SON, BRAMPTON, ONT.**  
G. T. R. and C. P. R. Stations.

**Jerseys for Sale:** From high-testing stock—registered A. J. C. C. Cow 3 years old, due to calve May 11th, \$60. Bull 9 months old, \$40. Heifer 5 months old, \$25. Or to clear out lot now, will take \$115.

**R. DODDS, P. O. Box 606, Guelph, Ont.**

**FOR SALE:**

Three young St. Lambert bulls; best breeding, color and dairy form.

**T. PORTER, MOUNT DENNIS, ONT.**

**Jerseys and Cotswolds.**

For sale, three-year-old bull, Count of Pine Ridge 53682, a grandson of Adelaide of St. Lambert, that gave 824 lbs. milk in a day, and 2,054 lbs. in a month. Also two of his sons—one year old, and a few daughters; and a useful lot of Cotswold rams and ewes. For particulars and price write:

**WILLIAM WILLIS, Newmarket, Ontario.**

**RIDGELING CASTRATION.**

om- **DR. J. WILSON V. S., WINGHAM, ONT.,** Specialist in the castration of ridgeling horses and colts. Terms and testimonials on application.

**LAWNRIIDGE STOCK FARM.**

**JERSEYS FOR SALE:** Yearling bull, 5 bull calves, also some very fine registered cows, heifers and heifer calves—fresh calved and springers. One hundred head to select from. Cows especially.

**J. L. CLARK,**

Norval station: **G. T. R.** Norval **P. O.**

**AYRSHIRES AND YORKSHIRES.**

We always have on hand choice individuals, male or female, of above breeds. Write us.

om- **ALEX. HUME & CO., Menie, Ontario.**

**FOR SALE:**

Three grandly-bred Ayrshire bull calves, 12 to 15 mos. old. Also young calves, by Napoleon of Auchenbrain (imp.), whose dam has a record of 72 lbs. of milk per day. A few choice young Berkshire and Yorkshire sows could be served before shipping. Collie pups, from Perfection Queen. Address—

**T. D. McCALLUM,**

Nether Lea, -om- Danville, Que.

**Maple Cliff Dairy and Stock Farm.**

**AYRSHIRE CATTLE, IMPROVED BERKSHIRE AND TAMWORTH PIGS.**  
FOR SALE: 5 bull calves, a few heifers; young pigs, pairs not akin; 2 boars, 4 months old; young pigs. Farm adjoins Central Experimental Farm, Ottawa.

**R. REID & CO., Hintonburg, Ont.**

**Tredinnock Ayrshires.**

Imported bulls at head of herd: Glencairn 3rd, Napoleon of Auchenbrain, and Lord Dudley. Forty imported females, selected from leading Scotch herds, and their produce from above-named bulls. Size combined with quality and style, well-formed udders, good-sized teats, and capacity for large milk production. Bull calves for sale; also a few young cows and heifers. For prices and particulars address

**JAMES BODEN, Mgr.,**  
St. Anne de Bellevue, Quebec.

**Ayrshire Bulls**

from 14 years to 6 months, from special milking stock, sired by the sweepstakes bull, Colk of the 1885-86, also females all ages, Ayrshire sheep, Berkshire pigs, either sex, and B. P. Berks. For particulars write

**J. YULL & SONS, Carleton Place, Ontario.**

**AYRSHIRES.**

I offer four choice August-bred bull calves, two yearling heifers due to calve, and a pair of superior cow calves. All bred from imported stock.

**W. W. BALLANTYNE, Strathroy, Ontario.**  
"Neidpath Farm" adjoins the G.T.R.

**GOSSIP.**

Alex. Hume & Co.: "Our herd is doing nicely. Several of our choice Ayrshire cows are springing, dropping their calves early in February. The 'Gardhouse' ported bulks, 'Prince Anne's,' 'Barcheskie' and 'Casparian of St. Anne's,' have been used on the herd, so that we anticipate a crop of fine calves. Thanks to the advertisement in your valuable paper, we have sold nearly all our bulls, but have one from an extra heavy-milking dam that will be fit for service in spring. Sold all our Yorkshire boars, shipping the last one Monday. Have some sows just at the farrow, and a few sows ready to mate. Feed is plentiful with us, and we hope to make a record with our dairy herd this incoming season."

J. T. Gibson, Denfield, Ont., writes: "My Shorthorns and Lincolns are wintering nicely. The Prime Minister calves are good ones—what a J. M. Gardhouse said they would be when I bought the old bull from him. If I am not too busy with the Lincolns I will show next fall that they are the kind to feed, and I think the old bull is looking and feeling better than when I got him. My show Lincolns are coming along nicely. I imported two of the best ewe lambs from England last fall. They won second at the Royal and first at the Lincolnshire Show, beating the Royal winners. I think I have some lambs of my own raising that will make better shearings—not so large, nor have they as much wool, but they have better ends, evenner, better backs. I like size, but size without quality I have no use for."

Maple Cliff Dairy and Stock Farm is situated in the outskirts of Hintonburg, about one mile from Ottawa City, and is the property of R. Reid & Co., whose specialties are Ayrshire cattle, Fanworthing, Berkshire and Yorkshire hogs. The herd of Ayrshires number 58 head of imported and home-bred animals that for quality and royal breeding are hard to duplicate. The present stock bull is Imp. Duke of York 2301, who is the sire of the youngsters of the herd. The two and three year olds are sired by Gold King, who is out of that great show cow, Nellie Osborn, who won the sweepstakes at the World's Fair, Chicago. There are six young bulls for sale that are extra good ones, and are in the pink of condition; in fact, the whole herd shows that Mr. J. Campbell Smith, the superintendent, is no novice in feeding and care of cattle. The Fanworthing number some 50 head, a number of which are imported. The stock boar is Whiteacre Bruce (imp.) 2544, an exceptionally deep, lengthy animal, and withal very smooth. His lieutenant in service is Amber King, an extra fine type of bacon hog, bred by Nichol. This herd captured practically all the prizes at Ottawa last fall, while at Buffalo they came out second best. There are a number of both sexes for sale of this breed. In Berkshires, there are about 30 head. This herd was founded on Green stock. The stock boar is King High-clere 2nd 6334. He is a pure type of the up-to-date bacon hog, showing great length and depth, and has proven his worth as a sire. One of the dams, Spanish Queen 6353, won 2nd place at Ottawa last fall, and the splendid sow, Model Lady 5176, won 1st place at Ottawa two years in succession. In this breed there are a few young sows ready to breed for sale. The Yorkshires are principally of Brethour & Saunders breeding, the quality of which is too well known to need any comment. Sales are reported as extra good.

**A. HUME & CO.'S AYRSHIRES AND YORKSHIRES.**

A. Hume & Co., of Menie, Ont., whose farm lies in the County of Northumberland, about six miles from Campbellford and three miles from Hoard's Station, are somewhat extensively engaged in dairying, and to supply the requisite amount of milk with the largest percentage of butter-fat, have gotten together a large and up-to-date herd of Ayrshire cattle. At the present time there are only a few of the cows in milk, but a number of them are soon due. The stock bull now at the head of the herd is (imported in dam) Caspian of St. Anne's. He is a grand animal, both individually and in breeding, and will, without doubt, improve this already excellent herd. His lieutenant in service last summer was White Cockade, who was sold last fall at the Western Fair, London, to go to British Columbia. The many cows and heifers in the herd are exceedingly uniform in color, type and quality, and of the now fashionable color. They are a grand lot. Among the cows is Imp. Eva of Barcheskie, a noted prizewinner; Snowflake, Nellie's Gem, Bonnie Doon, Eva's White Pearl, Lady Mitchell, Little Love, Irene of Menie, all Toronto prizewinners, and a number of others equally as good. Among the younger ones are several two and one year olds, daughters of that great stock bull, White Chief of St. Anne's. Present among them is the yearling heifer, Eva's Gem, out of Imp. Eva of Barcheskie, and Caspian of St. Anne's. The younger ones are nearly all sired by the present stock bull, and are a very even, well-bred lot. Mr. Hume is so breeding Yorkshire hogs, with good type and quality are not reported anywhere. At present there are on hand for sale a few yearling, well-developed young sows, supposed to be in pig. Mr. Hume reports that this season the best average he ever experienced. Both in quantity and quality, and in sales made. Adding that he stands for both Ayrshires and Yorkshires was very heavy.

**American Field and Hog Fence**  
The best product of American skill in woven steel wire fence making. In rolls, ready to stretch and staple. The Fence of Economy. If your dealer hasn't it, write to American Steel & Wire Co., Chicago, New York, San Francisco, Denver.

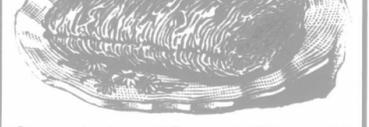
**WINDMILLS**



Have you cheap power? Do you know that a **CANADIAN AIRMOTOR** will yield greater returns for your money than any other farm implement. Has a cast-iron constitution, and is a terror to work. We have other things that save money. Write us.

**ONT. WIND ENGINE & PUMP CO.,**  
om LIMITED. TORONTO, ONT.

Manitoba Agents: **BALFOUR IMPLEMENT COMPANY,** Winnipeg, Man.



**Shredded Wheat Biscuit**  
Endorsed and Prescribed by Physicians.

"I have used the Shredded Wheat Biscuit in Hospital practice and find the results highly satisfactory. They are especially beneficial in cases of indigestion complicated with constipation."

**ALBERT A. TAFT, M. D.,**  
Carney Hospital, Boston, Mass.

**SHREDDED WHEAT BISCUIT.**

For sale by all Grocers.

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

**THE ORIGINAL Non-Poisonous Fluid Dip**

Still the favorite dip, as proved by the testimony of our Minister of Agriculture and other large breeders.

**For sheep.** Kills ticks, maggots; cures scab; heals old sores, wounds, etc., and greatly increases and improves growth of wool.

**Cattle, horses, pigs, etc.** Cleanses the skin from all insects, and makes the coat beautifully soft and glossy.

**Prevents the attack of Warble Fly.**

**Heals saddle galls, sore shoulders, ulcers, etc. Keeps animals free from infection.**

**No danger, safe, cheap, and effective**

**Beware of Imitations.**

834 in large tins at 75 cents. Sufficient in each to make from 25 to 40 gallons of wash, according to strength required. Special terms to breeders, ranchmen, and others requiring large quantities.

**SOLD BY ALL DRUGGISTS. SEND FOR PAMPHLET.**

**Robert Wightman, Druggist, Owen Sound.**

Sole agent for the Dominion.

Dominion Swine Breeders' Annual Meeting.

The annual meeting of the Dominion Swine Breeders' Association was held at the Palmer House, Toronto, January 24th, the President, Mr. Wm. Jones, in the chair. The Secretary-Treasurer's report showed the affairs of the Association to be in a prosperous condition. The financial statement showed receipts, \$5,641.14; expenditures, \$3,525.42, and a balance on hand of \$2,115.72. The chief effort during the present year will be in reference to the export trade. A committee was appointed to prepare a model prize list for the leading as well as the local fairs in so far as practicable. The meeting reported favorably on giving a grant to exhibitions in Western Canada.

The following officers for the current year were elected: President, G. B. Hood, Guelph; Vice-President, Thos. Teasdale, Concord; Secretary-Treasurer, A. P. Westervelt. Directors for the different sections: Berkshires, Geo. Green, Fairview; Yorkshires, J. E. Brethour, Burford; Chester Whites, R. H. Harding, Thorndale; Poland-Chinas, W. M. Smith, Fairfield Plains; Duroc-Jerseys, L. B. Tape, Ridgetown; Tamworths, J. C. Smith, Hintonburg; and for Essex, Jos. Featherston, Streetsville; Ontario Agricultural College, G. E. Day, Guelph. General Director, Wm. Jones, Mount Elgin; Auditor, J. M. Duff, Guelph. Representatives to Fair Boards: Toronto Industrial, D. C. Flatt, Millgrove, and R. P. Snell, Snelgrove; Ottawa, A. P. Westervelt and J. C. Smith; London, George Green, Fairview, and D. DeCoursey, Bornholm; Peterborough, Robt. Vance, Ida; Guelph, G. B. Hood and James Anderson; Brantford, J. E. Brethour, Belleville and Kingston, J. M. Hurley, M. P.; Provincial Winter Fair, Prof. G. E. Day, G. B. Hood and Wm. Jones.

EXPERT JUDGES.

The following are the expert judges recommended for the various breeds: Berkshires—Wm. Wilson, Snelgrove; J. C. Smith, Hintonburg; X. Plaunt, Northcote; Samuel Doison, Alton; Hugh G. Clark, Norval; P. W. Boynton, Dollar; A. W. Smith, Maple Lodge; Wm. Jones, Mt. Elgin; W. G. Caven, East Toronto; Jas. McKean, Kertch; John Boyes, Jr., Churchill; Henry Jones, Zenda; H. J. Davis, Woodstock; J. C. Snell, London; Thos. Teasdale, Concord; Geo. Green, Fairview; Robert Vance, Ida; T. A. Cox, Brantford; Jas. Quirie, Delaware; Jos. Featherston, Streetsville; R. P. Snell, Snelgrove; C. R. Decker, Chertsey; Chas. Youngs, Brookside; D. DeCoursey, Bornholm; R. H. Harding, Thorndale; Jos. Barnett, Rockland; E. F. Martin, Canning; H. B. Jeffs, Bond Head; Wm. Linton, Aurora; E. Brien, Ridgetown; G. B. Hood, Guelph; J. E. Brethour, Burford; Alex. Hart, Hampstead; W. A. Shields, Milton. Yorkshires and Tamworths—David Barr, Jr., Renfrew; A. Boyd, Kars; E. A. Kipp, Hilliwick; B. C. Jas. Bray, Longburn; M. E. Rogers, Weston; Geo. D. Betzner, Copetown; R. J. Kerr, Mimosa; W. R. Bowman, Mount Forest; Wm. Jones, Mt. Elgin; R. J. Garbutt, Belleville; E. Dool, Hartington; R. H. Harding, Thorndale; N. M. Blain, St. George; A. Dunn, Ingersoll; J. H. Simonton, Chatham; G. North, Marden; A. Elliott, Galt; L. F. Master, Haysville; A. C. Hallman, New Dundee; J. G. Hamner, Burford; John C. Nichol, Hubrey; J. E. Brethour, Burford; W. Elliott, Hamilton; A. Laurie, Wolvorton; Wm. Davies, Toronto; Richard Gibson, Delaware; Henry Dedels, Kossuth; G. B. Hood, Guelph; Jos. Featherston, Streetsville; H. E. Sharp, Ida; A. F. McGill, Hillsburg; J. G. Mair, Howick, Que.; J. M. Hurley, Belleville; Geo. Gier, Grand Valley; Jas. Stephen, Trout River, Que.; R. McCulloch, Harriston; Jos. Fletcher, Oxford Mills; Robert Nichol, Brussels; A. P. Foreman, Collingwood; J. Y. Ormsby, Woodstock; Jas. Leach, Toronto; Wm. Howe, North Bruce; Chas. Yapp, Brantford; G. E. Day, Guelph; E. R. Shore, White Oak; H. J. Davis, Woodstock; D. C. Flatt, Millgrove; W. R. McDonald, Ridgetown; W. Elliott, Galt; R. G. Martin, Marysville; J. E. Cousins, Harriston; Geo. Green, Fairview; E. J. Callbeck, Augustine Cove; P. E. L. J. G. Clark, Ottawa; J. C. Smith, Hintonburg; D. Drummond, Myrtle. Suffolks and Essex—Wm. Jones, Mt. Elgin; Geo. Green, Fairview; Thos. Teasdale, Concord; Jas. McGarvin, Chatham; R. H. Harding, Thorndale; Jas. Main, Milton; D. DeCoursey, Bornholm; G. B. Hood, Guelph; R. P. Snell, Snelgrove. Duroc-Jerseys—D. C. Flatt, Millgrove; Daniel DeCoursey, Bornholm; Major Hood, Guelph; Norman M. Blain, St. George; Geo. Green, Fairview; Wm. Jones, Mt. Elgin; Thos. Teasdale, Concord; J. E. Brethour, Burford; R. H. Harding, Thorndale; W. M. Smith, Fairfield Plains; Jos. Featherston, Streetsville; W. N. Tape, Bentpath; Geo. Bennett, Charing Cross; H. George, Crampton. Poland-Chinas—Thos. Teasdale, Concord; Jos. Featherston, Streetsville; Jas. Main, Milton; Geo. Green, Fairview; W. M. Smith, Fairfield Plains; Wm. Jones, Mt. Elgin; Henry Jones, Zenda; Oliver Drury, Fargo; C. W. Yapp, Brantford; R. Willis, Glen Waverly; R. H. Harding, Thorndale; Lawrence Tape, Ridgetown. Chester Whites—E. D. George, Putnam; E. Birdsall, Birdall; Albert

Reward of Merit.

A New Catarrh Cure Secures National Popularity in Less than One Year.

Throughout a great nation of eighty million it is a desperate struggle to secure even a recognition for a new article, to say nothing of achieving popular favor, and yet within one year Stuart's Catarrh Tablets, the new catarrh cure, has met with such success that to-day it can be found in every drug store throughout the United States and Canada.



To be sure, a large amount of advertising was necessary in the first instance to bring the remedy to the attention of the public, but everyone familiar with the subject knows that advertising alone never made any article permanently successful. It must have, in addition, absolute, undeniable merit, and this the new catarrh cure certainly possesses in a marked degree.

Physicians, who formerly depended upon inhalers, sprays and local washes, or ointments, now use Stuart's Catarrh Tablets, because, as one of the most prominent stated, these tablets contain in pleasant, convenient form, all the really efficient catarrh remedies, such as red gum, blood-root and similar antiseptics.

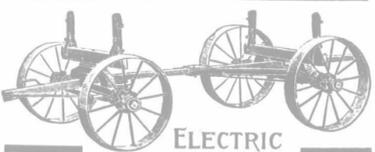
They contain no cocaine nor opiate, and are given to little children with entire safety and benefit.

Dr. J. J. Reitiger, of Covington, Ky., says: "I suffered from catarrh in my head and throat every fall, with stoppage of the nose and irritation in the throat, affecting my voice and often extending to the stomach, causing catarrh of the stomach. I bought a fifty-cent package of Stuart's Catarrh Tablets at my druggist's, carried them in my pocket and used them faithfully, and the way in which they cleared my head and throat was certainly remarkable. I had no catarrh last winter and spring, and consider myself entirely free from any catarrhal trouble."

Mrs. Jerome, Ellison, of Wheeling, W. Va., writes: "I suffered from catarrh nearly my whole life, and last winter my two children also suffered from catarrhal colds and sore throat so much they were out of school a large portion of the winter. My brother, who was cured of catarrhal deafness by using Stuart's Catarrh Tablets, urged me to try them so much that I did so, and am truly thankful for what they have done for myself and my children. I always keep a box of the tablets in the house, and at the first appearance of a cold or sore throat we nip it in the bud, and catarrh is no longer a household affliction with us."

Full-sized packages of Stuart's Catarrh Tablets are sold for fifty cents at all druggists.

Send for book on cause and cure of catarrh, mailed free. Address, F. A. Stuart Co., Marshall, Mich.—Advt. om



ELECTRIC Handy Farm Wagons

make the work easier for both the man and team. The tires being wide they do not rut into the ground; the labor of loading is reduced many times, because of the short lift. They are equipped with our famous Electric Steel Wheels, either straight or stagger spokes. Wheels any height from 24 to 60 inches. White hickory axles, steel hounds. Guaranteed to carry 400 lbs. Why not get started right by putting in one of these wagons. We make our steel wheels to fit any wagon. Write for the catalog. It is free. ELECTRIC WHEEL CO., BOX 253, QUINCY, ILL.

"Here's Your Galf. Got Your Tag On."

No need to slit the ear of your animals to mark them. Mark all your stock with the Aluminum "Stay There" Ear Marker. Contains your name, address, and consecutive numbers on each tag. No rusting or wearing off, inexpensive, and perfectly easy and simple to attach. We send free samples and literature upon application. WILCOX & HARVEY MFG. CO., 194 Lake St., Chicago, Ills.

Homecroft, a farm for dairying AYRSHIRES, IMPROVED CHESTER WHITES, BARRED PLYMOUTH ROCKS, SOME FINE YOUNG BUTTES, F. FARRELS & SONS, FAIRFIELD, QUEBEC.

Dominion Swine Breeders' Annual Meeting (continued).

Baracky, Bloomington; Wm. Jones, Mt. Elgin; J. C. Snell, London; Geo. Green, Fairview; D. DeCoursey, Bornholm; R. H. Harding, Thorndale; G. B. Hood, Guelph; Gideon Snyder, Jarvis; Jos. Featherston, Streetsville; H. George, Crampton; G. Bennett, Charing Cross; W. N. Tape, Bentpath; J. E. Brethour, Burford; J. C. Nichol, Hubrey; G. E. Day, Guelph; W. E. Wright, Glanworth Provincial Winter Fair, G. B. Hood, Guelph. The following expert judges of sheep of the various breeds were chosen at the annual meeting held in Toronto, January 24th.

Cotswolds—John Rawlings, Ravenswood; William Thompson, Uxbridge; Val. Ficht, Oriel; Jas. Hume, Arkell; W. G. Laidlaw, Wilton Grove; R. P. Snell, Snelgrove; S. J. Lyons, Norval; Jas. Russell, Richmond Hill; J. C. Snell, London; F. Bonnycastle, Campbellford; John Park, Burgessville; J. Hardy Shore, Glanworth; A. J. Watson, Castlederg; Prof. G. E. Day, Guelph; John V. Snell, Snelgrove. Judges nominated: Toronto—Robert Miller, Stouffville; Jas. Hume, Arkell, London—Val. Ficht, Oriel; John V. Snell, Snelgrove, Ottawa—V. Ficht, Oriel; W. Thompson, Uxbridge. Chicago—Prof. Curtiss, Ames, Ia.; Prof. Day, Guelph; R. P. Snell, Snelgrove; Leicesters—R. J. Garbutt, Belleville; Jas. Fennell, Bradford; H. B. Jeffs, Bond Head; A. E. Archer, Warwick; Geo. Whitelaw, Guelph; John Wells, Galt; Hardy Shore, Glanworth; Abraham Easton, Appleby; E. Wood, Appleby; Wm. Parkinson, Eramosa; E. Parkinson, Eramosa; John Orr, Galt; W. B. Watt, Salem; Wm. McIntosh, Burgoyne; Thos. Currely, Fullarton; R. Eastwood, Mimico; John Kelly, Shakespeare; And. Thompson, Fergus; J. K. Campbell, Palmerston; J. C. Snell, London; G. B. Armstrong, Teeswater; John T. Gibson, Denfield; G. E. Wood, Freeman; Jos. Gaunt, St. Helen's; J. M. Gardhouse, Highfield; And. Whitelaw, Guelph; Wm. Whitelaw, Guelph; R. C. Martin, Marysville; A. W. Smith, Maple Lodge; Alex. Waddie, Acton; Walter Nichol, Plattsville; H. G. Arnold, Maidstone; Prof. J. A. Craig, Des Moines, Ia., U. S.; John Marshall, Cass City, Mich., U. S.; J. W. Murphy, Cass City, Mich., U. S.; Prof. C. F. Curtiss, Ames, Ia., U. S.; D. C. Graham, Cameron, Ill., U. S.; Geo. Penhale, Exeter; Jas. Snell, Clinton; John Wright, Chesley; Prof. G. E. Day, Guelph; M. Kennedy, Northwood; D. Lillico, Ayr. Judges nominated: Toronto—Jas. Fennell, Bradford; Jas. Douglas (reserve), London; H. B. Jeffs, Bond Head; John Orr, Galt; Ottawa—John Orr, Galt; Brantford—W. Whitelaw, Guelph.

Dorsets—John Kelly, Shakespeare; Robert Miller, Stouffville; J. M. Gardhouse, Highfield; John Campbell, Fairview; J. G. Hamner, Mount Vernon; Prof. Curtiss, Ames, Ia.; Thos. W. Hector, Erin, Ont.; G. P. Everett, Mt. Vernon; John A. McGilivray, Uxbridge; H. N. Gibson, Delaware; E. O. Denton, Somerset, N. M.; G. McKerrow, Sussex, Wis.; John Hunter, Wyoming; Herbert Hamner, Burford; Arthur Danks, Allamuchy, N. J.; John Jackson, Abington; Fred. Silversides, Uxbridge; R. H. Harding, Thorndale. Judges nominated: Toronto—Thos. W. Hector; G. P. Everett (reserve), London—J. G. Hamner, Mt. Vernon; John Kelly, Shakespeare. Southdowns—John Jackson, Abington; Wm. Martin, Binbrook; W. H. Beattie, Wilton Grove; W. H. Gibson, Beaconsfield, Que.; Richard Gibson, Delaware; T. C. Douglas, Galt; A. Simonton, Blackheath; H. B. Jeffs, Bond Head; John Miller, Markham; Henry Arkell, Teeswater; Wm. Teller, Paris; J. G. Hamner, Mount Vernon; Jas. Smith, Mt. Vernon; Jas. Scott, Aberfoyle; Geo. McKerrow, Sussex, Wis.; Prof. C. F. Curtiss, Ames, Ia.; Prof. J. A. Craig, Des Moines, Ia.; J. C. Duncan, Lewiston, N. Y.

Shropshires and Oxford—List not yet received from Breeders. Hampshires and Suffolks—R. Gibson, Delaware; H. Arkell, Arkell; Prof. J. A. Craig, Des Moines, Ia., U. S.; Ira Hiller, Thornton, Mich.; W. H. Beattie, Wilton Grove; Jas. Bowman, Guelph; Prof. Kennedy, Columbus, Ohio, U. S.; W. R. Bowman, Mount Forest; John Kelly, Shakespeare, Judge at Toronto—N. Gibson, Delaware. Lincolns—J. T. Gibson, Denfield; J. H. Patrick, Ilderton; Capt. T. E. Robinson, Ilderton; Graham Walker, Ilderton; Wm. Oliver, Avonbank; E. Parkinson, Eramosa; J. H. Neil, Lucan; Wm. Mitchell, Glencoe; A. W. Smith, Maple Lodge; J. M. Gardhouse, Highfield; Jas. Snell, Clinton; T. Hardy Shore, White Oak; Geo. Weeks, Glanworth. Merinos—Rock Bailey, Union; Andrew Terrell, Wooler; G. P. Everett, Mount Vernon; W. H. Beattie, Wilton Grove; W. M. Smith, Scotland; R. Shaw, Glanford Station; J. G. Hamner, Mount Vernon; Geo. McKerrow, Sussex, Wis., U. S.

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NOTICE.

THE FARM TELEPHONE.—The farm telephone enables the farmer to transact business, give orders, get market quotations on his products, keep thoroughly informed, etc., without going to town. In the busy season he is enabled to save valuable time. This is aptly illustrated on another page of this issue, where the farmer is shown ordering up-to-date new McCormick binders and twine from the dealer.

AYRSHIRE CATTLE AND POULTRY.

FOR SALE: Royal Star of Ste. Annes, 1st-prize bull at Toronto and London, also heifer calves, heifers and cows from dams with milk records from 40 to 64 lbs. per day. Price from \$35 to \$80 each. Barred Plymouth Rocks, Black Minorcas, Cornish Indian Games, \$1.50 each. Four pair Toulouse geese, \$4.00 per pair. For particulars write WILLIAM THORN, Lynedoch, Ontario, Norfolk Co., Front Run Stock Farm. -om

EUROPEAN ADVERTISEMENTS.

English Shorthorns.

Booth and Bates Shorthorns, topped with Cruickshank bulls. Young cows, bulls and heifers always on hand for sale. Eligible for the American herdbook. Royal and Highland prizewinners included for the last two years. Close on \$400 won in prizes last year and this. WM. BELL, Ratcheugh Farm, Alnwick, Northumberland, Eng.

Ayrshire HERD OF 150 cows and heifers, bred from deep milkers, with large tests, of a commercial stamp. Established over half a century. J. & A. Wilson, Boghall Farm, Houston, Renfrewshire, Scotland. -om

PEDIGREE AYRSHIRES. Cows and heifers, all bred from prizewinning stock at the leading shows. -om Robert Wilson, Mansurae, Bridge of Weir, Renfrewshire, Scotland.

FAMOUS ALL OVER THE WORLD ALFRED MANSELL & CO., LIVE STOCK AGENTS AND EXPORTERS, SHREWSBURY.

BRITISH STOCK selected and shipped to all parts of the world. Write for prices to ALFRED MANSELL & CO., Shrewsbury, England, or to our American representative, Robert Miller, Stouffville, Ont., Canada.

WALTON HERD

PEDIGREE PIGS.

The property of Sir Gilbert Greenall, Bart., Walton Hall, Warrington, England.

This herd is unrivalled for its true type, large size and strong constitutional vigor. It is the premier herd in England at the present day. Its show-yard career is unique, the champion prize for the best Large White pig at the R. A. S. E. having been won by pigs bred in the herd in 1896, '97, '99 and 1901, besides leading prizes too numerous to mention at all the principal agricultural shows in England. A choice selection of boars and sows for sale. Inspection invited. All purchases carefully shipped. For particulars, apply to the Manager, MR. J. HALLAS, Higher Walton, Warrington, England. Railway stations:—Warrington (Bank Quay) per L. & N. W. Ry.; (Central) per Midland, G. N. or G. C. Ry. Telegrams, "HALLAS Higher-Walton." -om

W. W. CHAPMAN,

Secretary of the National Sheep Breeders' Association, Secretary of the Kent or Romney Marsh Sheep Breeders' Association, and late Secretary of the Southdown Sheep Society. Pedigree Live Stock Agent, Exporter and Shipper. All kinds of registered stock personally selected and exported on commission; quotations given, and all enquiries answered.

Address: FITZALAN HOUSE, ARUNDEL ST., STRAND, LONDON W. W. Cables—Sheepcote, London. -om

FARMERS!

KEMP'S INSTANTANEOUS Sheep Dip

Contains more value for the money than any other Dip on the market. We will send a tin prepaid to any part of Ontario for ONE DOLLAR. Half gallon, Imperial measure, in each tin. It is the cheapest disinfectant for outbuildings, drains, etc. -om

W. W. Stephen,

MEAFORD, ONTARIO.

FAIRFIELD LINCOLNS

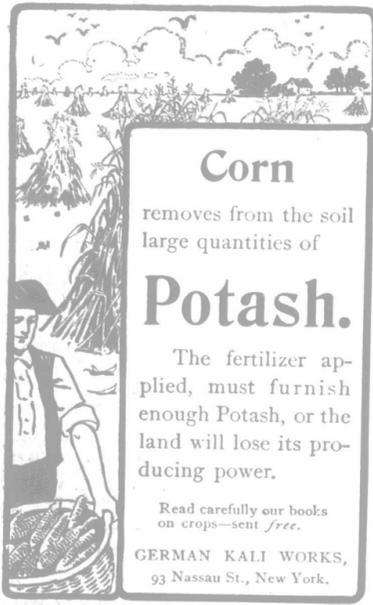
Imported ewes and lambs. Can supply show flocks. -om

J. H. PATRICK, ILBERTON, ONT., CAN.

Live Stock Labels in large or small lots. Also odd numbers supplied. Send for circular and price list. R. W. James, Bowmanville, Ont.

COTSWOLD HILL STOCK FARM

Offers imp. and home-bred Cotswolds of both sexes and all ages, from the champion flock of Canada for the last six years. JOHN PARK & SONS, Burgessville P.O., and Stp. -om



**Corn**  
removes from the soil  
large quantities of

**Potash.**  
The fertilizer applied,  
must furnish enough Potash,  
or the land will lose its producing power.

Read carefully our books on crops—sent free.

GERMAN KALI WORKS,  
93 Nassau St., New York.

**IMPORTED COTSWOLDS**

We are now offering some choice shearlings of both sexes; also this season's crop of lambs, sired by Imp. Swanwick.

**BROOKS & LANGMAID, COURTICE P. O.**  
SIX MILES FROM OSHTAWA STATION, G. T. R.

**JOSEPH FERGUSON, UXBRIDGE, ONT.**  
BREEDER OF  
**Pure-bred Cotswolds**—choice quality  
om UXBRIDGE P. O. AND STATION.

**CHAS. GROAT, BROOKLIN, ONT.**  
OFFERS FOR SALE  
**Cotswold Ewes and Ewe Lambs**  
of good quality and breeding. Also a registered stallion, 1 year old, and one filly foal. Good ones. Write for particulars.

**SUMMERHILL OXFORDS.**  
Present offering: A choice lot of ram lambs and ewe lambs. Also 50 extra nice yearling ewes.  
om PETER ARKELL & SONS, Teeswater P. O. and Station.

**BROAD LEA OXFORDS.**  
Can sell a few choice ewes of different ages, bred to our imported rams, May King 1st and Earl of Fairford 2nd; also 75 good ewe and ram lambs, and an imported two-shear ram. Come and see our flock, or write us for prices, etc.

**HENRY ARKELL & SON, TEESWATER, ONT.**  
MIDDMAY, G. T. R.; TEESWATER, C. P. R.

**Linden Oxford and Shorthorns**  
Flock composed of selections from the best English flocks and their progeny. None but the best imp. rams used. Stock for sale.

**HOLWELL MANOR FARM**  
SHORTHORNS,  
SHROPSHIRE,  
YORKSHIRES,  
SCOTCH COLLIES.

**D. G. GANTON, ELMSVALE, ONT.**  
**HIGH-CLASS SHROPSHIRE.**  
A flock of 75, of good type. Two-shear rams, shearing rams, ram lambs, ewe lambs, fine lusty fellows. Flock headed by a fine imported ram. Write for prices. Abram Rudell, Hespeler P. O., Ont.

**W. S. CARPENTER, "MODEL FARM," SIMCOE, ONT.**  
IMPORTER AND BREEDER OF  
**Shropshire Sheep.**  
Ram and ewe lambs for sale. Well covered. Station One-half Mile from Farm. Wabash and G. T. R.

**50 REG. SHROPS. 50 FOR SALE:**  
Shearing and two-shear rams; also stock ram, bred by John Miller & Sons, and this season's crop of lambs ready for the fall trade. Foundation stock bred by Mansell, England. Prices moderate. A card will bring them.

**FOR SALE:** Berkshires (both sexes), Shorthorn stock bull, cows, heifers and young bulls. Prices reasonable. Write or come and see us.

**A. J. C. SHAW & SONS, Thamesville, Ont.**

**GOSSIP.**  
Messrs. H. Cargill & Son, Cargill, Ont., last month made a sale to R. O. Miller, Norwood, Iowa, of 11 Scotch-bred Shorthorns and 11 Oxford Down sheep, 10 ewes and one ram lamb. The Shorthorns included 9 females and the 2 bulls, Clan Stewart and McKay 7th, both by Clan McKay.

Mr. John McFarlane, Dutton, Ont., whose advertisement of Shorthorn cattle and Oxford Down sheep has been running in our columns, writes us in ordering a change of advertisement, that he has sold his flock of Oxfords, 54 in number, to Henry Arkell, of Arkell, Ont. Mr. McFarlane is now offering for sale Shorthorn cows, heifers in calf, a bull calf 11 months old, and heifer calves of Bates and Cruickshank strains.

On Jan. 4th, says the London Live Stock Journal, Mr. W. Bawden, in ordering change, writes: We have to report the sale of two very fine young bulls recently, both by Imp. Sunny Slope Tom 1st 8f085. One, Rex of Sunny Side, went to Mr. W. Bennett, Chatham, Ont.; the other to a herd at Wingham, Ont. Our herds are doing well, and the baby Herefords are occasionally putting in an appearance. The two Berkshires we offer are an exceptionally fine pair, are cracker and good stock getters, and their breeding is of the best, coming from the Ontario Agricultural College, Guelph, and being of the proper bacon type.

O'Neil Bros., Southgate, Ont., breeders of Hereford cattle, in ordering change, write: We have to report the sale of two very fine young bulls recently, both by Imp. Sunny Slope Tom 1st 8f085. One, Rex of Sunny Side, went to Mr. W. Bennett, Chatham, Ont.; the other to a herd at Wingham, Ont. Our herds are doing well, and the baby Herefords are occasionally putting in an appearance. The two Berkshires we offer are an exceptionally fine pair, are cracker and good stock getters, and their breeding is of the best, coming from the Ontario Agricultural College, Guelph, and being of the proper bacon type.

**ROBERT NESS & SONS' CLYDESDALES AND AYRSHIRES.**  
Woodside and Burnside Stock Farms are the property of Messrs. Robt. Ness & Sons, of Howick, Quebec. These splendid farms, which comprise 500 acres of choicest farm lands, are the home of 90 imported and home-bred Ayrshire cattle and 19 imported and home-bred Clydesdale stallions and mares, and a large variety of pure-bred poultry. In Clydesdales, there is the imported stallion, Baron Frederick 10681, got by that well-known prizewinner and sire of winners, Baron's Pride 9122; dam Fanny Moody 1061, by Darnley 222. He is a bay, coming four years old, a big, well-balanced horse, showing great flat bone, standing on the best of feet, and is a grand mover. Another stallion is Imp. Copyright 10724, also sired by Baron's Pride; dam Trilly 12583, by Messenger 1487. He is a beautiful brown, rising four years old, as nearly perfect as a horse can be, extremely sweet in his make-up, and has action that would do credit to a Hackney. Another one is the horse, Baron Lang, Vol. 23, also imported. He is sired by Sir Everard 3354, who is the sire of Baron's Pride; dam Brownfield Lass 10519, by Gartersherrie 2800. He is also rising four, is a bay, showing abundance of hair and bone, and is of perfect mould; a very smooth horse, and is also a good mover. These three horses, besides combining the best blood of Scotland, are individually perfect types of the easy-feeding, smooth-gaited Clydesdales. There is also a Canadian-bred stallion that for type and quality does not need to take a second place with any of them. He is the two-year-old Laurentian 2954, sired by Lawrence Again (imp.) 2047; dam Imp. Roseleaf 2465, by Macbeth 3817. He is a bay, of fine symmetry and superb action, and will make a top notcher. In mares, there are, all told, 15 registered, from one to seven years old, five of whom are in foal to Copyright. They are a rare good lot. Among the fillies are some that will surely be heard from in the show-ring. Anything in the horse line on these farms are for sale. As might be expected from so large a herd of Ayrshires, there are some cracker, as a glance at some of their last fall's winnings will show. At Toronto they won 3rd on aged herd, 1st on young herd, and 1st and 4th on breeder's herd. At Buffalo they won 2nd on herd, 4th on aged cows, 1st and 2nd on two-year-old heifers, 1st and 5th on yearling heifers, 2nd on heifer calves, and sweepstakes for best female in the class, 1st and 2nd on bull calves, and 5th on yearling bull. The stock bull is Duke of Clarence of Barcheskie, imported sweepstake of Canada in 1899 and 1900. The young stuff on the farms are all sired by him, and are a grand lot. The Messrs. Ness report sales as exceptionally good. Still there are others left that are for sale, of both sexes. In poultry, the broods kept are B. and W. Rocks, S. G. Parkings, W. Wyandottes, W. Leghorns, Pekin ducks, Chinese and Toulouse geese. Eggs from these different varieties are now for sale.

**REMOVED ROE SPAVIN.**  
The Lawrence-Williams Co., Cleveland, O.  
In the fall of 1896 we had a valuable brood mare which became very lame with her spavin, and during the winter we commenced using a certain Balsam on it, putting it on once a week, and spending at least a half hour in rubbing each time. Today her leg is as smooth as before, and we now consider Caustic Balsam the most responsible medicine for the stable.

**H. A. MIXER & CO.**

**SUMMERHILL HERD OF Large English Yorkshires.**  
HEADQUARTERS FOR THE IDEAL BACON HOG.



Our winnings at the large shows, for 1901, are as follows: At Toronto every possible first prize and five seconds, two silver medals, and first for pen of pure-bred bacon hogs, also sweepstakes on boar hogs over all breeds; at London every possible first but two; while at the Pan-American, where our herd was divided, half going to Toronto, we won six out of ten possible firsts, also sweepstakes on boar any age. At the Pan-American (Buffalo), Toronto and London there were thirty-six first premiums and medals given: all the medals and every first prize but six won by the Summer Hill Yorkshires. When in need of the best write **D. C. FLATT & SON, MILLGROVE, ONT.** Telephone: Millgrove, Ont.

**Maplewood Herd**

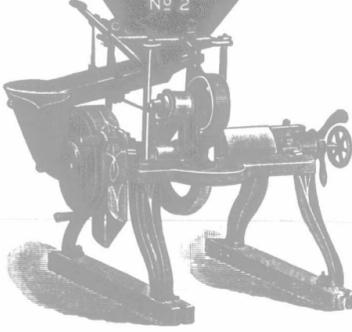


**7 IMPROV'D LARGE YORKSHIRES**  
PRIZEWINNERS AT  
Pan-American Exposition, Buffalo.  
**21 HEAD PRIZEWINNERS 21**  
AND PRIZEWINNING BLOOD.  
IMPORTED AND CANADIAN-BRED.  
BABY FERRERS, BACON TYPE, STOCK FOR SALE, WRITE US WHAT YOU ARE WANTING.

**IRA JOHNSON, BALMORAL, ONTARIO.**  
Nelles' Corners Station and Telegraph.

**Large English Berkshires.**

My herd consists of sows imported from England; three of them (including a show sow) were selected from the herd of Geo. Green and were bred to his show boars. Young stock for sale (not akin).  
**JNO. LAHMER, VINE, ONT.**



'Tis the WORK that TELLS. True of RAPID-EASY Grinders as of other things.

We use the Rapid-Easy Grinder No. 2 with an eight horse sweep power, grinding 50 bushels of mixed grain (oats, barley, and wheat and oats), and doing a splendid job. I am delighted with the way it works.  
JOHN TREER, Chickney, Assa.

With your Rapid-Easy Grinder, got from you a short time ago, we grind all sorts of grain, and in regular work the last time we ground with 12-horse power portable engine and grinder running from 1,800 to 2,000 revolutions per minute we did 140 bushels of mixed peas and oats in three and one-half hours.

The Rapid-Easy Grinder is the handle-t and best grinder I have ever seen, and it is the best running. For a number of years my neighbors have got grinding done on stones in Erindale, but since I have been using the Rapid-Easy Grinder I do the work for them, and they say they never before had such good work done.

Buy your machine now, and prepare to do your grinding. Further particulars on application.

**J. FLEURY'S SONS, AURORA, ONT.**  
Medals: World's Fair, Chicago, 1893; Paris, 1900.

**WILLOW LODGE BERKSHIRES FOR SALE**

Two boars 7 months old; several litters, 6 weeks to 3 months. Also a number of young sows ready to breed, sired by Longfellow 10th of H. B. No. 8633, and Gallant Prince No. 7691. Pairs supplied not akin.

**WM. WILSON, SNELGROVE, ONTARIO.**

**LARGE WHITE YORKSHIRES.**

An offering this month a superior lot of Yorkshire sows bred to Ruddington Ensign (imported). Young pigs up to three months of age, furnished in pairs not akin. A fine lot to select from. Write:

**H. J. DAVIS, WOODSTOCK, ONT.**  
Importer and breeder of Shorthorns and Yorkshires.

**YORKSHIRES AND POULTRY.**

Pigs all ages and both sexes; quality right. Eggs for hatching: Barred Plymouth Rocks, White Wyandottes, White and Brown Leghorns, and Buff Orpingtons. Incubator for sale. Also choice pedigree collie pups.

**A. B. ARMSTRONG, CODRINGTON, ONTARIO.**

**FOR SALE: Yorkshires and Holsteins**

Best type and quality. Young stock constantly on hand. Prices right. **R. HONEY, Brickley P. O., instead of Warkworth.**

**YORKSHIRES**

Headed by Oak Lodge Prince 5071. Litters 15 weeks, either sex; 2 sows to farrow.  
**WM. TEASDALE, Dollar, Ont.**  
Northern branch G.T.R., 15 miles from Toronto.

**Imported Poland-China Hogs.** We are offering choice, of both sexes, any age (pairs not akin), from imported stock, and of the true type. Easy feeders, rapid growers. **ROBT. L. SMYTH & SONS, Fargo P. O. and Station, M. C. R.**

**Chester Boars**

A few good Also some Dorset ewes and ewe lambs. Prices reduced for 30 days.  
**R. H. HARDING, Thorndale, Ont.**

**NEWCASTLE HERD OF TAMWORTHS**

We are now offering several choice boars and sows, 3 and 4 mos. old, and half a dozen choice 2 mos. olds, all from Toronto Industrial sweepstakes herd. Write us for prices before buying elsewhere.  
**COLWILL BROS., NEWCASTLE, ONT.**

**Coldspring Herd Tamworths.**

Offer choice Oct. and Nov. boars and sows Also my stock boar, Advance. This is the spot for the best. Write for prices. They are moderate, quality considered.

**NORMAN M. BLAIN, ST. GEORGE, ONT.**  
BRANT CO.

**GEM and McGLOSKEY**

weaving machines, also Colled Spring and other fence wire at lowest prices. Write on McGregor, Danwell & Co., Box 25, Windsor, Ont.

**Agents Wanted**

for the New Pictorial Stock Doctor and Live Stock Cyclopedia, revised to 1901 with the assistance of the Professors of the Ontario Agricultural College, Guelph. The finest illustrated, cheapest and best book of its kind ever published. Large wages to agents. A full-page announcement of this book appeared in the ADVOCATE of the issue of June 5th. Particulars mailed free. Address **WORLD PUBLISHING CO., Guelph, Ont.**

**FOR SALE:** A few pairs of choice TOULOUSE and a few pairs left. A few B. P. R. COCKERELS. **W. W. EVERITT, Chatham, Ontario.** Box 553.

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INCUBATORS AND BROODERS.

Guaranteed to give satisfaction. Built to last a lifetime. Absolutely self-regulating, self-ventilating, and perfectly reliable in every way.

For circular giving prices, etc., write the manufacturer: J. E. MEYER, Shipping station: Guelph. Kossuth, Ont.

BUILT FOR BUSINESS! THAT'S THE IDEA.

The Cyphers Incubators



are positively warranted to last TEN YEARS, without repairs, and are guaranteed to OUT-HATCH, during three trials, any other make of incubator on the market.

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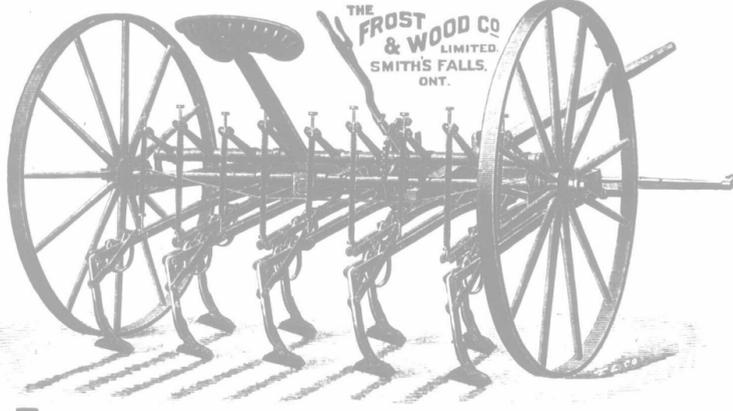
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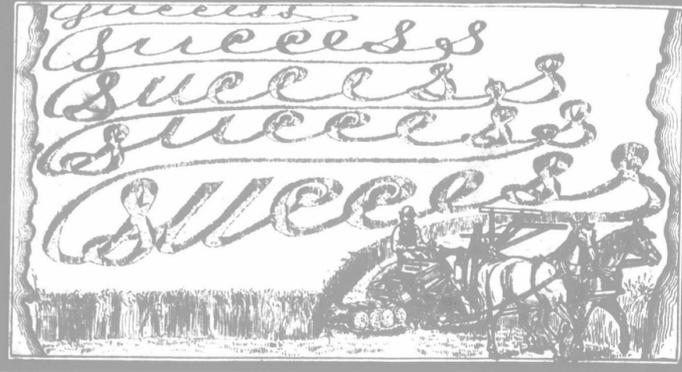
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