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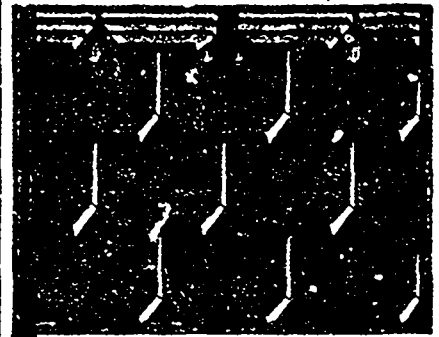
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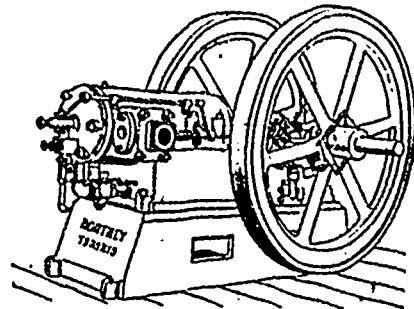
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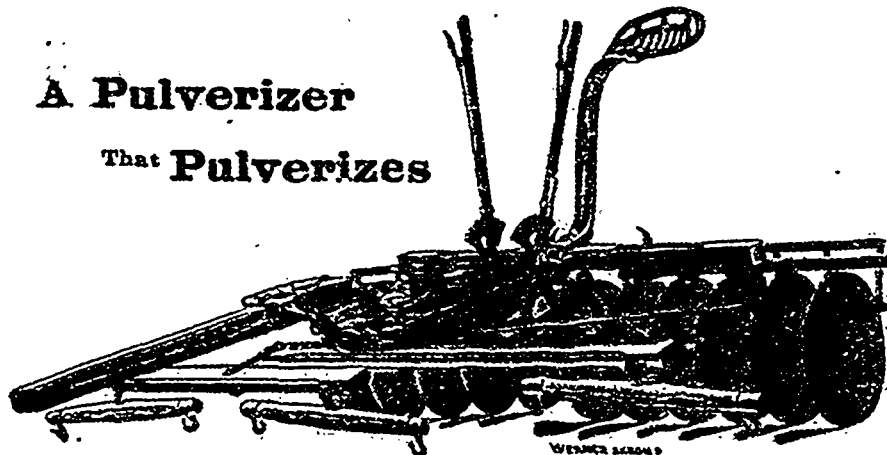
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FARMING

VOL. XVI.

JANUARY 31st, 1899.

No. 22

Agricultural News and Comments

Prof. H. H. Dean, of the Ontario Agricultural College, Guelph, delivered an address last week, at the New York State Dairymen's Convention, on "Curing Rooms and Curing Cheese."

Sixty three students wrote on the Christmas examinations at the Ontario Agricultural College. Forty three of these wrote on the examinations of the first year and twenty on those of the second year. The attendance at the college this year is larger than it has ever been.

The cultivation of mushrooms in disused railway tunnels is carried on profitably in Edinburgh. In the old tunnel of the North British Railway Company 1,000 tons of manure and 1,000 baskets of spawn are used annually, and the crop has been as large as 5,000 lbs. of mushrooms a month.

The Maritime Dairy School at Sussex, N.B., will be opened on February 21st in the new building erected by the New Brunswick Government. The new building and equipment will make the work of this school more effective than in the past, in educating the makers of the Maritime Provinces in the best methods of making cheese and butter.

The ration fed to cows in full milk at the Nappan Experiment Station is composed of the following: Ensilage, 40 lbs., bran, 3 lbs.; chop (mixed grains, oats and barley), 3 lbs. and pea meal, 2 lbs. At the Nova Scotia Provincial Farm the following is the ration: Ensilage, 20 lbs.; clover hay, 10 lbs.; oat straw, 2 lbs.; wheat bran, 5 lbs.; and middlings, 2 lbs. per day per 1000 lbs., live weight.

A peculiar disease resembling hog cholera has broken out among the swine in the vicinity of Merrickville, Ont. Many farmers are reported to have lost whole herds of swine by the malady. Dr. James, Dominion Government Inspector, who has investigated the disease, states that he does not know what it is, and has submitted several specimens of diseased meat to Professor Adams, of McGill College, Montreal, for bacteriological examination.

Sheep raisers in Washington State are troubled very much with a wild animal known as the coyote destroying their flocks. The remedy adopted is to place the poisoned carcass of the cayuse or Indian pony in the field, using about a half ounce of strychnine and about an ounce of arsenic to each horse. Why would not some similar plan do for the dog nuisance in this country? A great many sheep are destroyed every year by dog worrying. The dogs that do this worrying are not worth keeping.

A plan has been adopted in France of selling potatoes peeled, sliced, and dried like certain fruits. This method obviates decay and germination of the tuber, and, occupying less space, transport will be cheaper and less difficult. The potatoes are peeled by machinery, next carefully washed, sliced in rounds, and left for twenty minutes in a strong solution of kitchen salt. Later the cuttings are left to drain, placed in the drying apparatus on hurdle shelves, and submitted to a temperature of about 194° F. Before using, the slices have to be steeped from twelve to fifteen hours in water, when they will become as fresh and as flavory as new potatoes.

Is Canadian Cheese Losing Its Hold Upon the British Market?

At the dairy conventions held recently at Kingston and Guelph it was clearly demonstrated by more than one speaker that our cheese trade has reached a very critical stage in its history, and that a marked improvement in quality must be made if Canada wishes to hold even her present position in the cheese markets of Great Britain. The Hon. Mr. Fisher, Dominion Minister of Agriculture, stated that when in England last summer he found, for the first time, criticism of Canadian cheese. A great deal of the English cheese is better than Canadian, which Canadian makers must reach up to if they expected to hold the market they now have. Prof. Robertson, Agricultural and Dairy Commissioner, makes a similar statement. English buyers complain of Canadian cheese not being as good as it used to be. He thought, however, that the quality was as good as formerly but that the English consumer had been getting better cheese from other quarters, and therefore the standard of Canadian cheese was not as high as it used to be. The British consumer wants a milder cheese.

These statements coming from such authoritative sources indicate that our cheese trade has really reached a crisis. We have heard similar statements made by others, chiefly by those engaged in the export trade, who complain of the quality of a great deal of Canadian cheese being unsatisfactory to their customers in Great Britain, and especially the quality of the product made during the past season. The two chief faults found with it are: Not mild enough in the flavor and too hard and dry in texture. What the British consumer wants is a mild, "cool" flavored cheese, meaty and not so harsh as many of our Canadian cheeses are, and our dairymen must be prepared to supply this quality if they wish to retain their present hold on the British markets.

This matter is all the more serious when we reflect that our competitors are watching every move we make, and an opportunity, such as a deterioration in the quality of Canadian cheese would give them, would be quickly taken advantage of. It is generally believed that we have not much to fear from American competition in this trade. But we would remind our dairymen that the Americans have made great advancement in recent years in what is our weakest point, viz: proper curing facilities. From what we can learn the average curing room in New York and Wisconsin, the principal cheese States of the Union, is much better equipped with facilities for controlling the temperature than the average Ontario curing-room is. New Zealand has lately secured one of Canada's best dairy teachers, in the person of Mr. J. A. Ruddick, as her Dairy Commissioner. In an issue of the *New Zealand Dairyman*, just to hand, Mr. Ruddick, who has made a trip over the Island, gives his impressions of what can be done in that country in the way of producing cheese. He states that New Zealand ought to produce as fine, if not finer, cheese than any other country now engaged in the industry, and gives as his reasons for this, that the factories are very well built and furnished, that there is a good class of men in charge and that the climate is such that the temperature seldom goes higher than 75° and rarely to that point. This low temperature means a slow curing cheese, which is productive of that "cool" flavor so much wanted in Great Britain. Further on Mr. Ruddick states that Canadian

summer-made cheese can never have that desirable quality unless artificial means are employed to regulate the temperature in the curing-rooms.

These facts should be weighed carefully by every dairyman. It will not do to cover up our faults. Something must be done, and that right away, to remedy matters. There has been, perhaps, of late years a little too much resting at ease and feeling secure because of former successes. To produce the quality of cheese required for the British trade one thing is absolutely necessary, and that is better curing facilities in our cheese factories. A great many of the curing-rooms in use to day were built at a time when about all that was thought to be necessary in curing cheese was shelter from the storm. All curing-rooms of this character, which cannot be fitted up so that the temperature can be controlled at all times, should be replaced by new ones before the season of 1899 begins. There is no use whatever in a maker attempting to make a mild-flavored, meaty cheese if it has to endure a temperature of 90 degrees in the curing process. These are facts that should be acted upon by every factory owner in the country.

In summing up the situation one might add that there is no great cause for alarm just yet providing active measures are taken at once to improve the quality of the product. But, if this is not done and the season of 1899 goes by and the British consumer is still complaining, a really serious state of affairs will have arrived in connection with our important cheese industry. Those in the trade will remember that it only took Canada a comparatively short time to replace the United States in the cheese markets of Great Britain. As soon as the English dealer found that he could get a better quality of cheese from the former than from the latter he was not long in changing his customers. And so it will be with us should any other country get ahead of us in point of quality, the English importer will very quickly send his orders elsewhere.

The Rearing and Management of Poultry on the Farm

By J. E. Meyer, Kossuth, Ont.

The proper time to begin making preparations for rearing your chickens is early in February. At this time the farmer or his wife, and it is the wife on many farms who takes the greatest interest in the poultry, should carefully select about ten of the choicest hens or pullets, yearling hens preferred, and place them together with a purebred male in a pen containing seventy (or over) square feet of floor space. You cannot very well have this pen too large, but it will not do to have it smaller than this, because the birds would be too crowded. The floor of your poultry-house should be covered with five or six inches of dry sand or clay, and over this again place five or six inches of wheat straw. The purpose of this earth and straw is to enable you to cover all the grain scattered in it so as to make the fowls scratch. It is the nature of a hen to scratch for her living, and we must follow nature as closely as possible, while our hens are confined to their houses in cold weather. A flock of hens that have a trough full of wheat before them all the time will stand round all day, likely begin feather-eating, and certainly will not lay. A lazy hen is a very indifferent layer.

You have no doubt noticed in the spring and autumn that some of the hens remain outside hunting and scratching long after the majority have gone to roost. Such hens are always the best layers. The roosts are important, more important than most people think. When roosting out of doors hens will generally go to a high place. They do this for security. In the morning they fly down obliquely and so light easily. Not so with your high perches in the hen house. The fowls cannot fly down obliquely from them, as there is not room, and so they must come down heavily, especially if one of the larger breeds. This is certain to bruise their feet, causing bumble-foot. Many

farmers have what may be termed ladder-roosts placed against a side of their houses. On these the fowls all crowd for the highest perch, and many are knocked down, falling heavily to the ground and hurting themselves. Under both these styles of roosts the droppings are allowed to accumulate in large quantities, and through it the fowls walk, causing many of them to contract a disease of the legs and feet called "scaly-leg"—a very unsightly disease. This filthy place is the cause of at least one other disease, vermin, that is bound to trouble your fowls if they are not kept clean. Myriads of lice will harbor and multiply in such a place. It is a regular hotbed for them. Your hens cannot be healthy and thrive in such a place. You know that it does not pay to keep an unhealthy cow or horse about and neither does it pay to keep an unhealthy fowl. Let us then consider how we are going to keep our fowls from feather-eating, egg-eating, scaly-leg, and lice. Later on in their proper place we shall speak of the other common diseases. First, the roosts. Build a tight, warm platform $2\frac{1}{2}$ inches from the floor, and 10 inches above it place the perches in such a manner that they can easily be removed. The droppings will be caught by this platform, which should be cleaned off every morning. On the perches pour coal oil once every two weeks in winter and every week in summer. Besides this the whole house should be whitewashed, fumigated with sulphur or sprinkled carefully with a coal oil emulsion with the spraying pump at least every fall. Clean out the nests often, pour coal oil about them, put tobacco, sulphur or insect powder in them. To keep them from feather eating and egg eating make them work, give them a little meat and give plenty of fine gravel or broken crockery for grit.

(To be continued next issue.)

Cheese and Butter-Makers' Meeting.

The first annual convention of the Cheese and Butter-Makers' Association of Western Ontario takes place at Listowel on Wednesday and Thursday of this week. Some of the speakers who are announced to be present are the Hon. John Dryden, Prof. Dean, G. G. Publow, instructor in cheese-making, Kingston Dairy school; T. C. Rogers, instructor in butter-making, Guelph Dairy School; A. F. MacLaren, M.P., R. M. Ballantyne and Mark Sprague. The practical side of cheese and butter-making will be discussed in all its bearings and every maker should arrange to be present.

Prince Edward Island Farmers' and Dairymen's Association

(Continued from Last Week. Specially Reported by J.A.M.)

Mr. Turner's resolution, calling upon the Provincial Government to appoint a professor of agriculture at the Provincial College and also to deliver lectures and addresses throughout the country, was first taken up.

Mr. Edwards suggested that, in view of the apparent apathy of many farmers in respect to agricultural education, the time to appoint a professor had not yet arrived. The cost, too, should be considered.

Mr. Huestis thought it very desirable that the principles of agriculture should be taught in the Public Schools.

Mr. Turner said that no objection was made to the other professors in the college on account of their cost, though they train young men and women to leave the farm. He thought it high time to stir up the youth of the province to the first importance of agriculture, and he agreed with Mr. Huestis that the place to begin was in the Public Schools.

Mr. Stitson quoted the proverb, "Train up a child in the way he should go," and said that, in his opinion, this was a golden opportunity for the farmers to express their opinions as to the importance of agricultural education and the duty of the Government in respect to it. For his

part, he thought the Government, if necessary, ought to make a cut in other directions and have an agricultural professor at all hazards. What has raised agriculture in this province? The lectures of Prof. Robertson *et al*, more than anything else. Why not continue this good work on behalf of this province? If the farmers stand shoulder to shoulder and present their claims in a straightforward manner they will be recognized.

—Mr. John H. Gill, Little York, said that if we wait till the people *know* all about the needs of agriculture there will then be no need of an agricultural professor. The aim and standard of education in this purely agricultural province ought to be changed. He would do away with one of the classical professors and put a professor of agriculture in his place.

Mr. Brown was in favor of having an agricultural professor and thought that the people had already waited too long.

Mr. S. Huestis thought that part of the money now expended on other branches of education might be taken and applied to instruction in agriculture. Mr. McLellan thought that the question of cost should not be entertained. If cost was the difficulty, we could dispense with one of the other professors in the Prince of Wales College. Let us have agriculture instead of physics, Latin or Greek.

The resolution was then put and carried unanimously, and the following gentlemen were appointed a committee to press the matter upon the Government: Messrs. F. Turner, J. R. Edwards and James Caruthers.

Mr. Stitson submitted the following resolution, which was seconded by Mr. Turner:

Whereas, it is highly desirable that something should be done with a view of protecting, as far as possible, sheep from the ravages of dogs, and to make provision for raising a fund to indemnify farmers for losses sustained or damage occasioned to their flocks, in certain cases; and whereas it is believed that the levying of a dog tax would greatly tend to lessen the number of dogs and thus to reduce the opportunities for damage doing;

Therefore resolved, that in the opinion of the members of this association a law should be enacted by the Legislative Assembly imposing a tax of \$1 upon every dog, to be paid annually, such tax to be levied and collected in each school district, in the same manner as the ordinary school assessment; the amount so collected up to \$50 in the aggregate to form an indemnity fund for losses, etc., sustained, and the surplus over that sum to be available in the school district for current school expenses.

Further resolved that petitions to the Legislative Assembly, asking for the enactment of such a law, and at the next session of the Legislature be circulated throughout the province forthwith.

This resolution was discussed by Messrs. Gill, Edwards, Huestis, Turner, Crockett, and McInnis, all of whom agreed that sheep-raising is highly important to the province, and that dogs are a great nuisance while the present law is ignored. Mr. Gill suggested an amendment to the resolution, "that a central sheep fund of \$500 be made up out of the proposed dog taxes, and the balance returned to the respective school districts, *pro rata*." This amendment was adopted. Messrs. Stitson, Crockett, and Edwards were then appointed a committee to see the matter through.

Evergreens

Written for "Farming" by E. Morden, Niagara Falls South, Ontario

The use of Norway spruce for hedges and windbreaks is quite general in this vicinity, but in much of Ontario the howling winds sweep unchecked over scores of farms. Windbreaks thirty to forty feet high were planted about twenty years since—when well shorn, effective fences of moderate height are the result.

As these Norway spruces can be bought very cheaply the first cost is not great. Some of the rarer evergreens are now sold at a moderate price and should be better

known. Many varieties are very hardy, very handsome, and complete novelties in most neighborhoods. A Douglas spruce, a Concolor spruce, a Colorado blue spruce, or a Rocky Mountain silver cedar is an unknown tree in many localities.

The Douglas spruce is a very rapid grower. The Concolor spruce has a coarse-looking pretty foliage which is mellow to the touch.

Both of these have occasional blue-colored foliage. The Colorado blue spruce grows more slowly, and is in many specimens possessed of blue foliage. Even in samples deficient in color the tint is much superior to that of the Norway spruce. The Rocky Mountain silver cedar has a peculiar light green foliage, which, unlike other cedars, does not fade in winter. It is a decided novelty and is worthy of a place in almost any lawn.

Another evergreen with a peculiar light green-colored foliage which also endures the winter without losing color is the Swedish juniper. The Irish juniper is rather well known as a very erect pyramidal tree with a blue-green summer color, but it turns brown in winter. The Swedish is not quite so compact in form, but its color is exquisite, and it is said to be very hardy, with me both endure our winter without difficulty.

Another evergreen for lawn decoration is the Dwarf Mountain pine. This forms a broad spreading bush-like tree with a beautiful foliage, made up of short spines. Although this is not a new evergreen we rarely see it in any lawn.

As these evergreens decorate a lawn for twelve months in the year, and require very little attention, it is hard to understand why they are not more generally used. Some of the Chinese arbor vitæ are interesting, but they are not reliable in this climate. Scotch pines are rather coarse for lawn purposes. Their strong long foliage and large growth give them a marked appearance as a feature of the landscape.

CORRESPONDENCE

Milking Test.

To the Editor of FARMING:

FARMING to hand and is always welcome, as there is valuable information to be got from it. I take particular notice of anything pertaining to dairying, as that is what I am engaged in and where my bread and butter comes from, or, in other words, my living and profits are due to that business. I read Mr. Rice's letter and it would appear as though a food test would bother him. He states that a small cow has no chance with a large one and I agree with him. If the large cow is a good dairy cow and eats twice as much as the small cow, and the food is not considered, the small cow would not have a chance. I also agree with him that every man has a perfect right to choose the breed which he thinks best, but after doing so does not think other breeds are useless. I started with grades of different breeds and found the Ayrshire to be the best dairy cow, and that is why I bought my first pure-bred heifer. She gave good results and then I bought more, and to-day I am better pleased than ever. I know different dairymen who have tried the different breeds and are satisfied to take the Ayrshire or their grades in preference to all others.

Mr. Rice gives some figures concerning the milk test at Brantford. He does not tell how long the Ayrshires were milking. They were milking a long time, all of them. Nellie Gray dropped her calf in May and Briery Banks Cora dropped hers in August and were at Toronto, London, Brantford, Ancaster, Dundas, Rockton and Freelon Fairs, and ran with the other cows until it froze up, and to make things worse, I intended to ship from Dundas on the 7 o'clock train to the dairy show, and when I got to the station there was no car placed for me to load, so my cows had to stand out in the cold about two hours and my roots got frozen, and that put my cows back a great deal. Now as regards the Holsteins, they were in first-class shape and had

just calved, and Mr. Rice is as good a feeder as you can scare up. He has been schooled right up to it.

I would like to give some figures concerning the test at the Brantford Fair in Sept., '98. The Holstein cow that was the best cow in Toronto, and won the milk test there, scored these points: lbs. solid, not fat, 4.786; lbs. fat, 1.431; total score, 123.81; while Nellie Gray scored 367.8, 1.369 and 104.62; and Briery Banks Cora 4.187, 1.711, 115.92. These figures were the result when feed was not considered, and it is fairly understood that it cost a great deal more to keep up a big frame than a small one. Please be kind enough to publish this, as there are two sides to every question, and let the public judge for themselves.

Yours respectfully,

N. DYMENT.

Clappison, Ont., Jan. 17, 1899.

The Value of Butter-Fat

To the Editor of FARMING:

In your issue of January 17th Professor Shuttleworth says, in answer to my question 5: "Fat alone is sometimes taken as the measure of the commercial value of milk, not because it is the only nutrient in milk, but because it is regarded as an accurate basis for the valuation of the butter or cheese-producing capacity or power of milk."

If this view is correct, how does the Professor account for the variations shown in Mr. Geo. Rice's table of results of test at Brantford (in article in issue of Jan. 10th)?

BREEDS.	LIBS. SOLIDS NOT FAT.	LIBS. FAT.	TOTAL SOLIDS.
4 Ayrshires.....	21.608	8.847	30.455
4 Holsteins.....	44.282	15.963	60.185
4 Jerseys.....	19.725	10.680	30.405

In this case the four Holsteins show about 50 per cent. more fat than the four Jerseys, but about 120 per cent. more solids not fat.

Again, your correspondent W.E.B. says: "Fat gives milk almost its entire commercial value." But Professor Shuttleworth says that fat has no value at all as a flesh-producing food, and no more value than any other animal or vegetable fat as a heat producer. Why then should its commercial value be so much greater except that it is somewhat more palatable than some of the others?

The Professor notes that the habitual consumption of cream causes serious disorder of the digestive system. Is it not well known also that milk, very rich in butter-fat, causes similar disorders, especially in the case of children, and young calves as well?

I consider that the *food-value* of a cow's product is the *Omega* of this question, just as the *consumption of digestible dry matter* is the *Alpha*, and on this ground I claim that the deification of butter fat by breeders of some classes of cattle is just a trifle too fervent.

W.A.C.

St. George, Ont., January 20th, 1899.

Profitable Farming

PIGS IN CLOVER

To the Editor of FARMING:

This morning, in looking through some back numbers of FARMING, I was reminded of an impression that crossed my mind a few weeks ago when first reading those interesting letters from Mr. Heggie and Mr. MacPherson on the keeping of pigs in clover.

And, by the bye, it is a very good plan to take an occasional back look through our file of agricultural journals. I carefully preserve all mine for that special purpose, and find a re-perusal highly refreshing and instructive. On first receiving our paper we are anxious to see what it contains, and are apt, in rushing from subject to subject, to have the impression engendered by articles first coming under our

notice overshadowed for the time being by the interest of the subjects latest considered.

It was so with me this time, for when I first read Mr. Heggie's remark: "Clover pasture for pigs is, no doubt, the only profitable method of pork production, and I intend going largely into the business next season," I was considerably interested by it and felt desirous of considering the matter further; but other matters intervened until Mr. MacPherson's exceedingly interesting letter in the issue of FARMING for November 29th again made "Pigs in Clover" a subject of immediate interest. Once more the question was carried out of noisre amid a drift of every-day humdrum. But on the 9th of January, 1899, having got the bustle of Christmas over, and finding myself with a little spare time on my hands, I sought a little recreation in a parcel of FARMING, and when I chanced across this pigs in clover question the whole matter recurred to me with such renewed force that I determined to make a few comments upon it at once; partly as a solatium to my own feelings, but probably chiefly with a hope that I might learn more of the subject through further discussion.

Mr. MacPherson very truly says: "It is not part of the principles of profitable farming to determine and decide that just so many pigs should be kept on all acres of clover, but to decide from correct data and all the factors coming into the environment as influences just how many pigs each individual acre of land under clover or any other green forage plant will maintain. For instance, different acres have different productive powers, etc., etc." Certainly it is necessary to carefully consider "all the factors coming into the environment," and it appears to me there are some very important factors entering into the environment of continuous pig production on one or more acres of clover. But, of course, as again Mr. MacPherson so aptly points out: "Business science of farming is the discovery and acquirement of all facts and data relating to profit and loss in all departments of farm work, and of so arranging these in systematic order that this will enable the operator, under average conditions, to obtain most positive results, producing the greatest available profits present and future."

Yes, just so; to have a sound grasp of the facts is the secret of success in agriculture, as in most other businesses. His own practical experience will generally, sooner or later, give a man a pretty square knowledge of the bearings of the facts, but this method of individual education is usually expensive, and, under the ordinary conditions of existence, it is no uncommon thing to find life's energies exhausted before the completion of the apprenticeship.

Science, which is but the systematic ordering of already proven facts and practical experiences, is in many ways capable of simplifying and expediting this battle-of-life apprenticeship; and, by placing a man on the direct road to success at an earlier stage of his existence than his own experience could have accomplished, practically gives him a longer range of usefulness in that period known as the prime of life.

It is a fact that clover-pasture-feeding is a profitable method of pork production; but that it is the *only* profitable method is not so obvious, as Mr. Heggie suggests. It is also a fact that, if pigs are continually fed and marketed from the same acre of clover-pasture land, they will, whether there are fifty of them or only fifteen, walk an enormous lot of bone out of that land, and, unless that bone is compensated for by special manuring, the land will rapidly become both pasture and pig sick, when there will be an end to all chance of profit; and I think this is a highly important factor in the general environment.

All soils have a tendency, more or less, to become clover sick, but, under the particular circumstances of pig and pork growing, this tendency would be enhanced through the abnormal misbalancing of plant food through the manurial residuum. Of course, the land gets manured, and richly so, so far as the nitrogenous element is concerned, but the nitrogenous manure will not promote the well-being of the clover crop, rather to the contrary; and, as the phosphate of lime—so essential to the profitable culture

of clover and pork—is undergoing continual exhaustion through its being worked up into the living frames upon which the pork is carried to market, the collapse of the whole business is but a matter of time, unless special phosphatic manurial compensation is made in the meantime.

It appears to me that the entire problem of pork production on clover pasture—quantity, quality, profit and possibility of continuation—hinges on the manurial question.

It may be that Canada with her vast inheritance of virgin soil has not hitherto thought it necessary to give any very close attention to manurial details, but, however this may have been in the past we are now arriving at the time when the manurial problem will require the same attention in Canada as elsewhere; and it will then be found that the clover crop and its effective manuring is the leading factor, not only in pork production, but in the entire general environment of successful agriculture.

This important fact is recognized by the government. The last agricultural report issued from Ottawa says: "A high degree of soil fertility or crop-producing power is one of the fundamental factors in profitable farming. The system of green manuring, as practised by turning under a crop of clover, increases fertility in a greater or less degree. The feature of special importance is that the decay of the clover enriches the soil in nitrogen and organic matter—a distinct gain, since all the elements of the latter, and the greater portion of the former, have been appropriated by the clover plant from the atmosphere. As much nitrogen can be furnished per acre by plowing down a crop of clover as would be furnished by an application of 10 or 15 tons of barnyard manure."

This obtaining of nitrogen free from the atmosphere is a factor of the utmost possible importance, and will constitute the keystone in the agricultural economy of the future. A few weeks ago an eminent British scientist, Sir William Crookes, suggested the possibility of this bread-producing problem of the future being solved by yanking Niagara into harness as the motive power in an atmospheric nitrogen-collecting factory. It seems more practicable and natural to use the clover crop for the purpose, and in doing this the great desideratum is to feed the clover liberally with phosphate.

Nitrogenous manures are comparatively expensive to buy, while phosphates are now comparatively cheap; therefore, if by using the latter liberally we can secure a free supply of the former, it is good business, as we get a bumping mackerel for our sprat. This we can literally and readily do by dressing the clover crop with suitable phosphate, as under that stimulating influence the nitrogen-collecting powers of the plant will be immensely increased. And besides this the comparative feeding value of the crop is greatly increased also—even in ratio with the increased production—*i.e.*, that even if there is two or three tons of clover grown after applying phosphate, where only one ton was grown previously, each ton of the increased crop will be of considerably higher feeding value than the ton from the originally poor crop.

That there is this increase of nutritive value, bulk for bulk, after dressing with phosphate, I am fully satisfied, as I have many proofs of it; but the peculiar case of the Northumberland experiments conducted by Dr. Somerville, some accounts of which was given in FARMING about a month ago, is a fair example. In this particular case 10 cwt. per acre of basic slag or what is commonly known as Thomas-Phosphate Powder was applied to grass land, one portion of which was mown, the other portion being grazed with sheep. On the mown portion there was an increase of 50 per cent. in weight of produce, while on the moiety that was grazed with sheep there was an increase of 175 per cent. of mutton over that of a similar lot of sheep folded on an equal area of the same field that had not been treated with Thomas-phosphate.

This is a particular point I want to call attention to as regards the "pigs in clover" question. First, the absolute necessity for dressing the clover with phosphate to maintain the plant-food balance essential to a profitable

continuance; and, secondly, the increased nutritive ratio and improved quality of pork obtained through doing so.

No doubt these very remarkable results brought out by Dr. Somerville are due to the marvellous effect of the Thomas phosphate on the clovers and other leguminous plants. I will, however, quote a few words from the Doctor's own report: "The figures show that the slag has increased the yield of mutton by 175 per cent., whereas, the hay was only increased by 50 per cent.; the inference being clear that the Thomas-phosphate has had more influence on the quality than on the quantity of the produce, and that the leguminous herbage has been a better measure of the meat-producing power of the pasture than the weight of hay."

FRANK WALLIS.

Lincoln, England, Jan. 10th, 1899.

Ayrshire Breeders in Canada Have Decided to Publish One Record Only

At the last annual meeting of the Dominion Ayrshire Breeders' Association a committee was appointed to open negotiations with the Canadian Ayrshire Breeders' Association at Quebec with a view to establishing one Ayrshire Breeders' Association for the Dominion and of issuing one Herd Book. The committee was appointed and the work proceeded with at once. The following are the minutes of the various committees, which give particulars, showing what has been done up to date. The work, as the following minutes show, has been very successfully completed, and the thanks of the Ayrshire breeders of Canada are due to the joint committee appointed to conduct these negotiations.

Minutes of meeting of delegates from Canadian and Dominion Ayrshire Breeders' Associations, held at the office of the Central Canadian Exhibition Association, March 10th, 1898:

Delegates present, from Quebec association: Robert Ness, Howick, Que.; David Benning, Williamstown, Ont.; John Morrin, Belle Riviere, Que.; Daniel Drummond, Petite Cote, Que.; and F. W. Stephen, Trout River, Que. From the Ontario association: W. W. Ballantyne, Stratford; Joseph Yuill, Carleton Place; J. C. Smith, Hintonburg; F. W. Hodson and H. Wade, Toronto.

Mr. Robert Ness was appointed chairman and H. Wade secretary of the meeting. Letters were read from the secretaries of the different associations, giving the names of the delegates as above.

Moved by Jos. Yuill, seconded by D. Benning, and resolved: That it will be to the interest of the breeders and owners of Ayrshire cattle that the present two Ayrshire Associations amalgamate.

The then financial standing of the two associations was as follows: The Quebec association had \$210 on hand and the Ontario association on the first of January last had \$418 49. The Ontario Association had nine directors, a president and vice president. The Quebec association had ten directors, a president and vice president.

The delegates from the Ontario association explained that, by a resolution passed at their last annual meeting, they were empowered with authority to enter into amalgamation, if they thought proper to do so. The Quebec delegation explained that they would have to report the result of their meeting to a special general meeting of their members, which would be called together specially after a short notice.

In case of amalgamation it was decided to call the new association "The Canadian Ayrshire Cattle Breeders' Association." That the number of directors be fourteen, seven from Quebec and eastward, and seven from Ontario and westward, and that they choose from amongst their number a president and a vice-president.

That the term of office for directors be for two years after the first year. That the annual meeting be held alternately in Montreal and Toronto. When held in Montreal the seven eastern directors' term of office will expire

and when held in Toronto the seven western directors' term of office will expire.

The annual meeting to be held in February of each and every year.

After due consideration the following plan of registration of animals and printing of the Herd Book was adopted, viz: That a new Herd Book to be called "The Canadian Ayrshire Herd Book" be started, commencing with the next to the highest number in the Volume of the Quebec book now in print, and that the pedigrees of this book be abbreviated, only giving the sex, color, age, sire, grandsire, dam, and sire of dam, and that they be numbered consecutively irrespective of sex, then quoting as foundation stock the names and numbers of their sires and dams from either the Quebec or Ontario book, where the rest of the pedigree will be found, then doing away with the necessity of reprinting the pedigrees that have already been printed, and leaving the volumes already printed of as much value as heretofore.

The standard of the new book to be as before, that no animal be accepted that cannot trace to imported stock from Great Britain, on both side of sire and dam. Animals imported after January 1st, 1899, must be recorded in the Scotch Herd Book to be eligible to record in this record. That the fee to become a member be \$2 per annum. Becoming a member entitles each member to a volume of the Herd Book as well as to reduced rates of registration.

Fees to record an animal under two years of age, as per Herd Book, with certificate to a member	\$ 75
Fees to record an animal, etc., to a non-member	1 25
Fees for transfer certificate, duplicate certificate, each	25
Fees to record an animal over two years to a member	1 00
Fees to record an animal over two years to a non member	1 75
Fees for an extended pedigree	25

It was resolved that the new book be edited by the secretary at Toronto, who will pass on and issue pedigrees under rules furnished by the Executive Committee and correct proof for a fee of 35 cents per pedigree and 10 cents per transfer or duplicate certificate. Also that a secretary be appointed at Montreal at such a salary as the Executive Committee shall think fit to allow.

It was moved by Jos. Yuill, seconded by F. W. Hodson, and resolved, That all pedigrees that were allowed to be recorded in the different volumes by an arbitration that cannot be clearly traced be suspended until additional information be obtained by the following committee appointed for the purpose of investigating and finally deciding whether these pedigrees can be accepted for the new book or not. This committee consists of Messrs. R. Ness, D. Drummond and H. Wade.

It was also finally resolved that the two associations shall amalgamate on the basis of the resolutions as above. That the present directors of each association be the directors of the joint association for 1898 and till the next annual meeting in February, 1899, which shall be held in the city of Montreal; also that the president of the Quebec association be president and chairman of the joint association, and the president of the Ontario association be the vice-president of the joint association, and that the present joint committee be the Executive Committee for the joint committee up to that date.

It was also resolved that the unprinted pedigrees of the Ontario book be printed in the first part of the new volume in the same manner as before to prevent the confusion in numbering, and that the fifth volume of the Quebec Herd Book, now being printed, be also accepted as part of the series. It was also resolved that back numbers of both the Quebec and Ontario books be sold at the rate of \$1 per volume.

These resolutions were adopted unanimously by the joint committee.

Minutes of adjourned meeting of delegates from Canadian and Dominion Ayrshire Breeders' Associations, held at the office of the Exhibition Association, Montreal, March 25th, 1898:

Same delegates present as at the meeting held on March 10th, with R. Ness, of Howick, Que., in the chair.

The minutes of the meeting held in Ottawa on March 10th were adopted.

The secretary of the Quebec association, Mr. Berube, then read the following resolution passed at a meeting of the members of the Ayrshire Importers and Breeders' Association, held in Montreal, on the 21st inst.

After a long discussion, it was moved by Mr. J. L. Wilson, seconded by Geo. H. Muir, and resolved,

That the report just read be received and adopted, and that the Executive Committee be empowered to make final arrangements with the Special Committee of the Dominion Ayrshire Breeders' Association and enter into amalgamation. It was then moved by Jos. Yuill, seconded by D. Drummond,

That we, the authorized delegates from the Ayrshire Breeders' Associations, do hereby agree to amalgamate on the basis of resolutions already reported from the Ottawa meeting, and that, from this date, March 25th, 1898, there be only one Ayrshire Breeders' Association for the Dominion of Canada. Carried.

Moved by F. W. Stephen, and seconded by W. W. Ballantyne, and resolved,

That all properties now owned by the two associations, such as cash on hand, herd-books, pedigrees and applications for pedigrees, etc., from this date be the property of the newly-organized Canadian Ayrshire Breeders' Association.

It was also resolved, That the Stay There Ear Markers, made of aluminum, and supplied by Wilcox & Harvey Mfg. Co., of Chicago, Ill., U.S., be used by this Association, and a tag with a corresponding number to the number on the certificate be supplied with each pedigree, with the understanding that it be put in the ear of the animal that is recorded—that the Exhibition Associations be requested to pass resolutions insisting that these tags be in the ears of all animals of this breed exhibited.

It was resolved that the photograph of the late S. C. Stevenson be procured and published in the frontispiece of the 5th Volume of the Canada Ayrshire Herd Book, and one of Mr. Robert Ness, president, and one of Mr. H. Wade, be published in the first volume of the new edition.

On motion of J. C. Smith, seconded by D. Drummond, it was resolved, That the names of all persons recommended at the annual meetings for judges for the various exhibitions shall be selected by ballot, requiring a two-thirds majority. Carried.

The constitution and by-laws as prepared by Mr Wade was then read, corrected and approved of.

CONSTITUTION.

PREAMBLE.

In consequence of the Basis of Union agreed upon by the representatives of the Canada Ayrshire Importers' and Breeders' Associations, and the Dominion Ayrshire Breeders' Association at a meeting held in Ottawa, Thursday the 10th March, 1898, it becomes necessary to revise the constitution.

ARTICLE I.

Section 1. Name. This Association shall be called the Canadian Ayrshire Breeders' Association.

ARTICLE II.

Section 1. Membership. The present members of the Canadian Ayrshire Breeders' and Importers' Association, and the members of the Dominion Ayrshire Breeders' Association, shall constitute the original members of the association.

Section 2. Any person taking an interest in Ayrshire cattle, who, having signified to the secretary his desire to become a member and pay such fees as may be prescribed by by-law, may do so.

Section 3. Defining membership. Every member shall be an annual member.

Section 4. Membership; how terminated. A member may at any time withdraw from the association by giving three months' notice in writing to the Executive Com-

mittee, through their secretary, providing he has paid up all his fees. Any member who shall fail to observe any rule, regulation or by-law of the association, or whose conduct shall be, in the opinion of the Executive Committee, prejudicial to the interests of the association, may be suspended by the committee from the privileges of membership, and the committee shall report all such cases to the general meeting of the association, when after the suspended member shall have been heard, if he so desires, it shall be competent for a two-thirds majority of those present, and voting, to remove such person from the membership of the association. Information that it was intended to propose such a resolution shall have been given in the notice calling the general meeting.

ARTICLE III.

Section 1. Object of the Association. To preserve the purity of Ayrshire cattle, and to further the interests of the breed in every legitimate way.

ARTICLE IV.

Section 1. Income of the Association. The income and property of the association, from whatever source derived, shall be applied solely towards the promotion and furtherance of the objects of the association.

ARTICLE V.

Section 1. Officers. The officers of this association shall consist of a president, a vice-president, and one vice-president from each of the provinces in the Dominion represented, a secretary, also an assistant secretary in any province that may require one.

Section 2. The term of office of the president and vice-president shall be one year and until their successors are elected. The term of office of the secretaries shall be during pleasure.

Section 3. Directors. The directorate shall consist of fourteen members, seven from Quebec and eastward, and seven from Ontario and westward, five of whom shall form a quorum. They shall choose from amongst their number a president and vice-president. That the term of office for director be two years after the first year. That the annual meeting be held alternately in Montreal and Toronto. When held in Montreal the seven eastern directors' term of office will expire, and when held in Toronto the seven western directors' term of office will expire. The annual meeting to be held in the month of February in each and every year.

Section 4. At the annual general meeting in each year the directors shall elect from among themselves six members to serve on the Executive Committee for that year, three from the east and three from the west. The president and vice president shall be *ex officio* members of the Executive Committee.

ARTICLE VI.

Section 1. Officers' duties. President.—The president shall preside at all meetings of the association and at the Executive Committee; shall appoint all other committees not otherwise provided for; exercise a general supervision over all the affairs of the association, and perform such other duties as may be prescribed from time to time by the association.

Section 2. The vice-president shall, in the absence of, or, if on the request of, the president, perform his duties. The vice-presidents from the more remote provinces shall, if necessary, form branch organizations of this association, to be governed by similar rules, regulations or orders. He shall, when necessary, convene meetings of the members of this association residing in the same province, appoint a secretary if the business to be transacted is of sufficient importance to allow of such being done, if not, he shall act as secretary himself, reporting all business done to the Executive Committee at headquarters.

Section 3. Secretary. The secretary shall keep a full and true account of the proceedings of the association and of

the Executive Committee; receive all monies paid in for the various purposes of the association, attend to all correspondence of the office, and sign all pedigree certificates. As editor of the Herd Book he will examine and revise the proof of each book, and will be the responsible officer of the association. To be remunerated by a commission.

Section 4. The eastern secretary (if there be one) shall keep a true and full account of the proceedings of the Executive Committee of his province, shall assist breeders to fill up their application forms, keep a copy of such form in the letter book or enter it up in the ledger, sending the original application for pedigrees, with fees, to the office where the certificates are issued, and do such other service as the president, vice-president, or local committee shall require, and receive what salary such committee shall determine upon.

Section 5. Directors. The directors shall have power to do all that may be incidental or conducive to the objects of the association, and shall be generally charged with the administration of its affairs, and shall have the power of the appointment and dismissal of the employees of the association. They shall cause all monies received by the association to be deposited in one of the chartered banks, and all payments shall be made by cheques signed by the president and countersigned by the secretary. The directors shall convene special meetings of the association from time to time, as occasion may require. A meeting of the association shall be called at any time by the president at the request of six members of the association.

Section 6. A regular annual meeting of the association shall be held in the month of February in each year, for the purpose of the election of members of the directorate, to receive the report of the auditor and to appoint auditors for the ensuing year, and to transact any other business that may be presented.

Section 7. The voting shall take place as follows: Each member who wishes to vote shall give a voting paper with the names of seven members of the association written thereon, for whom the member desires to vote. The chairman shall then appoint scrutineers, who will meet privately and count the votes and present the count to the meeting, and the members having the largest number of votes shall be declared elected.

Section 8. All matters, when not otherwise provided for, shall be decided by a majority of votes of the members present, and in case of an equality the chairman shall have the casting vote.

BY-LAWS.

Section 1. Persons desirous of becoming members shall notify the secretary, pay the entrance fee, and agree, if elected, to conform to the rules of the association, and not to withdraw without giving three months' notice of their intention of doing so.

Section 2. Members shall pay an annual subscription fee of \$2, which shall be due and payable on the first of January of each year.

Section 3. When a member joins during the last quarter of any year, his annual subscription shall be counted as being paid for the ensuing year, but he will not be entitled to receive the publication of the then current year free.

Section 4. Under the Constitution, the Executive Committee may suspend any member, and a two-thirds majority of the annual meeting shall remove any person from membership in the association, should the conduct of such person prove to be derogatory to the character or prejudicial to the interest of the association.

Section 5. Members shall keep the secretary advised of their postoffice address, and all communications shall be considered as delivered which have been mailed, properly addressed and prepaid.

Section 6. Ten days before any general meeting, notice thereof and the business to be transacted thereat shall be mailed to every member.

Section 7. No member whose subscription is in arrears shall be allowed to take part in any meeting until such arrears are paid.

Section 8. Directors shall meet from time to time as occasion requires at the call of the president.

Section 9. A revising committee, consisting of five members, shall be appointed by the directors each year, of whom three shall form a quorum, whose duty shall be to investigate all pedigrees reserved for their decision by the secretary, or the integrity of which may have been called into question. This committee shall meet at the call of the secretary. All pedigrees considered not up to the standard shall be reported to the directorate at the next meeting for final adjudication, the interested party or parties to receive timely notice of the same from the secretary, that he or they may have the opportunity of attending at such meeting in his or their own interest.

Section 10. The secretary shall be directly responsible to the directors for the discharge of the various duties which they may be called upon to perform.

Section 11. All monies received shall be entered by the secretary in the cash book, and shall be deposited in one of the chartered banks. The directors shall pay the secretary small sums for postage, etc., and accept receipts for postage stamps received and used.

Section 12. No animal shall be admitted for registry in the Canadian Ayrshire Herd Books except those whose pedigrees trace in all their crosses to imported animals registered in the Scotch Herd Book. Registrations in the Scotch Herd Book of stock imported previous to 1899 will not be required; those imported in 1899 must trace to ancestry distinctly designated, but, owing to the difficulty in keeping proper records prior to that date, it will be sufficient to know that the ancestry has been imported.

Section 13. Fees. Quoted in March meeting.

Section 14. After the rules for recording pedigrees have once been adopted and established, no change thereof shall be made, except by a vote of two-thirds of the members present at the annual meeting, notice being given one year previous of the proposed change. Written notice to be sent to the secretary, who shall cause said notice to be published in some stock journal of general circulation in the Dominion.

Section 15. At any regular or special meeting of the association these by-laws, except section 12, may be changed or amended by a majority of all the members present voting.

The distinguishing symbol in the Canadian Ayrshire Herd Book will be a dash, as —100—.

Minutes of a meeting of the Special Committee to examine pedigrees was held at Montreal on July 23rd, 1898:

Present: R. Ness, president; D. Drummond, Petite Cote, Que., and H. Wade, secretary, Toronto.

The secretary stated that Mr. Gardiner, of Charlottetown, P.E.I., had offered to sell the copyright and manuscript of the Prince Edward Island Herd Book for \$100. The committee, as far as they could, authorized the secretary to obtain the records. It was also thought best to secure the Ayrshire papers from Mr. Rodden, even if they had to pay something for them. The secretary was also requested to send certificates and tags to the breeders direct instead of to the Montreal office, where they would have to be re-mailed at an additional cost.

Minutes of a meeting of the Special Executive Committee, held at the Agricultural Tent, at the Industrial Exhibition grounds, on the 7th of September, 1898:

Present: R. Ness, president; W. M. Smith, vice-president; Joseph Yuill, W. F. Stephen, Trout River, Que.; F. W. Hodson, and H. Wade, secretary.

The minutes of the Special Committee meeting held in July at Montreal were read and considered.

Moved by F. W. Hodson, seconded by Joseph Yuill: That this committee approve of the action taken by the Special Committee at Montreal, in authorizing the secretary to pay \$100 for the Prince Edward Island Ayrshire Herd Book and good-will, and confirm the agreement. Carried.

Moved by F. W. Hodson, seconded by Joseph Yuill: That the secretary be authorized to wait on executors of Mr. Wm. Rodden at Plantagenet during the Ottawa Exhi-

bition, and make the best arrangements he could to procure the books and papers belonging to the association, held by the late William Rodden. Carried.

Moved by W. F. Stephen, seconded by W. M. Smith: That the arrangement made by the Special Committee in Montreal, as regards certificates being sent direct to the breeders, be confirmed, as far as the pedigrees written in English are concerned. As to those written in French, the secretary be authorized to have certificates prepared with one side printed in English and the other in French, both sides to be signed by the registrar. The French side to be filled in by the Montreal secretary.

A general conversation took place as to the amount of salary to be paid the eastern secretary. The general opinion of the meeting was that \$10 per month would be sufficient. No motion, however, was presented, and the matter was left in abeyance.

Minutes of special meeting of Eastern Committee, held in Montreal on the 16th of December, 1898.

Present: R. Ness, chairman, John Morrin, Daniel Drummond, W. F. Stephen, and H. Wade.

Minutes of last meeting were read and confirmed.

Mr. Wade explained that he had asked the president to call this meeting to arrive at an understanding by taking stock, and to get a financial statement of the eastern association up to the time of amalgamation and since, as well as to fix the amount of salary for the eastern secretary, in order to get a settlement with him.

Mr. Berube then presented a statement of their association up to amalgamation on March 25th, 1898. It has not been sent forward yet. All that I remember is, that there would be a slight deficiency after paying for the 5th volume. The financial statement since then will be found in the treasurer's report.

Moved by D. Drummond, seconded by John Morrin, that all the herd books, vouchers and papers, with the exception of the office set of herd books, be packed up in cases and sent to the Toronto office; also that a list of the present members of the Canada association be sent, as it was deemed more expedient to collect members' fees and disperse herd books from the one office.

It was resolved that Mr. Wade send out cards to all members of the combined association, calling attention to the fact that the fee of \$2 will be due on the 1st of Jan. next for 1899, and to send it direct to the Toronto office. It was resolved that a set of rules be prepared for the guidance of the secretary at Montreal, and that one copy be sent him.

The matter of the salary of the eastern secretary was taken up. Mr. Berube was called in and stated that he had a great deal of work to do, which was well worth \$25 per month. After much consideration the committee agreed to pay him \$100 from the 1st of Jan., 1898, to the date of the annual meeting in February. After deliberation Mr. Berube agreed to accept this sum, which was paid to him, he stating that he could not afford to do the work for the future at the rate of \$10 per month, which was offered to him.

Mr. Wade stayed over till the next day and had a full settlement up to date.

The following is a list of books sent to the Toronto office:

- Vol. 1, 93 copies bound in cloth.
- Vol. 2, 121 copies bound in cloth.
- Vol. 3, 160 (62 bound in cloth, 98 in paper).
- Vol. 4, 114.
- Vol. 5, 90 copies bound in paper.
- 578 copies in all.

WINCHESTER SPRINGS, ONT., Jan. 7th, 1899.

DEAR SIR,—Please find enclosed my subscription to your paper, FARMING. I believe it to be the best farm paper in circulation. Would be lost in the fog of a multitude of theories in agriculture without it as a chart. Please continue to send it to same address, and oblige,

Yours respectfully,

ALVA McLEOD.

Publishers' Desk.

The Daisy Churn.—If you have not already got a "Daisy" churn read the advertisement of Messrs. Workman & Ward, of London, Ont., in this week's FARMING and send at once for a copy of their catalogue. It will pay you.

High Grade Fertilizers.—Attention is called to the announcement of Messrs. John S. Pearce & Co., of London, Ont., appearing in our advertising columns. The necessity for the employment of fertilizers is a question of supreme importance to every man who makes his living by the cultivation of the soil, and no source of information should be overlooked in determining the value of each class of fertilizer offered for sale. Messrs. John S. Pearce & Co. inform us that the goods advertised by them are A1, and stand high in the Government analysis, the commercial value of the desiccated bone meal being placed at \$37.50 per ton—a very large excess over any other form of phosphate. It is also asserted that the output from the manufactory is so enormous that the figures indicating it, if they could be divulged, would be astonishing. Throughout Minnesota, Michigan, Indiana and other fall wheat States the amount of the Homestead brand of fertilizers shipped last fall was exceedingly large, and one firm of onion growers in Iowa ordered 150 tons for 300 acres of onions. Those seeking further information should write to Messrs. John S. Pearce & Co., London, Ont., for circulars, which will be sent free.

It Works to Perfection.—The following letter speaks for itself: Almira, Ont., January 6th, 1899. To The Pickhardt Renfrew Co., Stouffville, Ont. Dear Sirs, I wish to inform you that I have used your Persiatic Plant Spray upon plants and found it did the work to perfection. I used it on a Datura and Brugmausia Arborea house plant to destroy the lice. I sprayed it three times, and it killed every louse on the plants. I counted twenty-four insects on a single leaf, the leaf being about one by one and a half inch in size. I would recommend your Persiatic Plant Spray to every person who has house plants troubled with lice or aphides. It is sure death to insects. I remain, yours truly, (Signed) Daniel B. Hoover. Mr. Pickhardt informs us that the sale of their preparations is growing immensely and the above is only a sample of many voluntary testimonials they are receiving.

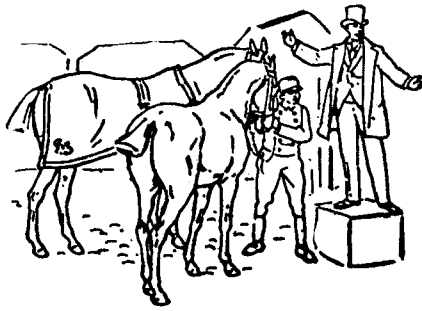
Prizes for Poultry.—We are pleased to note that Mr. John F. Hill, of Welland, Ont., whose advertisements have appeared in these columns from time to time, captured three first prizes on black Langshans at the recent Ingersoll poultry show, with scores as follows: Cock, 94¼; cockerel, 93½; pullet, 93¾.

Stahl Wins a Law Suit.—Mr. George H. Stahl, of Quincy, Ill., recently recovered judgment in a suit in the United States Court against The Reliable Incubator Company for \$1,000 damages and costs. Mr. Stahl claimed that the defendants had neglected to furnish proper reports under an agreement to pay a royalty on each incubator made, and had also infringed his patent in the manufacture of an incubator which the Reliable people claimed was not covered by the contract. The jury found in favor of Mr. Stahl on both points at issue. The judgment for \$1,000 covered only the incubators made prior to 1896, and there are several other suits pending by Mr. Stahl, asking for damages on incubators made since that date. It is said the recent decision leaves only the question as to the amount of royalty defendants owe to be decided in these cases.

Sewing Machines on the Farm.—It is astonishing how hard it sometimes is to make people believe that because a thing is cheap it is not first-class and up-to-date. The Baily-Donaldson Company, of Montreal, are offering sewing machines at extremely low

Are You Raising Horses

for Sale?



If you are you can very greatly enhance their value by a judicious use of

DICK'S BLOOD PURIFIER

It will enrich the blood, loosen the hide, gloss the coat, raise

the spirit and put on flesh and muscle amazingly.

One package is worth dozen of so-called condition powders.

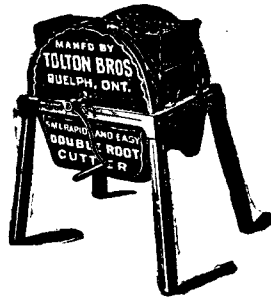
50 Cents a Package. Trial Size, 25 Cents.

LEEMING, MILES & CO., Agents, Montreal.

DICK & CO., Proprietors.

TOLTON'S

No. 1 Double Root Cutter



POINTS OF MERIT

1. To change from pulping to slicing is but the work of a moment.
2. There are two separate wheels, one for pulping and the other for slicing.
3. The united force of both wheels is always used in doing the work in either capacity.
4. The hopper is between the wheels, and does not choke.

The Only Double Root Cutter Manufactured

Fitted with Roller Bearings, Steel Shafting and all that is latest and best in principle, material and construction.

TOLTON BROS

Guelph

★ **LARGE** ★

ENGLISH BERKSHIRES



My herd won 306 prizes, 11 diplomas, and 5 medals since 1888. Choice stock of all ages for sale.

GEORGE GREEN, FAIRVIEW, ONT.
Stratford Station and Telegraph Office.

BUY

Coleman's Salt

THE BEST

For Dairy or Table Use

IT IS UNEQUALLED.

Salt on the Farm

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

TRY IT.

R. & J. Ransford,

CLINTON, ONT

Humpty-Dumpty Egg Crates



See what loss might have been prevented if the new Egg Crates were used by all farmers.

They are exceedingly cheap and very strong and durable.

Be Sure You See Them.

THE DOWSWELL
MAN'G CO LIMITED

If your dealer has not got them send to us for Circulars.

...Hamilton

POLAND-CHINAS at Williscroft.

ARE THE RIGHT KIND.

Brood sows for sale. Boars ready for service. Young sows ready to breed. Lots of pigs two to three months old; good long pigs with heavy bone. Mention FARMING.



493 R. WILLIS, Jr., Glen Meyer, Ont

prices, which they claim are equal to any machines made, regardless of name or price. They are equipped with all the latest improvements, excellently finished, all styles, and sold with a five year warranty. No family can afford to be without a sewing machine, and, before purchasing, it will pay you to send for their descriptive catalogue and prices. We recommend them as being thoroughly honest and reliable.

A Test of Success—The attendance of students at the Canada Business College, Hamilton, of which Mr. R. E. Gallagher is the popular principal, is the largest in the 37 years of its history. During this month the rush of new students entering was so great that some difficulty was found in finding seating accommodation. The rooms were crowded to the doors, and before the middle of the month every seat was taken, but arrangements are being speedily made to give more accommodation. Those entering were principally farmers' sons. The success of this college is due to the great success of its students, and the prominent character of the positions held by them in business. This thought came to us as we glanced over the long list of those who have attended this college, and to-day hold important business situations.

A Useful Tool.—Those who provided themselves last summer with Evans' Patent electric Bug Exterminator need purchase no fruit sprayer this season. The exterminator is the most convenient, the most perfect and the most economical fruit tree sprayer in the market. For currant bushes, raspberries, plums and dwarf fruit trees of all sorts, the Evans' patent sprayer is perfection itself, and the man who has a small orchard of large trees can use it to great advantage by means of a ladder. The small quantity of liquid necessary to perfectly cover the fruit buds and embryo fruit, when applied by this sprayer make it most convenient to carry, to say nothing of the immense saving in paris green. Currants, gooseberries and other small fruits are instantly freed from bugs, worms and fungus by the use of the sprayer: cucumber, melons and squash vines are protected perfectly, and larger fruits are freed from the attacks of codlin moths, curculio and other enemies. The use of the machine doubles the potato crop—the potato bug has no chance against it. Roses, shrubs and flowers are kept clean and bright, hens are freed from lice, hogs are made comfortable, milk cows are quieted and made more profitable and your premises may be disinfected and thoroughly cleaned by the use of this one small machine. See adv.

Stock Notes

MR. WILLIAM HOWE, of North Bruce, Ont., writes on Jan. 12th, 1899: "I am having a good many enquiries for Yorkshires as a result of my ad. in FARMING. Have just been answering two this evening, and sold one last week."

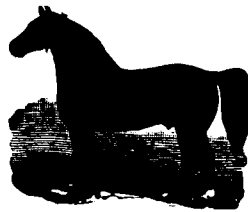
THE STRATFORD BROS., Brantford, have on hand just now a lot of splendid Tamworth boar pigs fit for service; also a number of shotes all ages and some Jersey heifers and Dorset horned rams, which they are offering

NOT TOO LATE YET.

We are glad to hear that it is not too late yet to secure that beautiful premium picture, "Thin Red Line," given to all subscribers of that great paper, *The Family Herald and Weekly Star*. The publishers have decided to issue twenty thousand more for those who renew and for new subscribers received during January and February. This will be good news for those who have not yet subscribed to that great paper. From what we hear the "Thin Red Line" will be ten times more valuable next season, as the publishers have in view plans that will make this year's picture very valuable. Our advice to one and all is to secure the "Thin Red Line" and await further developments. One dollar pays an entire year's subscription to the *Family Herald and Weekly Star* and the picture "Thin Red Line." It is marvellously cheap.

Griffiths' Veterinary ...Menthol Liniment

A Veterinary Medicine Chest in Itself
and the most Useful Home Remedy
for Horses and Cattle.



IT CURES

Strains, Curb, Chapped Hocks, Wind Galls, Splints, Strained Tendons, Rheumatism, Over Reaches, Coughs, Colds, Sore Throat, Founder, Lameness, or any Soreness, Swelling, or Inflammation.

Griffiths' Menthol Liniment is endorsed by the highest live-stock authorities as the greatest of external applications.

It never blisters or removes the hair; should be in every home.

Sold by Druggists everywhere—
25 and 75 Cents

The GRIFFITHS AND MACPHERSON CO.
SOLE PROPRIETORS
TORONTO and VANCOUVER, B.C.

EVERY SUCCESSFUL farmer who raises fruits, vegetables, berries or grain, knows by experience the importance of having a large percentage of

Potash

in his fertilizers. If the fertilizer is too low in Potash the harvest is sure to be small, and of inferior quality.

Our books tell about the proper fertilizers for all crops, and we will gladly send them free to any farmer.

GERMAN KALI WORKS,
93 Nassau St., New York.

HELDERLEIGH FRUIT FARMS and NURSERIES

—400 ACRE—

Sixteen years' experience. Everything wanted that is useful and valuable in the Nursery Stock line—either FRUIT or ORNAMENTALS.

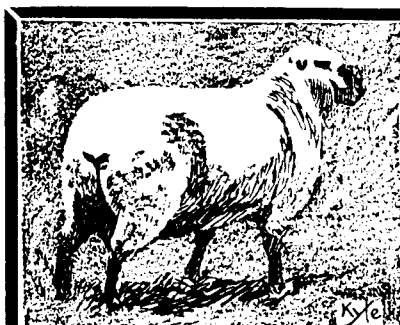
SEND FOR CATALOGUE, which is furnished FREE to applicants.

DO NOT MAKE THE MISTAKE OF BUYING CHEAP STOCK--IT IS DEAR AS A GIFT
GOOD RELIABLE SALESMEN WANTED in a number of fine townships, to start work at once. Complete Outfit FREE

Address,

E. D. SMITH

WINONA, ONT.



Persiatric Sheep and Animal Wash

A powerful non-irritant and healing preparation that is proving a boon to farmers all over Canada for sheep and cattle ailments, such as:

TICKS
MAGGOTS
GANGRENE
SHEAR CUTS
RED LICE ON SHEEP
WOUNDS
RINGWORM
BRUISES, ETC., ETC.
AND SCAB.

Full directions on every can. Cures the worst cases. The most effective and economical dip on the market. If your dealer can't supply you, write us direct for it, and if there's anything out of the ordinary in the ailments of your flocks and herds we'll be pleased to give free any additional advice in the matter.

The Pickhart Renfrew Co.

(LIMITED)

STOUFFVILLE, ONT.



Trade Mark

Lump Jaw

If once gains a foothold in your herd will in all probability carry off from ten to twelve per cent.

MITCHELL'S ANTI LUMP JAW

has proved by its effective work that a bottle of it should be in every cattle raiser's hands.

WE ABSOLUTELY GUARANTEE
TO CURE ALL CASES.

If it fails we return your money. Endorsed by Canada's leading cattle exporters, Gordon, Ironside & Fares, Montreal and Winnipeg.

Price \$2.00,
Postpaid to any address.

FREE—Treatise on Lump Jaw and booklet of Testimonials sent on request.

W. J. Mitchell & Co.,
CHEMISTS,

Prince Albert, N.W.T.
Winnipeg, Man.

A SMART PUBLICATION

that pleases its readers will please its advertisers. The *Co-Operative Farmer* has the name of being a successful paper that pleased its readers from the start. Fathered by the leading farmers' organization in New Brunswick, it was quickly adopted and endorsed by the other Farm, Dairy and Stock Associations of the Maritime Provinces, and is to-day the Home Farm Paper of Eastern Canada.

Free Sample Copy and advertising rates on application to

CO-OPERATIVE FARMER,
Sussex, N.B.

FUR COATS

at popular prices. These young men are building up for themselves a very enviable reputation in live stock, for both quality and price. Their father's (Mr. Joseph Stratford) beautiful places, Glenhurst and Idelwyld situated on the borders of the city of Brantford, which they operate, are said to be among the finest suburban farm properties in this country.

MR. JOHN RICHARDS, of Biddeford, P.E.I., desires to obtain a copy of the *Canadian Live Stock and Farm Journal* for September, 1893. Perhaps one of our subscribers may be able to supply it. Mr. Richards will return it in good condition to any one who will "kindly lend him a copy."

ANYONE desiring the services of an intelligent man, with a knowledge of stock, should communicate with "Stockman," whose advertisement appears in this paper. The advertiser is an intelligent young Scotchman, with sufficient experience in this country to enable him to make the best use of the knowledge gained in the Old Country.

MESSES. ANDREW ELLIOT & SON, of Galt, write: "Our stock is going through winter in grand shape. Our herd number about sixty head of No. 1 pigs with our stock boar 'Royal First' at the head. He is a grand specimen of the bacon type, possessing great length and depth, with No. 1 quality. He was winner of first at the Royal in 1898 in a large class, and notwithstanding the journey across the water, at seven months old, headed the list at London in the class under one year. Our brood sows are a splendid lot and we have the right kind of stuff behind them, as those who have bought can testify. We make it a rule to send out nothing but the best."

The Dispersion of a Notable Herd of Ayrshires.

Mr. Daniel Drummond, proprietor of the noted Burnside herd of Ayrshires, has decided to disperse the herd by public auction on Thursday, the 16th of February, 1899. All the animals have been tested with tuberculin and pronounced free from tuberculosis.

This herd was founded by the present proprietor's father about the year 1875, and since the present owner took possession of it in 1885 has steadily increased in importance and numbers, having become noted as one of the best of its size in Canada. Its Show ring record during the last three years is an enviable one, and well known to all Ayrshire breeders.

As a breeding herd it is more especially noted, having secured first prize every time it competed (with one exception) for the best four animals bred and owned by exhibitor. In 1888 it had the proud position of having more prize animals at Toronto and Ottawa exhibitions (being bred at "Burnside") than any other herd exhibiting.

It is also noted for the stock bulls sold to all parts of Canada, all proving themselves worthy representatives of the breed. Among the purchasers are the following:

- Fremier Greenway, Crystal City, Man.
- Steele Bros., Glenora, Man.
- Wm. Stewart & Son, Menie, Ont.
- J. S. Bull, Carleton Place, Ont.
- Ford & Co., Hintonburg, Ont.
- J. Martin, Eganville, Ont.
- J. Sandlands, Williamstown, Ont.
- Capt. McMaster, Summerstown, Ont.
- J. N. Greenshields, Danville, Que.
- W. F. Stephens, Trout River, Que.

This is an opportunity seldom offered to breeders to procure animals of choice breeding at their own price, as the sale will be positively unreserved.

ORDER OF SALE.

The sale will commence with the farm implements at 10 a.m. Lunch will be served at noon, and at 1 o'clock precisely the sale of cattle will be proceeded with.

Mr. Drummond is giving up farming, having accepted a position in the West. We advise those interested in Ayrshires to write to Mr. Drummond for his catalogue, which is a gem in its way, being the neatest and spiciest catalogue that has reached our office for many a day. Mr. Drummond's address is Petite Côte, Montreal, Que.

ORDERS are pouring in from all sections of Canada. The values in Fur Coats are the "biggest" ever offered by a reliable firm. Every garment exactly as represented. If you want one or more of these splendid coats take our advice and send for it now. The demand has been so great we cannot guarantee all sizes after this week. We can furnish any size now.

ONE MAN'S OPINION

John Humbly, Regina, N.W.T., writes as follows: "I received the 'Buffalo Coat' all O.K. and find it even better than expected. Storekeepers here are asking \$50 for the same kind of coat. Please send your catalogue."

LOT 1.—Walloy Fur Coats. These coats are a dark grey fur, 50 inches long, storm collars, quilted farmer's satin linings, fur binding, with loops and barrel buttons, our regular price \$25.00. Selling now for..... \$18

LOT 2.—Matissina Buffalo Coat—long strong fur, made same style as above. An excellent coat for teaming and rough wear, will last a lifetime. Every farmer should have one. The regular price was \$35. We are selling them now at..... \$25

LOT 3.—The strongest coat ever made, Prairie Dog Fur, looks exactly like Coon, well made and lined, inside and outside pockets. We have only a few of these left and will sell at \$15. Don't think of buying a cloth coat when you can get one of these fur coats for \$15. You'll never regret it and we'll guarantee them.

LOT 4.—The finest assortment of Real Coon Skin Coats in Canada. They are all you can desire. Beautiful long hair, well made, nothing wanting, any size, 50 inches long. Regular \$50. Selling at..... \$35

Established 50 years.

DINEEN'S

140 YONGE STREET TORONTO

BIG MONEY FOR AGENTS



THE STAR RIVETER
For MENDING HARNESS, BELTING, etc. Indispensable to farmers, horse men and tradesmen. **STAR RIVETER** made with 50 lbs. star rivets \$1.00. Best mangle article ever put down! Agents write for special prices and territory.

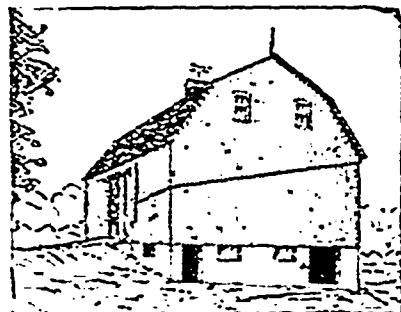
ENTERPRISE MAN'G CO., - TORONTO, ONT.

Established 1831.

Work done with

Thorold Cement

Speaks for Itself.
25 YEARS IN USE.



BARN OF WM. PATTON, SOUTH CANUGA, ONT. Size of Basement Walls 36 x 60 x 9 feet. Built with Thorold Cement.

It is with pleasure that I testify to the good qualities of your Thorold Cement for building purposes. During the past summer I have built a barn 36x60 feet, with basement walls 9 feet high, and with cistern under driveway 3 ft. x 9 ft. by 7 ft. high. I also put concrete floors throughout, for cow stables as well as horse stables.

I consider both wall and floors to be much better and cheaper than if they were built of any other material. Sincerely yours,
Dunnville, Haldimand Co. WILLIAM PATTON.
Nov. 1, 1898.

Estate of Jno. Battle Thorold Ont.
Mention FARMING.

USE

Ulrich's Ensilage Corn

MAMMOTH WHITE
GIANT PROLIFIC
YELLOW DENT
IMPROVED LEAMING

E. R. Ulrich & Sons
SPRINGFIELD, ILL.

Ask your dealer for samples and testimonials

HIGH-GRADE FERTILIZERS

FOR FARMERS AND GARDENERS

- HOMESTEAD BONE BLACK FERTILIZER
- HOMESTEAD POTATO GROWER
- HOMESTEAD VEGETABLE GROWER
- DESSICATED BONE AND POTASH

We are prepared to supply Farmers and Gardeners with the above well known High-Grade Fertilizers, manufactured by the Michigan Carbon Works. Analysis Guaranteed. Reliable and responsible farmers and gardeners will be supplied at the most reasonable prices and time for payment. Write us at once for prices and time of payment. Circulars Free.

JOHN S. PEARCE & CO., London, Ont.
CANADIAN AGENTS.

MR. N. DYMENT, Clappison's Corners, Ont., writes: My stock are doing fine. The two calves which won 2nd and 3rd at Toronto and 1st and 2nd at other fairs are doing well, and are fit to head any herd as they are bred for business. I have others from heavy milking and high-testing dams. The test of my herd by the Hamilton milk inspector was 4.6 per cent. of fat. Have recently made the following sales of stock: Royal Chief of Hickory Hill 9287, sire Drummond 2036, dam Nellie Gray 2057, to Steele Bros., Glenboro, Man.; Jubilee of Hickory Hill 9284, sire Ranton Robin 1920, dam Ruby of Hickory Hill 3366, to C. Treverton, Bellville, Ont.; Robin of Hickory Hill to R. Henderson, Rockton, and a pair to John J. Nicholson, Kirkwall, Ont.

A CANADIAN-BRED HEIFER BRINGS A HIGH PRICE.—Messrs. J. M. Gardhouse & Sons, Highfield, Ont., have recently sold to Mr. W. D. Flatt, Hamilton, Ont., three purebred yearling Shorthorn bulls and one purebred heifer of their own breeding. This heifer is of a particularly fine type, and sold for the large sum of \$400. She was sired by Guardsman, and her dam was Verbenas Blossom. Mr. Flatt is to be congratulated in securing this valuable addition to his splendid herd of Shorthorns.

SITUATION WANTED

A competent man, thoroughly experienced in care and management of all kinds of live stock, desires situation as assistant on good stock and general farm. Was brought up on stock farm in Scotland, and has had four years' experience in Canada. Best of references given. Address, "STOCKMAN," care of FARMING, Toronto, Ont.

CLUBBING LIST

SAVE MONEY by ordering your newspapers and reading matter through us. We can furnish almost any book, newspaper, or magazine in combination with subscriptions and save you money in every case. The following are some of the leading publications we offer with FARMING.

	Regular Price	With FARMING
Canadian Magazine.....	\$2 50	\$2 50
Toronto Weekly Globe.....	1 00	1 45
Toronto Weekly Mail and Empire.....	1 00	1 40
Toronto Morning World.....	3 00	3 00
Farm and Fireside.....	1 00	1 40
Montreal Daily Witness.....	3 00	3 00
Montreal Weekly Witness.....	1 00	1 60
Family Herald and Weekly Star —with great premium picture.....	1 00	1 75
London Daily News.....	1 50	2 00
London Weekly Free Press... ..	1 00	1 75
London Weekly Advertiser... ..	1 00	1 40
Ottawa Semi-weekly Free Press	1 00	1 60
Ottawa Semi-weekly Journal..	1 00	1 55
Ottawa Semi-weekly Citizen..	1 00	1 50
Ottawa Morning Citizen (daily)	3 00	3 00
*Hamilton Semi-weekly Times	1 00	1 60
*Hamilton Semi-weekly Spectator	1 00	1 60
Brantford Weekly Expositor... ..	1 00	1 75
Brantford Weekly Courier... ..	1 00	1 75
The Semi-Weekly Sun (St. John, N.B.).....	0 75	1 50
The Welland Tribune.....	1 00	1 50
The Halifax Herald.....	3 00	3 00
*Citizen and Country, Toronto	1 00	1 50
Hoard's Dairyman.....	1 00	1 75
The Breeders' Gazette.....	2 00	2 00
Rural New Yorker.....	1 00	1 85
The Guelph Herald.....	1 00	1 70
The Jersey Bulletin.....	1 50	2 00
The American Kitchen Magazine.....	1 00	1 75

Papers marked thus * will be sent until the end of 1899—other papers for the year only—but FARMING will be sent until the end of 1899 for the price mentioned in every case.

Address, **FARMING, Toronto, Can.**

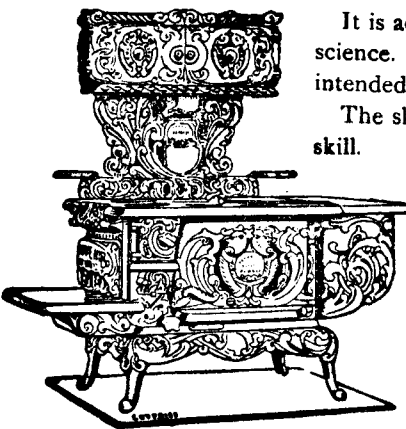
PAGE FENCE QUALITY.

When you seek the best fence that can be made from wire, we know that you will buy the **Famous Coiled Spring Page.** It isn't like any other on earth—it's better. It was the first and it is still the foremost woven wire fence. For the truth about its uses and quality, address **THE PAGE WIRE FENCE CO. LTD. WALKERVILLE, ONT.**

SOUVENIRS

HAVE AERATED OVENS

SCIENCE IN COOKING



It is admitted that cooking to-day has become a science. If the food we eat is to do the good intended, it must be properly cooked.

The skilful cook has worked wonders by her skill.

But the cook cannot do everything. She must rely on the stove in which the cooking is done. The **Souvenir Kitchen Range** has combined with science, and given Canadian cooks a Stove scientifically constructed, and on which they can rely at all times. It cannot fail. **Souvenirs** are sold everywhere. One will last a lifetime.

—The Aerated Oven is the great scientific principle of **SOUVENIR Stoves**—making them an absolutely perfect cooker..

The GURNEY-TILDEN CO., Limited
Stove, Furnace and Radiator Manufacturers
Wholesale Agencies in **TORONTO, MONTREAL and WINNIPEG.** **HAMILTON, ONT.**

Extract from Annual Report for 1897

of the Consulting Chemist of the **ROYAL AGRICULTURAL SOCIETY OF ENGLAND**, published in their Journal, 31st December, 1897, page 732:

"It has been necessary to call attention to the fact that under the name of 'slag,' and sometimes even under that of 'basic slag,' have been sold refuse materials of a very different character, and having little or no manurial value. These have not been the product of the now well-known 'Basic' or THOMAS process of iron or steel-making, and have contained little or no phosphoric acid such as basic phosphate has. In several instances the purchasers believed that they were buying the true basic slag. It behoves one, therefore, to be careful to stipulate for THOMAS-PHOSPHATE, and to have a guarantee of phosphoric acid contained, and of fineness of division."

We handle the only true

Thomas-Phosphate Powder

sold in Canada; and to be sure of genuine material, see that the bags have our name and address.

WALLACE & FRASER

Masonic Block
ST. JOHN, N.B.

Canada Life Building
TORONTO

AYRSHIRES.

- CHOICE AYRSHIRES -
FOR SALE

A number of choice Spring Calves sired by Douglas of Loudoun (1784), from deep milking dams.



Prices and terms reasonable. Write for particulars
P. W. TAYLOR, Wellman's Corners, Ont.
Hoard's Station, G.T.R.

GLENHURST HERD OF AYRSHIRES.

Noted prize-winners. Choice quality and heavy milking families. Extra fine young animals of both sexes for sale. Also Leicester Sheep and Berkshire Swine.



DAVID BENNING,
WILLIAMSTOWN, ONT.

506

...GOLDFINDER, Imp...

-HEADS OUR AYRSHIRE HERD-

We have for sale: five choice young bulls fit for service, two by the noted stock bull 'Matchless,' also some good females of all ages. We have a few choice Cydalades on hand. Correspondence solicited and Visitors Welcome.

R. NESS & SONS, Howick, Que.

MAPLE CLIFF STOCK AND DAIRY FARM

STOCK FOR SALE

Gold King, 1357, sire Chieftain of Barchester (imp.) 1125 dam Nellie Osborne (imp.) 2018, and the following young bulls by him: One 2-year-old, one 10 months old, one 6 months and two August calves. The following young sows bred to good boars: 3 Berkshires, 2 Poland Chinas, 2 Tamworths. Three Berkshire sows 4 months old and a number of Tamworths of full litters.

R. REID & CO.,
Hintonburg, Ont.

Farm one mile from Ottawa.)

HICKORY HILL STOCK FARM



3 Ayrshire Bull Calves from dams that have won milk tests.

Great Bargains if sold before winter sets in. Write or come and see.

NAAMAN DYMENT,
Clapton's Corners, Ont

CHOICE AYRSHIRES AND POULTRY

FOR SALE.—A number of Choice Young Bulls, Sired by Jock Morton and from heavy milking dam; also a few Heifers. A large number of choice Barred Rocks and Black Spanish, and a few fine Toulouse Geese and Cayuga Ducks.

JAS. McCORMACK & SONS,
ROCKTON, ONTARIO

AYRSHIRES
...For Sale

The celebrated stock bull

"WHITE PRINCE"

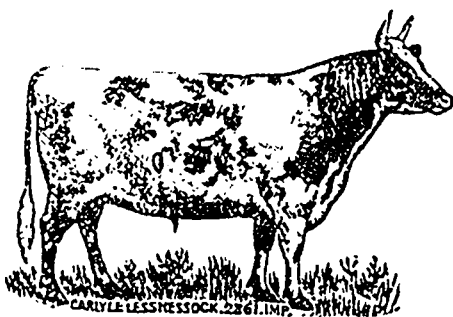
A winner at the World's Fair, Chicago. Parties desiring a first-class stock bull cannot do better than secure this animal. Large White Yorkshire pigs of the bacon type for sale, also a standard bred mare in foal, sired by Red Chief. Colt sired by Elm City.

JOHN H. DOUGLAS,
WARKWORTH, ONTARIO

H. & J. McKEE, Brookside Farm, Norwich, Ont.
Breeders Ayrshire Cattle Silver Grey Dorkings.

W. A. & J. C. SMITH, Fairfield Plains, Ont.,
Breeders World's Fair prize-winning Ayrshires,
Manno Sheep, Poland-China Pigs, Poultry. Stock
for sale.

J. YUILL & SONS, Meadowside Farm, Carleton
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shire Sheep, Berkshire Swine and Barred Plymouth
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Awarded four years in succession Herd Prize at Ottawa's Great Exhibition, and Special Gold Medal. At Montreal, Herd Prize and Mr. W. W. Ogilvie's Special \$100 Prize. Their individual Prize Records are of the same distinguished honors of the four years of their exhibition career.

Stock all Ages for Sale, and at prices in reach of all

Maple Grove Ayrshire Stock Farm
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Line—G.T.R.

PUREBRED AYRSHIRE
IMPORTED CATTLE

**Largest and Most Expensive Impor-
tation in America**

Bred for the Dairy, with Grand Constitution,
and Champion Prize Records awarded them
in Scotland and England

Sweepstake Herd—Montreal, Toronto, London
and Ottawa in 1897

Elm Shade Farm

AYRSHIRE



CATTLE.

The head of the herd is Lord Sterling, a prize winner. The imported Cows, Blue Bell, White Glen, and Kate Wallace, belong to this herd. Won the 2nd herd prize at Montreal in 1897, against strong competition. Young stock of both sexes for sale bred from imported and prize-winning stock. **WM. WYLIE,**
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FROM IMPORTED STOCK.

We offer for sale Three (3) **HULL CALVES** from 9 to 13 months old, sire and dams imported; also 5 calves from 1 to 4 months, good individuals and from the very best milking strains obtainable in Scotland.
W. W. HALLANTYNE,
(formerly Thos. Ballantyne & Son)
"Neidpath Stock Farm," Stratford, Ont.
Farm adjoins city, main line G.T.R.

FOR SALE

FIVE AYRSHIRE BULLS

Ranging from six months to two years.
First-class animals, fit to head any herd.

Also, **BIRDS**

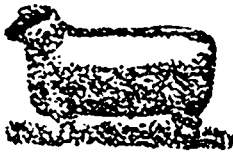
of thirty varieties of land and water fowl

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For Sale.—A fine lot of ram and ewe lambs, bred from imported sire and dams. Prices to suit times.

SMITH EVANS
Gourock, Ont.
Breeder and Importer



Gotswolds Twenty good ram lambs, shearing and two-year, at farmers' prices. Some excellent shearing ewes, bred to our best studs.

Berkshire Sows ready to breed. Boars fit for service. Twenty Plymouth Rock Cockerels, choice.

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For Sale

Good Shearling Ram and some fine Rams and Ewe Lambs; also some good young Yorkshire Sows and Boars. Some good young Heifers in Calf for sale.

John Cousins & Sons,
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HENRY ARKELL, Arkell, Ont.

Importer and Breeder of
OXFORD-DOWN SHEEP
Ewes in lamb to Royal Warrick and Imp. Hero ...
for sale.
PRICES REASONABLE.

FAIRVIEW
SHROPSHIRE.

Imported and Canadian
RAMS and EWES

Choice lots to select from for breeding purposes, also first-class fitted sheep of both sexes for showing.

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Offers:
10 Shorthorn Bulls—good ones—at \$50.00 to \$75.00 each.
Yorkshire Boars and Sows ready for breeding at \$12.00 each.
Yorkshire and Berkshire boars and sows from 30 lbs. to 40 lbs. at \$6.00 each. All stock registered and shipped C.O.D.

Shorthorn Heifers by Statesman, and Berkshires by Baron Lee. Eight weeks old. Also one Baron Lee boar, ten months old.
Belton Station, C.P.R. and Palgrave, G.T.R.
A. J. Watson, Castlederg, Ont.

A. TELFEP & SONS, Paris, Ont., Breeders and
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Uxbridge, Ont., Breeder and Importer of Dorset
Horned Sheep, Jersey Cattle, and Tamworth Pigs.

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Chester Swine a Specialty ...

Stock for Sale of all ages and both sexes
EGGS FOR HATCHING from L. Brahmas,
Buff Cochins, Partridge Cochins, P. Rocks, S. G.
Dorkings, Black Minorcas, S. White and Brown
Leghorns, Rose Comb White Leghorns, B. B. Games,
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and Brown Leghorns, Cornish Indian Game, Pyle
Game and B. B. Game stock.

Geo. Bennett & Pardo, Charing Cross, Ont.

FREE We give this fine WATCH with chain and charm, for selling two doz. Whitelight Wicks at ten cents each. *No Money Required.* Write, and we will send the Wicks, postpaid, and our big Premium List. When you have sold the Wicks, return the money, and we will at once send your watch free of all charge. Hundreds have earned fine watches working for us, why not you? *In writing, mention this paper.*



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There is likely to be a Duty of 10c. lb. put on Teas before long. Send in your orders at once.

We have a Black Tea, a Japan Tea, and a Mixed Tea at 25c. lb., put up especially in 5 and 10-lb. caddies for our own trade. We stake the reputation of our house on the quality of these teas. Send for Samples.

SUGARS We are acknowledged the Leading Sugar House of Canada.

Redpath's or St. Lawrence Granulated Sugar, \$4.70. No. 2 Granulated, \$4.35. Light Yellow, \$4 per 100 lbs. 25-lb. pail Loaf Sugar Drip Syrup, \$1.10.

Freight paid within our freight limits on \$10 orders.

THE FARMERS' CO-OPERATIVE STORE
THE PEOPLE'S WHOLESALE SUPPLY CO.
144-146 KING ST. EAST TORONTO
R. V. MANNING, MANAGER.

WE TRUST THE PUBLIC

and send them our incubator on trial. No man should buy an incubator and pay for it before giving it a trial. You pay not a cent for ours until you have given it a thorough trial. It's made so that nobody can fall with it. A child can run it with 5 minutes attention daily. It beat all others at World's Fair, Wash. Expositions. The best catalogue and treatise on incubation published, sent for 5 cts. Plans for Brooders, Poultry Houses, etc., sent upon receipt of 25 cts. **Ven Collin Incubator Co. 80 Adams St. Delaware City, Del.**

SHOEMAKER'S POULTRY BOOK on 1899. 160 pages, 100 illustrations of Fowls, Incubators, Brooders, Poultry Houses, etc. Tells how to raise chickens successfully, their care, diseases and remedies. Diagrams with full descriptions to build poultry houses. All about INCUBATORS, BROODERS and Fancy Poultry, with Lowest Prices. Price only 15c. C. C. Shoemaker, Freeport, Ill., U.S.A.

Incubators and Brooders. Self-Regulating. Special low price for first in any locality. Agents wanted everywhere. Eggs for hatching, by the hundred cheap. B. P. Rocks a specialty. Catalogue free. Address Geo. S. Singer, Cardington, O.

HATCH CHICKENS BY STEAM—with the simple, perfect, self-regulating **EXCELSIOR INCUBATOR**. Thousands in successful operation. Lowest priced 1st-class hatcher made. **Geo. H. Stahl, 114 to 122 S. 6th St., Quincy, Ill.**

American Hog Cholera Cure

Discovered at last—**The Wonder of the Age.** The only sure cure yet discovered. Sold under a positive guarantee, or money refunded. Used hypodermically and through the stomach into the blood. Cures in 4 to 48 hours. One agent treated 3,700 and lost but 18 head. Send for circulars and testimonials. One-ounce bottle sent by mail, \$2.00. Dozen and gross prices sent on application.

We want Agents. Liberal commissions paid. Cut this out.

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FARMERS WANTED

To take orders in their section for the famous land renewer,
Alberts' Thomas-Phosphate Powder (Reg.)
Purity and analysis guaranteed. Correspond at once, as fall dressing of the land is important.

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Tamworth Boars, Dorset Rams, Shetland Ponies, Light Brahmas, Houdans, Cornish, Indian Games, Black Langshans, White Langshans, White Plymouth Rocks, Buff Plymouth Rocks, Barred Plymouth Rocks
Prices Right.

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Agents Wanted. Ontario Binder Twine Co., 124 Front St. West. Toronto, Ont.

THE BEST RESULTS

in making Butter or Cheese can be obtained only by using the best ingredients.

That is why

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RICE'S PURE SALT

Every Package Guaranteed.

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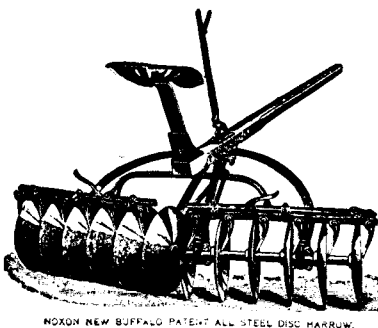


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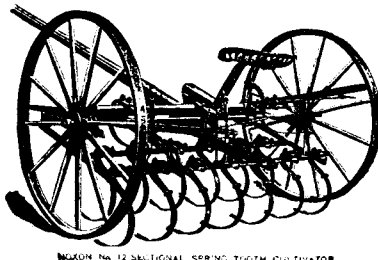
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Send for New Illustrated Catalogue.

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The Buffalo All-Steel Disc Harrow.

This is the only Disc Harrow made or sold in Canada, having independent, adjustable spring pressure upon the inner ends of the gang disc, allowing any amount of pressure to be thrown upon the inner ends of the gangs, by the foot of the operator. By this means a perfectly flexible action is secured and the ground can be worked to a uniform depth. Examine this Machine carefully and compare with others.



The No. 12 Cultivator

IS A MARVEL OF SUCCESS. The only Cultivator made that both lines of teeth will cut an even depth in the ground. Examine it and you will see why. The only Cultivator with a movable tooth set so that the angle of the teeth can be regulated to suit any condition of soil. Pressure can be regulated to act differently on every section requiring it. The teeth are carried between the wheels instead of trailing behind, as in other machines, thus securing lighter draft. This machine is furnished with grain and grass seed box when required. It has reversible diamond steel points for the teeth; also extra wide this le-cutting points can be furnished. Examine it and you will buy no other.

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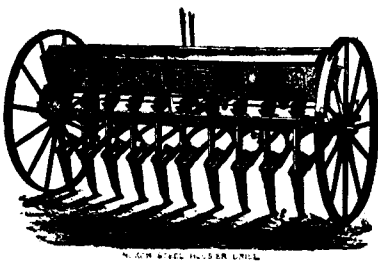
The Hoosier Needs No Introduction.

Over 40,000 Drills and Seeders of our manufacture in use in Canada. The only Drill made with lever for instant and perfect regulation of depth of hoe in all kinds of soil, while team is in motion. Sows absolutely correct to scale; saves seed, as every kernel is deposited at a proper depth to grow. Purchase only the best and you will be satisfied.

We also manufacture Binders, Reapers, Mowers Rakes, Cultivators and Pulpers, as good as the best. Send for illustrated catalogue.

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The Ontario Agricultural Gazette

The Official Bulletin of the Dominion Cattle, Sheep, and Swine Breeders' Associations, and of the Farmers' Institute System of the Province of Ontario.

THE DOMINION CATTLE, SHEEP, AND SWINE BREEDERS' ASSOCIATIONS.

Annual Membership Fees:—Cattle Breeders' \$1; Sheep Breeders', \$1; Swine Breeders', \$2.

BENEFITS OF MEMBERSHIP.

Each member receives a free copy of each publication issued by the Association to which he belongs, during the year in which he is a member. In the case of the Swine Breeders' Association this includes a copy of the Swine Record.

A member of the Swine Breeders' Association is allowed to register pigs at 50c. per head; non-members are charged \$1.00 per head.

A member of the Sheep Breeders' Association is allowed to register sheep at 50c. per head, while non-members are charged \$1.00.

The name and address of each member, and the stock he has for sale, are published once a month. Over 5,000 copies of this directory are mailed monthly. Copies are sent to each Agricultural College and each Experiment Station in Canada and the United States, also to prominent breeders and probable buyers resident in Canada, the United States and elsewhere.

A member of an Association will only be allowed to advertise stock corresponding to the Association to which he belongs; that is, to advertise cattle he must be a member of the Dominion Cattle Breeders' Association, to advertise sheep he must be a member of the Dominion Sheep Breeders' Association, and to advertise swine he must be a member of the Dominion Swine Breeders' Association.

The list of cattle, sheep, and swine for sale will be published in the third issue of each month. Members having stock for sale, in order that they may be included in the Gazette, are required to notify the undersigned by letter on or before the 9th of each month, of the number, breed, age, and sex of the animals. Should a member fail to do this his name will not appear in that issue. The data will be published in the most condensed form.

F. W. Hodson, Secretary.
Parliament Buildings, Toronto, Ont.

STOCK FOR SALE.

The next list of stock for sale will be published on February 21st. Members of the associations wishing to have their stock advertised should forward their lists to the secretary, F. W. Hodson, Parliament Buildings, Toronto, not later than February 9th.

The following is a list of the members received since the last issue.

Bruce, South	22
Bruce, West	3
Dundas	80
Durham, East	118
Elgin, West	77
Grey, Centre	91
Grey, South	119
Hastings, East	37
Huron, West	42
Kent, East	35
Leeds, North, and Grenville, North	90
Leeds, South	127
Lincoln	65
Monck	56
Norfolk, South	93
Northumberland, West	7
Oxford, South	94
Peterboro', East	143
Prescott	1
Renfrew, South	49
Simcoe, South	61
St. Joseph Island	78
Waterloo, North	92
Waterloo, South	10
Welland	88
Wellington, East	40
Wellington, South	162
Wentworth, South	112
York, East	97
York, North	60

The following is the average attendance at meetings, reports of which have been received since the last list was published:

Bruce, South	380
Carleton	119
Durham, East	88
Dundas	186
Elgin, West	63
Grenville, South	66
Grey, Centre	87
Grey, South	238

Huron, East	216
Huron, West	75
Kent, East	75
Leeds	120
Lincoln	115
Monck	86
Norfolk, South	118
Ontario, South	34
Oxford, South	240
Renfrew, South	100
St. Joseph Island	49
Waterloo, North	125
Welland	76
Wellington, East	116
Wentworth, South	151
York, East	71
York, North	70
York, West	150

AN ABRIDGED REPORT OF AMERICAN EXPERIMENTS WHICH ARE OF VALUE TO CANADIAN FARMERS.

(Continued from last issue.)

FLAT PEAS AND SACCHALINE.

A number of experiment stations have made tests of flat peas and sacchaline, in every instance with poor success. Prof. Fletcher, of Ottawa, calls the latter "a gigantic humbug." We shall probably not hear much more about these two crops.

LIME AS A FERTILIZER.

The beneficial effect of lime has heretofore been ascribed mainly to its action in improving the texture and drainage of the soil, in hastening the decomposition of organic matter in the soil, in rendering the inert nitrogen of the soil humus more available to plants, and in assisting in setting free the potash and other inert fertilizing constituents of the soil. Recent investigations, however, have shown that it performs other equally important functions in the soil, and that its abundance or deficiency there is a matter of greater importance than it

was formerly supposed to be.

It has been generally assumed that there is sufficient lime in most soils to meet the demands of ordinary crops. The Minnesota, Rhode Island, and other stations, however, have shown that, except in limestone regions, it is as likely to be deficient as potash or phosphoric acid. Especially is this true of soils derived from decomposition of granite. In testing the fertilizer requirements of soils it becomes as important, therefore, to determine whether lime is deficient as whether potash and phosphoric acid are lacking. A deficiency of lime may be due to continuous cropping without liming, or to leaching out of lime, a process which is continually going on, and which is greatly hastened by the use of certain fertilizers, especially muriate of potash. The use of this and similar fertilizers on a soil not abundantly supplied with lime should be accompanied by periodical applications of lime.

A deficiency of lime in the soil is accompanied by a state of acidity or sourness fatal to the vigorous growth of many crops. The Rhode Island Station shows that this condition may be present even in upland soils which are well drained, as well as in low, wet soils. It was found that sulphate of ammonia was actually poisonous to plants on such soils when it was not used in connection with lime. This beneficial effect of lime was probably largely due to the fact that the lime restored the alkaline condition of the soil necessary to the transformation (by nitrification) of the sulphate of ammonia into the nitrates so necessary to many crops.

In experiments conducted by the Rhode Island Station with 150 varieties of plants on these acid soils before and after liming it was found that most of the plants were greatly benefited by the use of lime. The chief exceptions were watermelons, blue lupines, red-top, serradella and the common sorrel. The use of lime had a marked effect not only on the yield but also on the quality of certain root crops. It was found, however, at the Rhode Island, New Jersey and North Dakota Stations that applications of lime increased the amount of scab in potatoes. On the other hand, lime at the rate of 75 bushels per acre proved a very effective preventive of club root of cabbage and turnips, and reduced the soil rot of sweet potatoes at the New Jersey Station, and, further, lime tended to make sweet potatoes round.

(To be continued.)

QUESTIONS AND ANSWERS

HULL-LESS BARLEY.

A reader asks: Can you tell me, through FARMING, what value hull less barley has for feeding purposes? Is barley hard on the land? How does it compare with other barley, peas and oats for feed?

As a rule, hull-less barley has not given very good satisfaction in this country. It gets so dry and hard when ripe that its feeding value is very much lessened, and stock do not relish it so well. Hull-less barley is grown to some extent in the Western States, and seems to yield very well. Prof. Henry, in his book on "Feeds and Feeding," states that in feeding trials with pigs hull-less barley gave better returns than common barley or corn. Comparatively speaking, we do not think barley is any harder on the land than many other cereals grown on the farm. The amount of digestible protein is higher in barley than in oats, and considerably more than in corn. The carbohydrates in barley exceed those in oats, and fall below those in corn. Barley has less oil than oats or corn.

ONTARIO LIVE STOCK MEETINGS.

The regular winter series of live stock meetings will take place during the second week of February at Toronto. The list is as follows:

Canadian Holstein-Friesian Association, Albion Hotel, on February 7th, at 2 p.m.

Dominion Sheep Breeders' Association, Auditorium, 26 Queen street west, February 7th, at 2 p.m. The directors will meet at the Palmer House at 10 a.m., February 7th.

The Directors of the Dominion Swine Breeders' Association, Palmer House, February 8th, at 7.30 p.m.

Dominion Shorthorn Breeders' Association, Auditorium, 26 Queen street west, February 8th, at 2 p.m.

Shire Horse Association, at 10 a.m.; Clydesdale Association, at 2 p.m., and the Canadian Horse Breeders' Association, at 7.30 p.m., February 9th, at the Albion Hotel.

Dominion Cattle Breeders' Association, Auditorium, 26 Queen street west, February 9th, at 2 p.m. The directors will meet at the Palmer House at 10 a.m., February 9th.

Directors of the Provincial Winter Show, at the Palmer House, February 10th, at 10 a.m.

The annual meeting of the Ayrshire Breeders' Association will take place at Montreal on February 15th.

MANITOBA DAIRY MEETINGS.

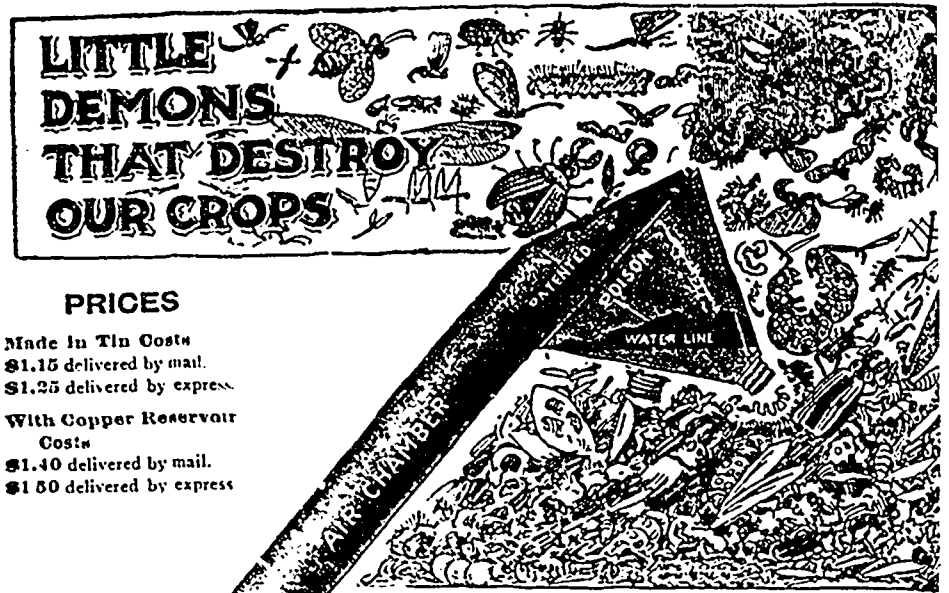
The thirteenth annual meeting of the Manitoba Dairy Association will be held at Winnipeg on February 9th. A good programme is being prepared, and the outlook for a good meeting is good. On February 7th there will be a joint meeting of the Dairy and Stock Breeders' Association, for which a very choice programme is being prepared.

FREE
FOR ONE
DAY'S WORK
LEVER BUTTON CO., TORONTO, ONT.

WE GIVE this fine WATCH, with a chain and charm, buckle Lever Collar Buttons at 10¢ each, or a lady's watch and case for \$1.00. No Money Required. You can order by Wire and we will send the Buttons post-paid, with our big Premium List. Send the Buttons, post-paid, with our big Premium List, free of all charge. Unsold buttons are returnable. Liberal commission if preferred. Be the first in your field. Send your name and address to day. In writing, mention this paper.



LITTLE DEMONS THAT DESTROY OUR CROPS



PRICES
Made in Tin Cans
\$1.15 delivered by mail.
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With Copper Reservoir Costs
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Evans' Electric Sprayer AND Bug Exterminator (Patented)
The Workman's Friend and the Insect's Enemy

Invaluable for killing bugs, worms, fungus, etc. For saving your fruit, plants, flowers and ensuring a bountiful crop. For spraying and disinfecting hens, cows, sheep, hogs and cattle and their houses, and for disinfecting houses and outbuildings and warding off disease. Will double your crop of potatoes and increase your revenue in every department of the farm, garden and orchard. Every Sprayer guaranteed.

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Sole Proprietors for Canada. AGENTS WANTED.
From \$2 to \$5 per day can be made selling the Electric Sprayer.



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It does not require a "crank" to work the Improved "QUEEN" CHURN. The easiest working Churn ever offered to the trade. A child can work it.
Patent applied for.

For particulars, address
The LONDON and PETROLEA BARREL COMPANY
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Oxford Herd of Poland Chinas
 Choice stock of either sex and all sizes, from 2 months up. Bred from the best strain known to the breeder.
 Write for prices.
W. & H. JONES
 Mt. Elgin, Ont

The Home of the Winners

O. F. ASER & SON, Fellows, Ont., registered
 Dues Jersey swine, bred, and for sale.



TAMWORTH SWINE, For Sale
 Boars fit for service. Sows in pig; also bred to order. Large quantity of young pigs. Address, **JOHN BELL, Clydesdale Farm, Amber P.O. Agincourt Station, G.T.R. and C.P.R.**

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 Breeder and Importer of Dorset Horn Sheep and Chester White Swine
THORNDALE, ONT.

Anyone in want of a young boar fit for service, or a young sow for mating, should write to me before ordering elsewhere, as I have quite a few left at right prices

HIGHEST TYPE OF BACON HOGS ...
Oak Lodge Herd of Large Yorkshires

The Largest Herd of Pure-Bred Yorkshires in America.
 This herd has won the best prize offered for the breed during the last ten years. Only one breed kept, but the choicest of its kind. Three imported stock boars and several sows that have all been winners at the largest shows in England, also winners at prominent Canadian and United States shows. Pigs of all ages for sale.

J. E. BRETHOUR, Burford, Ont

JOS. CAIRNS, Camlachie, Ont.
 IMPORTER AND BREEDER OF

Chester White Hogs
 Stock on hand for sale at all times of all ages, and at right prices.

NOVEMBER OFFERING

4 choice young Berkshire Boars about 8 months old.
 10 Sows same age. Also fine lot of young pigs two months old ready to ship.
 3 Extra good Southdown Ram Lambs and one pair of Aged Ewes to part with.
E. E. MARTIN,
 Paris Station, G.T.R. Canning P.O., Ont.



TAMWORTH AND CHESTER WHITE BOARS

Fit for service
 SOWS ready to breed, and a choice lot of FALL PIGS now ready to ship, at rock-bottom prices, from the sweep-stake herd at Toronto Montreal, London and Ottawa Exhibitions, 1897. We pay express charges to your station, and guarantee safe arrival of all stock shipped. Pairs furnished not asin.
 Drop a card before buying elsewhere.



H. GEORGE & SON
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CHESTER WHITES.

I have on hand forty head of pigs from two weeks to four months, both sexes, pairs not akin, from imported and home-bred stock.
J. H. CHALK, Calton Ont.

C. M. SIMMONS, - IVAN, ONT
 Breeder of Shorthorns and Berkshires.
 Farm 7 miles from Ilderton Sta., G.T.R. Stock of all kinds for sale. Prices and quality sure to please.

Large English Berkshires

I have a share of some of the best. I keep them for breeding more than for show.
 Priced according to Quality.
 Also S. L. Wyandotte, S. G. Dorkings, P. Cochins, B. Minorcas, S. Hamburgs. Eggs in season, \$1 per setting.
Geo. Thomson, Bright, Ont.
 Sunnyside Farm, 2 miles from Bright Station, G.T.R.

COLDSRING HERD TAMWORTHS.

A number of fine young sows in pig, some Brantford winners. Choice September and October pigs of both sexes. A fine litter from Beauty I am ready to ship. Orders booked for spring pigs. Prices easy.
NORMAN BLAIN,
 Coldspring Farm, St. George.

NORTH BRUCE HERD Large White Yorkshires

Boars fit for service and young stock of both sexes from eight weeks to six months old for sale. Orders booked for Spring Pigs at eight weeks old.
WM. HOWE, - - North Bruce, Ont.



Hursley Stock Farm. A.J.C.G. JERSEYS

St. Lambert Blood.
 Registered Stock, all ages, including some excellent choice Young Bulls ready for service. Also some choice Grade Milkers and Heifers, cheap.

Large Improved Yorkshires
 Six Young Boars ready for Service cheap.

Some Choice Young Breeding Sows. Also Young Stock, at right prices.
SILLS SHAVER & SON,
 Winchester Springs, Ont.

Berkshires

In my herd there is such blood as **BARON LEE, DORSET CHIEFTAIN and WINDSOR SUPREME** and other noted strains. Choice stock for sale at reasonable prices. Write for particulars.

GEORGE N. HARRIS
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Hermanville Tamworths

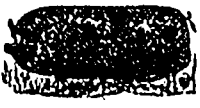
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 1 Pig, \$10.00
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 3 Pigs, \$25.00
 Cross-breds Half-price

Every sow in the herd has either been a winner, produced a winner by a winner, or out of a winner. No other herd with such a record. Litters come in April, May and June. Orders now received. Address (P.O. on Farm) **HERMANVILLE FARM, P.E.I., Can.**

Orders booked and filled as received.

Large English Berkshires.

Young boars for service. Young sows in farrow. Young pigs from two months up. From first-class show stock. Prices right. Write for particulars. Mention FARMING.
O. R. DECKER, Chesterfield, Ont.



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Awarded first prize at Montreal for **BREEDERS YOUNG HERD**. Young animals of MERIT for sale. Pedigrees and particulars to parties wishing to purchase. Address, **SYDNEY FISHER, Knowlton, Que.**

W. D. FLATT
 HAMILTON P.O. and TELEGRAPH OFFICE



... OFFERS FOR SALE ...

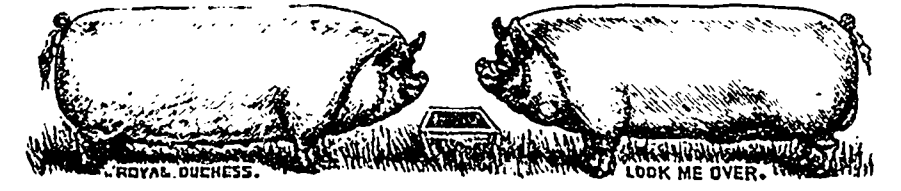
TEN Choice Shorthorn Bulls, from six to twelve months; twenty-five Cows and Heifers served by imported bull, Golden Fame #26056; also Large Yorkshires of choicest breeding and quality from Imported and Canadian-bred stock of True Bacon Type. Catalogue sent on application. Visitors met at G.T.R. or C.P.R. if notified.

...FOR SALE...

8 SCOTCH SHORTHORN BULLS
 From 10 to 18 months old. 1 BULL 2 years old, bred by O. & W. B. Watt, Salem. Also a number of **COWS AND HEIFERS**
DAVID MILNE, - - - Ethel, Ont.

Two Prize-Winning Sows FOR SALE.

Seven months-old. Both in farrow to our stock boar, "Royal First," winner of first prize at the Royal Show in 1898 in a large class. Also young stock of both sexes.
A. ELLIOTT & SON,
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Summer Hill Herd of Yorkshire Hogs—Large Lengthy English Type—Among them being the undefeated prize-winning boar "LOOK ME OVER"—2602—acknowledged to be as good as any if not the best of his kind on the continent of America to-day. Also "ROYAL DUCHESS," a first-prize sow at the Royal Show, Birmingham, England, in 1898, together with a choice lot of other sows, young boars fit for service, and pigs eight weeks old, single or in pairs not akin. Also choice young sows bred to "Look Me Over." We ship to order, prepay express charges, guarantee stock as described.

D. C. FLATT, Millgrove
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Cash Prizes

\$60.00 CASH

will be given to any one sending us not less than 100 new subscribers at \$1 each.

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will be given to any one sending us not less than 90 new subscribers at \$1 each.

\$40.00 CASH

will be given to any one sending us not less than 80 new subscribers at \$1 each.

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will be given to any one sending us not less than 70 new subscribers at \$1 each.

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will be given to any one sending us not less than 60 new subscribers at \$1 each.

\$25.00 CASH

will be given to any one sending us not less than 50 new subscribers at \$1 each.

\$20.00 CASH

will be given to any one sending us not less than 40 new subscribers at \$1 each.

\$15.00 CASH

will be sent to any one sending us not less than 30 new subscribers at \$1 each.

\$10.00 CASH

will be given to any one sending us 25 new subscribers at \$1 each.

IN ADDITION TO ALL OTHER CASH PRIZES

\$35.00 CASH

will be divided between the persons sending us the two largest lists of new subscribers prior to 1st June, 1899, as follows:

\$20.00 CASH

to the person sending us the largest list, and

\$15.00 CASH

to the person sending us the second largest list. If the two largest lists are equal, the \$35 prize will be equally divided between the persons sending them in.

"The laborer is worthy of his hire," and no one who attempts to obtain a prize will go unrewarded, so long as he succeeds in obtaining subscriptions, no matter how small the number may be.

Those competing for cash prizes who do not obtain a sufficient number of new subscriptions to entitle them to the prize for which they are competing, or to any cash prize, may select any other premium to which the number of subscriptions sent in will entitle them; or, if they prefer it, we will pay them at the rate of 40 cents for each new yearly subscription they have sent to us. **You stand a good chance to win one of the special cash prizes for the largest list, although you may not obtain a sufficient number of names to entitle you to the prize for which you compete, as the special prize will be awarded for the largest and second largest lists, though they may contain only a small proportion of the names required to secure one of the regular prizes.**

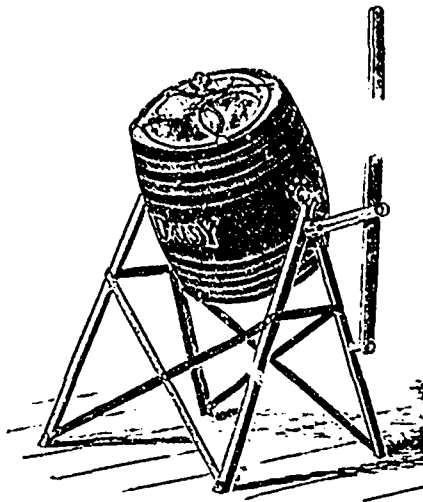
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Sample Copies and Premium Lists free. Address

FARMING

Toronto, Canada.



The "Daisy" Barrel Churn, 1899

ANGLING STEEL STAND
BICYCLE BALL BEARINGS
PATENT LEVER

CHURNING MADE SO EASY YOU READ
YOUR BOOK WHILE YOU CHURN . . .

Manufactured only by

THE WORTMAN & WARD M'F'G CO
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Eastern Branch: 67 McGill St., MONTREAL.

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Invariably goes to the one with best brain—one who has education, special training. Why not qualify for one of the best places going? You have the chance. The

CENTRAL BUSINESS COLLEGE, TORONTO opens the door to success for many young Men and Women each year. It offers splendid equipment, thorough work, a strong staff and good results. You may enter at any time. Write for prospectus. **W. H. SHAW, Principal.** Yonge and Gerrard Sts., TORONTO.

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STRATFORD, ONT.,

Don't Wait for something to turn up, get a business education and turn something up. Active, educated and well-trained young men and women are wanted everywhere. We admit students at any time. Write for circulars.

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For nearly 40 years this College has been a leader in Commercial and Shorthand training in this country, and it is the leader to-day. Write for prospectus to

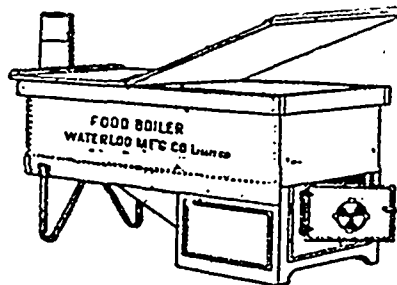
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Patchall

THE Twentieth Century Mender bids good-bye to the needle and thread. Welcomed by thousands of women and praised by men. No more dirt in your home from mending bags. **PATCHALL** mends grain bags, binder canvas, and all kinds of cloth. It is a great saver for the farmer. Straw passing through small holes, winding on the rollers of the self-binding harvester breeds evil. A small piece of canvas and a little **PATCHALL** saves time and money. A great success in grain warehouses wherever tried. Thousands of bags are now patched by **PATCHALL**. Eight patches, two inches square, cost a cent. If you cannot obtain it from your hardware dealer, send 25 cents, and we will mail a can to your address prepaid. Manufactured by

Domestic Speciality Co.,
Hamilton, Ont.

THE WATERLOO ...FOOD BOILER



Used chiefly by Farmers, Stock Feeders and Butchers for

COOKING FEED FOR STOCK AND POULTRY,

For **BOILING SAP, SCALDING HOGS,**
Etc., Etc. . . .

The Most Economical on Fuel and the Most Convenient for all-round purposes of any Cooker in the Market

IT PAYS TO BOIL FEED for STOCK, HOGS and POULTRY

Built in 40, 90 and 125 Gallon Sizes. Write for Circulars and Prices

WATERLOO MANUFACTURING CO., Limited
WATERLOO, ONT.

FARMING

AN ILLUSTRATED WEEKLY JOURNAL DEVOTED TO
FARMING AND THE FARMER'S INTERESTS.

Published every Tuesday by

THE BRYANT PRESS,

44-46 RICHMOND STREET WEST, TORONTO, CANADA.

Subscriptions in Canada and the United States, \$1.00 per year, in advance; six months, 50 cents, three months 25 cents. In all countries in the Postal Union, \$1.50 a year in advance.

The date opposite the name on the Address Label indicates the time to which a subscription is paid, and the changing of the date is sufficient acknowledgment of the payment of a subscription. When the change is not made promptly notify us. In ordering change of address, be sure to give the old address as well as the new.

FARMING will be sent to all subscribers until notice by post card or letter to discontinue is received and all arrears are paid up. Returning a paper is not a notice to discontinue. All arrears must be paid up before a name can be taken from our list. All remittances should be made by P.O. money order, express money order, or registered letter. Sending money in an unregistered letter is unsafe, and will be at the sender's risk.

Advertising rates furnished on application. All communications should be addressed to "FARMING, 44-46 Richmond Street West, Toronto, Canada."

Representative for Great Britain and Ireland, W. W. CHAPMAN, Fitzalan House, Arundel St., Strand, LONDON, ENG.

MARKET REVIEW AND FORECAST.

Office of FARMING,

44 and 46 Richmond street west,

Toronto, Jan. 30th, 1899.

One of the evidences of good times is to be seen in the remarkable prosperity in stocks, and securities of all kinds have resulted in big gains on both sides of the Atlantic. Many stocks have been inflated to the bursting point, and it is thought that capitalists will seek fresh fields for speculation. There has been a vast improvement in mercantile circles at Montreal during the week.

Wheat.

Though the statistical position of wheat shows no material change, there was a firmer feeling all round during the week. The *Trade Bulletin's* special London cable of January 26 reports the wheat market firmer and higher. Stocks there are light and the market quickly responds to anything of a bullish nature. On the Baltic more active business has been done, floating cargoes being 61. higher. The Chicago market has been excited all week, and on Thursday values advanced 4 to 4½¢. This excitement is due to the speculative element which seems to be taking a hand in the situation. It is generally believed that capitalists who have made all they can out of stocks and securities and have plenty of money will take a hand in the wheat ring. If they do it will likely result in a boom similar to that of a year ago. Wheat at present prices is considered to be good value, notwithstanding the fact that only 5½ months of the present cereal year remains and the bulk of the crop is to be marketed yet. The next few weeks will show pretty well how matters stand. The excitement in the market is not all in Chicago. Some Montreal dealers are excited over Manitoba wheat. At Duluth the market is greatly excited and dealers believe prices must go higher. There is a general feeling that there are others operating besides the regular buyers, which seems to be the main cause of the excitement.

There has been a good demand at the markets here during the week, but the supply has been light, farmers preferring to hold their wheat a while longer. Quotations are 70 to 72c. for red and white west; 69 to 70c. for goose, and 83 to 85c. for No. 1 Manitoba hard and 81c. for No. 1 Northern Toronto. On the local market red and white brings

from 74 to 75c.; spring sife, 71½c., and gouse, 71½c.

Oats and Barley

The London market for oats is slow, owing to large Russian supplies. At Montreal 32½ to 33c. is quoted for No. 2 white in car lots, and 32c. for No. 3. The market here is firmer at 29c. to 29½c. west. They are quoted at 33 to 33½c. on the local market.

No. 1 malting barley at Montreal is quoted at 55 to 56c. in car lots in store. The barley market here is easier at 46 to 47c. west. It brings from 49½ to 50c. on the local market.

Peas and Corn.

The London market for peas is firmer and prices are 61. per quarter in advance. The Montreal market is steady at 71 to 72c. in store and 65½ to 66c. in the west. The market here is firmer at 66 to 66½c. west.

The corn market is firmer because of the advance in wheat. The quotations at Montreal are 46 to 47c. for No. 2 American mixed. Canadian yellow is quoted here at 37c. west and No. 2 American at 47c.

Bran and Shorts.

At Montreal Ontario bran is quoted at \$14.50 to \$15. Manitoba bran at \$14.50 and shorts at \$15.50 to \$16. City mills here sell bran at \$14 and shorts at \$15 in car lots f.o.b. Toronto.

Clover and Timothy Seeds.

The Montreal market is steady. American timothy seed is quoted at \$1.25 to \$1.50 in store; red clover at \$4.25 to \$5; alsike at \$4 to \$5 as to quality. On the local market here red clover is quoted at \$3.50 to \$4; white clover \$6 to \$9; alsike \$3 to \$4.20 as to quality, and timothy at \$1.25 to \$1.35.

Eggs and Poultry.

The London and Liverpool egg markets are quiet and holders are more anxious to realize owing to large supplies. The Montreal market has been fairly steady. Pickled stock is quoted at from 14 to 16c.; No. 1 candled at 16 to 17c., and new laid at 25 to 28c.; with single cases higher. Strictly new laid eggs are scarce. New laid are in good demand here at 20 to 22c., and held fresh at 16 to 18c. On the local market new laid are quoted from 25 to 30c.

Choice fresh killed turkeys are in good demand at Montreal, and bring from 10 to 10½c. Other quality brings from 8½ to 9c.; choice chickens are quoted at 8 to 9c.; ducks at 7 to 8½c.; and geese at 6 to 6½c. The market here is quiet though receipts are not large. Turkeys are quoted at 9 to 10c.; geese at 6 to 6½c. per lb.; chickens at 25 to 60c.; and ducks at 40 to 75c. per pair. Values on the local market are about 10 per cent higher.

Potatoes.

The Montreal market is a little easier with car lots quoted at about 55c. per bag. Potatoes here are quoted at 60c. in car lots, and 70c. out of store. On the local farmers' market they bring from 65 to 75c. per bag.

Fruit.

There is a better feeling in Montreal apple market, and prices are \$2.50 to \$4 per barrel. On the local market here apples are quoted at \$1.50 to \$2.50 per barrel.

Hay and Straw.

A fairly good business is being done at Montreal in hay for export, and quite a lot of clover has been sold at county points at \$3.25 to \$3.50 f.o.b. Vessels going from St. John and other points have some difficulty in getting freight, which should afford shippers of hay a good chance to get better rates. At Montreal car lots of clover are quoted at \$4 to \$4.50 on track; clover, mixed, at \$4.75 to \$5.25, and No. 1 Timothy, which is scarce, at \$6.50 to \$7.50. Quite a lot of Canadian hay is going to the United States chiefly from

Quebec. The market for baled hay is quiet here at \$7 to \$7.50 for cars on track. Baled straw is dull at \$4.50 to \$5 for cars on track. On the local market timothy brings from \$8 to \$9.50 and clover \$5 to \$7 per ton.

Cheese.

The London market is reported barely steady, but prices are no lower. Stocks in retailers' hands are very light and any movement to replenish stocks would be followed by a rise in values. The Montreal market is quiet, but no one seems able to buy at the reduced figures of a week ago. Quotations are 10c. to 10½c. for finest Westerns and 9½ to 10c. for finest Easterns. The exports of cheese from Canada and the United States, from May 1st, 1898, to Jan. 26th show a decrease of 533,656 boxes as compared with the same period of 1897.

Butter.

The *Trade Bulletin's* London cable of January 26th reads thus: "There has been an improved demand since my last cable, and prices have advanced 2s. per cwt., but, owing to large arrivals of Australian butter, there is a somewhat unsettled feeling at the rise. Finest Canada creamery, 96s. to 98s." A better feeling is reported at Montreal in keeping with the cable advance, and a better export demand prevails. Choice creamery is quoted there at 19 to 19½c., with one sale reported at 20c. Good to fine is quoted at 18 to 18½c., and fair at 16½ to 17c. There is a good demand there for western dairy, which is quoted at 14 to 15c. The butter exports from Canada and the United States from May 1st, 1898, to January 26th show a decrease of 11,531 packages. Creamery is steady here at 20 to 21c. for prints, and 19 to 20c. for packed. There is a good demand for choice dairy at 15 to 16c. for prints, and 13 to 15c. for choice tubs. Pound prints on the local market bring from 16 to 20c., and large rolls 13 to 14c.

Cattle.

The leading American markets have remained steady for prime heavy finished cattle. There has been a fair demand at East Buffalo and offerings have been faken. Receipts at this market on Friday were light. The quality of the fat cattle was fair. Trade was active and everything in the fat cattle class sold early at advanced prices over those earlier in the week.

Export Cattle.—The demand for these is good with choice heavy exporters selling at \$4.50 to \$4.75, and light ones at \$4.30 to \$4.50 per cwt. Choice heavy bulls of good quality bring from \$3.60 to \$4.00, and light to medium \$3.37½ to \$3.50 per cwt.

Butchers' Cattle.—Choice picked lots of these, equal in quality to the best exporters, and weighing from 1050 to 1150 lbs. each, bring from \$3.95 to \$4.20, good to medium \$3.35 to \$3.85, and common to inferior \$2.60 to \$3.15 per cwt.

Stockers and Feeders.—Trade in stockers was brisk, with prices almost 10c. per cwt. higher, selling all the way from \$3.25 to \$4.40 for inferior to medium, and \$3.60 to \$3.70 for choice lots. Stock heifers and bulls bring from \$2.25 to \$2.60 per cwt. Heavy feeders, weighing about 1,100 lbs. each, bring from \$3.60 to \$3.80 per cwt., and are in good demand.

Calves.—There has been a sufficient supply of these at Buffalo, where prices are a little easier. Few calves are being offered here and prices are unchanged at \$3 to \$6 each, with \$5 per cwt. for choice quality.

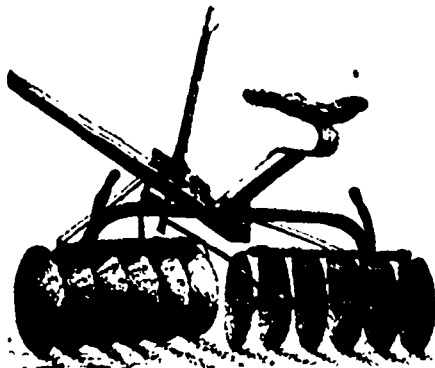
Milk cows.—The general run of these bring from \$25 to \$45 each, with \$50 for the best.

Sheep and Lambs.

The Buffalo market was slow all week with a steadier feeling at the end, when receipts were pretty well cleared up. On this market on Friday ewes sold at \$3 to \$3.35, and bucks at \$2.50 to \$2.75 per cwt. Prices for yearling lambs were a shade easier at \$4.25 to \$4.35 per cwt. with some unsold at the close.

THE HARROW THAT DOES THE WORK

Hundreds of Farmers can add their Unwritten Testimony



LOT 12, CON. 11, CHATHAM TOWNSHIP.
 T. E. BISSELL.—We the under-mentioned farmers met on the farm of Samuel Wallace, Lot 12, Con. 11, Township of Chatham, to test the working of different Disk Harrows on hard clay, unplowed and stubble that Mr. Wallace tried to plow and could not plow it with either the gang or one-furrow plow. We had four different makes of Disk Harrows in the field—The American (Detroit or Windsor), the Fleury, the Non n., and the T. E. Bissell, of Prescott. We found the Bissell Prescott did more work going once over than any of the others going four times. Twice over with this machine made a clean cut five inches deep, while twice over with any of the others did not cut one third of the surface and no less. We could not believe this had we not seen it. We would not buy any of the other harrows after seeing the Bissell-Prescott work. (Signed) J. L. Holwell ex-Reeve Chatham Township; James Martin, Absolom Davis, W. J. Oates, Samuel Wallace, Chas. Latimer, W. J. Rollins.

MR. DAVIS AND MR. WALLACE EACH BOUGHT A HARROW AFTER THE TRIAL

Manufactured by T. E. BISSELL, Fergus, Ont.

Hogs.

The market was lower last week for choice bacon hogs and supplies were light. The best selections, weighing from 160 to 200 lbs., sold at \$4.25 to \$4.37 1/2 per cwt. off cars, unfed and unwatered. Light hogs brought from \$4 to \$4.20 and thick fats of all kinds \$3.75 per cwt. At Montreal packers are paying about \$4.25 for good mixed lots, and \$4.35 per cwt. for nice light bacon hogs. A steamer sailing is reported in the London, England, market for bacon, with a better demand. The decline of 1s. a week ago has caused more business to be done. Canadian lean sides are quoted at 36s. to 38s. and stout and fat sides at 32s. to 34s.

The "Queen" Churn.—We take the following description of this churn from the circulars of the manufacturers. "It is easy to operate, as it is filled with roller bearings. There are no cranks to turn. By a simple device the barrel is secured to the frame, resting on roller bearings and the churn revolves with the slightest touch of the operator. It does not get out of order, as in its construction the acme of simplicity and durability has been reached. The frame is mounted on wheels, thus allowing the churn, while in the frame, to be easily moved anywhere. It is well made, well painted and is an ornament to any home. It is cheap and durable. Will last a lifetime. It has been thoroughly tried and tested by expert butter makers who find that a churning can be done in one-half the time it takes with ordinary churns and a much higher grade of butter is produced." Write to The London and Petrolia Barrel Co., London, Ont., for full particulars. See advertisement on page 408.

EASTERN TOWNSHIPS AGRICULTURAL ASSOCIATION.

The Eastern Townships' Agricultural Association held its annual meeting recently at Sherbrooke, Que. The annual report, as read by the secretary, showed that the past year was the most successful in the history of the Association. The actual receipts were \$18,897.81, an increase of \$2,121.64 over the previous year.

EASTERN POULTRY SHOW.

The fifth annual exhibition of the Eastern Ontario Poultry and Pet Stock Association took place at Brockville, Ont., last week. The number of birds shown was the largest in the history of the association, there being upwards of 1,200 on exhibition. The principal poultry breeders in Eastern Ontario, as well as some from Toronto, were on hand with their best stock. Mr. Sharp, Butterfield, acted as judge. During the show Prof. Robertson delivered an address on raising poultry for the British market.

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Everything that bears the name **DEERING** is up-to-date.

That is why our competitors claim their machines as good as the Deering.

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Smooth and Strong
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THE RAZOR STEEL, SECRET TEMPER, CROSS-CUT SAW

WE take pleasure in offering to the public a Saw manufactured of the best quality of steel and a temper which toughens and refines the steel, gives a keener cutting edge and holds it longer than any process known. A saw to cut fast "must hold a keen cutting edge." This secret process of temper is known and used only by ourselves. These saws are elliptic ground thin back, requiring less set than any Saw now made, perfect temper from tooth to back. Now, we ask you, when you go to buy a Saw, to ask for the **MAPLE LEAF RAZOR STEEL, SECRET TEMPER SAW**, and if you are told that some other saw is as good, ask your merchant to let you take them both home, and try them, and keep the one you like best. Silver steel is no longer a guarantee of quality, as some of the poorest steel made is now branded silver steel. We have the only right for the "Razor Steel" brand. It does not pay to buy a Saw for one dollar less, and lose 25 cents per day in labor. Your saw must hold a keen edge to do a large day's work. Thousands of these Saws are shipped to the United States and sold at a higher price than the best American Saws.



Maple Leaf Saw Set



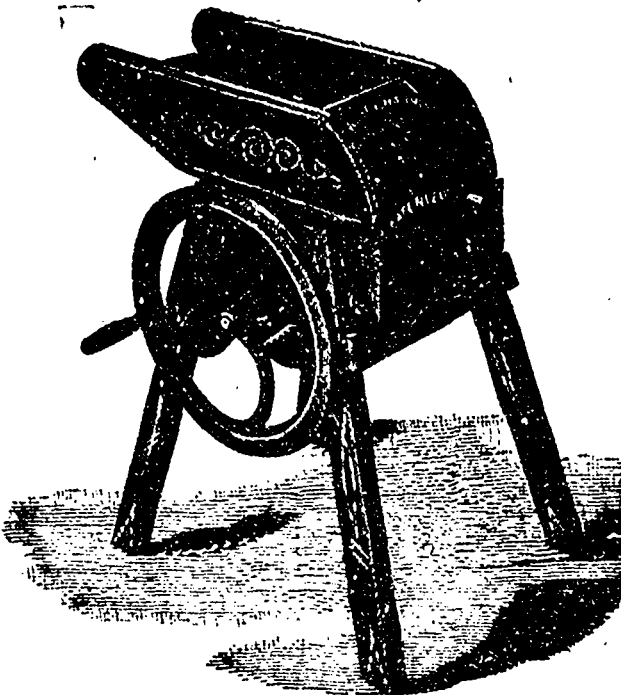
Directions.—Place the Set on the point of tooth as shown in the above cut, and strike a very light blow with a tack hammer. If you require more set, file the tooth with more bevel. If you follow directions you cannot make a mistake. Be sure and not strike too hard a blow, and it will set the hardest saw.

Manufactured only by **SHURLY & DIETRICH, Galt, Ont.**

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Your Cattle

need careful attention in order to bring you good returns. The roots they eat should be well sliced and pulped. The

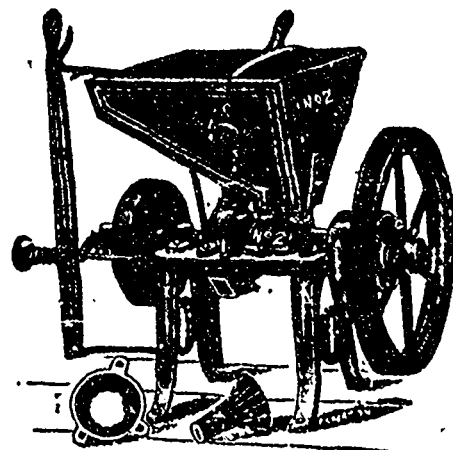


**THE
MASSEY-
HARRIS
Roller
and
Ball-
Bearing
PULPERS**

are the best machines made for this purpose; they go so easily and will do the work so speedily!

**MASSEY-HARRIS CO.,
TORONTO LIMITED**

THE ONLY GRINDER



which will crush and grind corn cobs as well as small grain.

THREE SIZES

can be furnished, suitable to be run by sweep power, tumbling rod, or by a belt. A complete grinder, and ahead of anything in the market. Send for catalogue.

We manufacture also

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HAY PRESSES
THRESHERS
FEED CUTTERS
etc., etc.**

**MATTHEW MOODY & SONS
TERREBONNE, QUE.**

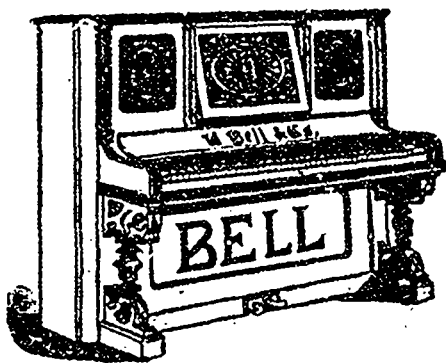
SUNNYSIDE POULTRY YARDS.

I have for sale the following varieties of the richest strains of blood which can be produced, winning 300 Firsts, 100 Seconds, at the following shows: Toronto Industrial, Provincial Quebec, Galt, Diumbo, Paris and Burford in 1898:—

Choice Silver and Golden Wyandottes, Light Brahmas, Black Langshans, Black Javas, Cornish Indian Games, B. B. R. Games, S. G. Dorkings, Brown S. C. Leghorns, Barred and White Rocks, White Crested Black Polands, Black Minorcas, Andalusians, B. B. Red Bants, Pyle Bants, M. B. Turkeys.

T. A. COX, - Brantford, Ont.

The Unparalleled Reputation of



**The BELL PIANOS
and ORGANS . . .**

Is accepted without dispute by all other makers

ORGANS from \$40 upwards
PIANOS from \$250 upwards

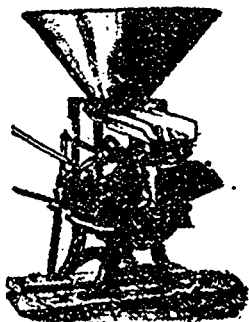
Only the best materials used. All others are rejected
On Reasonable Terms from all Agents
Manufactories: QUELPH, Ont.

THE BELL ORGAN & PIANO CO., LIMITED

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Make a
Mistake**

If You Buy this Grinder.
It is made by

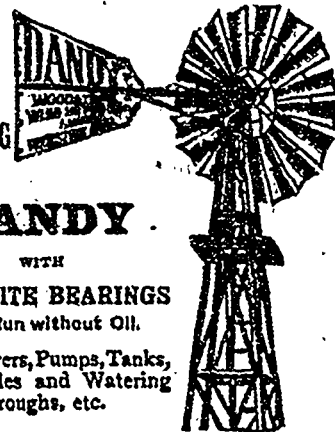
**S. VESSET & CO.,
Joliette, P.Q.**



Prices and Terms are right.

Woodstock Steel Windmills

FOR
POWER
AND
PUMPING



Get a
DANDY

WITH
GRAPHITE BEARINGS
They Run without Oil.

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

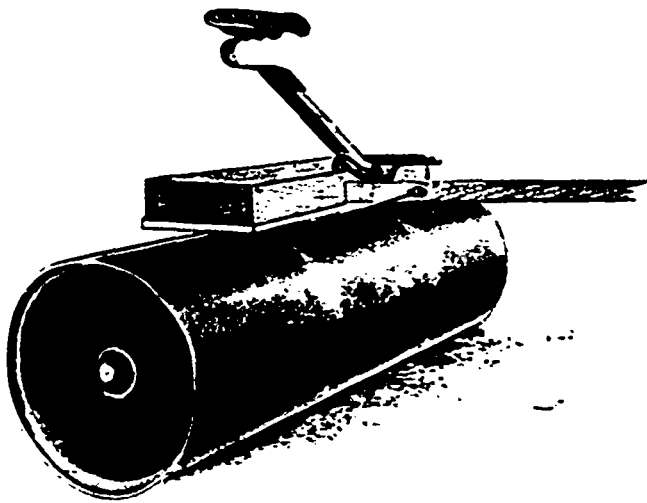
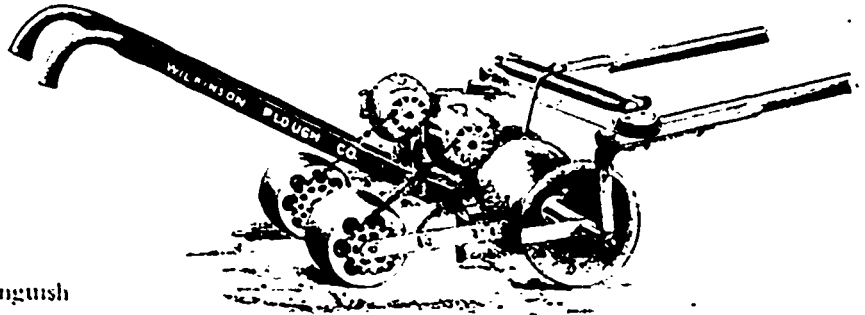
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Woodstock, Ont.**

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Our Ploughs

last longest, draw lightest, work easiest. They have been before the public for thirty years—unparalleled. Each year finds the same exactness in detail, with such improvements as money and brains can devise.

OUR GANGS have the same distinguishing feature, and all are of the best material and labor. Implements which are each and every one carefully put together, down to the smallest detail.



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