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FARMING

February 7th, 1899.

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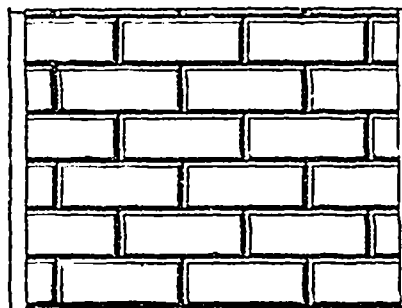
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MATCHED HIGH STEPPING CARRIAGE HORSES, FASHIONABLE COBS, SUPERIOR SADDLE HORSES, HANDSOME PONIES.

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CHAMPIONS FOR MILK and BUTTER

A number of desirable young bulls on hand from one to eight months old from our show herd and great milking stock. Also females of all ages

Write for just what you want.

Registered Poland China Pigs, one month old, for sale.

A. & G. RIOE, Currie's Crossing, Oxford County, Ont.

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Holstein-Friesians BULL CALVES FROM

QUEEN DeKOL 2nd. Winner of Prince of Wales' prize, over heifers of a 1 breed in public test.

LADY AKKHUM 2nd. 67½ lbs. milk in 1 day and 2½ lbs. butter in a week.

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FOR SALE—Two choice young bulls, sired by Lord Everet 2nd, a great grandson of Barrington; one of the best bulls ever imported. Dams are Cecilia Mink Mercedes, 1st and 2nd, both of good milking strains. Also heifers and heifer calves. Prices reasonable. T. W. CHARLTON, St. George, Ont.

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Great bargains in Holsteins from now till New Year's. Take advantage of cheap rates over holidays. Stock of best quality. Worth the choicest in the country. A few cockerels on hand.

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W. M. ARMSTRONG, Locust Hill, Ont., Breeder of Purebred and High-Grade Holsteins.

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A. M. & R. SHAW, Brantford, Ont., Breeders of Galloway Cattle. Choice young animals for sale.

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W. J. RUDD, Eden Mills, Ont., Breeder of Devon Cattle, Cotswold and Suffolk Sheep, Berkshire Pigs, Plymouth Rock Fowls. Young stock for sale.

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Ewes in lamb to Royal Warrick and Imp. Hero 5th for sale.

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Ready to wean.
1 Pig. \$10.00
2 Pigs. \$18.00
3 Pigs. \$25.00
Cross-breds
Half-price

Orders booked and filled as received

Yorkshires Duroc-Jerseys Cross-breds

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. Letters come in April, May and June. Orders now received. Address (P.O. on Farm), HERMANVILLE FARM, P.E.I., Can.

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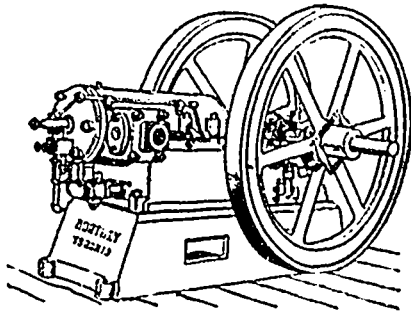
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W. E. H. Massey, Proprietor

Address DENTONIA PARK FARM, Coleman, Ont., Canada

Dentonia Jersey Herd

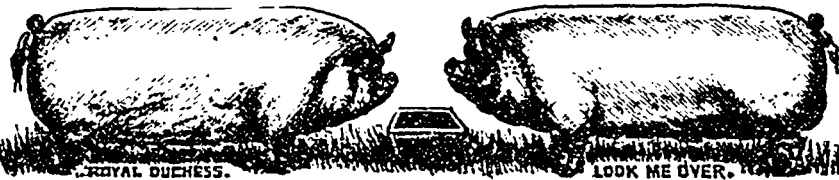
Winners of the Herd Prize at both the Toronto and London Fairs last fall, also some thirty other prizes. The herd comprises fourteen head of imported cattle, many of them winners of valuable prizes on the Island; also some thirty animals carefully selected from the best Canadian herds. Heifer and Bull Calves, also good Cows, always on sale.

Dentonia Poultry Yards

Handsome White Leghorn Cockerels (from Wyckoff eggs), also Brown Leghorn Cockerels for sale.

Dentonia Trout Ponds

"Eyed" Trout Eggs, also yearling and two-year-old Brook Trout for sale. Market trout supplied in season.



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 it 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 1896, 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. G. FLATT, Millgrove

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TEN Choice Shorthorn Bulls, from six to twelve months; twenty-five Cows and Heifers served by imported bull, Golden Fame #20056, 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.

CHOICE AYRSHIRE BULLS

FROM IMPORTED STOCK.

We offer for sale Three (3) BULL 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.

Golden Link Herd of Berkshires

I have the 1st-prize boar under 12 months at Toronto for sale, and 1st at Western Fair; also 2nd prize boar under 6 mos. at Toronto. Have 4 first-class boars fit for service, 5 and 6 mos. old. Have 2 of the sows for sale that tried for 1st of the three pigs bred from one sow, and the 2nd and 3rd prize sows under 6 mos. These winning sows are bred from Perfection, the unbeaten yearling. Have a few good sows bred for sale. Have 25 head of young pigs from 10 to 8 weeks. Am booking orders for March and April pigs.

T. A. COX, Brantford, Ont.

W. M. SMITH, Columbus, Ont., Breeder of Clydesdale Horses, Shorthorn Cattle, and Cotswold Sheep. Stock always for sale.

FARMING

VOL. XVI.

FEBRUARY 7th, 1899.

No. 23

Agricultural News and Comments

The Nova Scotia Farmers' Association will hold its next annual convention at Annapolis on February 22nd, 23rd and 24th next, and it is probable that the next annual meeting of the New Brunswick Farmers' and Dairymen's Association will take place at Fredericton on February 15th, 16th, and 17th.

A new wheat, known as Steinweidel, has been discovered in Australia, which, it is claimed, will stand the severe drouths of that country. It grows very tall, has a large head that will drop off with the weight of grain. This wheat originated by a farmer preserving some grains in his wheat field which grew taller than the rest.

Mr. S. Flack, Red Deer, Alta., in sending in his renewal for 1899, says: "Creamery still running and proving satisfactory to patrons, who purpose increasing their herds. The net price of butter to patrons during the past summer season was 14.591 cents per lb. There was 42 per cent. increase in the amount of butter made over that of the first season."

An enterprising California dairyman is going to start a cheese factory and creamery in Alaska. There is a good market there for butter and cheese. He will locate on the Kodiak Islands, where there is a heavy growth of grass and cattle pasturing there are in splendid condition. It seems very much like carrying on winter dairying all the year round. Butter in Dawson City is worth \$1 a pound.

The co-operative pork packing movement seems to be spreading. Factories are talked of for Woodstock and Harriston. At both these places, in fact, preliminary arrangements have been made to open up stock books, and should a sufficient amount of stock be subscribed factories will be erected. At Woodstock it has been decided not to begin operations till \$60,000 are subscribed, and no stock holder can hold more than \$1,000 worth of stock.

In 1896 Canada sent to Great Britain 88 357 cwt. of butter, in 1897 100 402 cwt., and in 1898 156,865 cwt. The total consumption of butter in Great Britain in 1898 was 3,209,093 cwt., so that there is practically an unlimited field in which to develop a trade. The average prices paid for the choicest Canadian butter during 1898 was from 96 to 100s. per cwt. These prices were second only to those received by Denmark and Sweden. Of cheese Canada sent to Great Britain in 1896 1,234,297 cwt., in 1897 1,526,664 cwt., and in 1898 1,432,181 cwt.

Henry E. Alvord, chief of the dairy division of the United States Department of Agriculture, who passed through Toronto last week on his way to attend the Michigan Dairymen's meeting, had with him some good samples of Danish butter to show the dairymen there. The United States Department of Agriculture is endeavoring to help the American dairymen to get into the British markets, and to that end whenever any specially good samples of Danish or other foreign butter are offered there the United States agents purchase them and ship them in cold storage to this side for the information of American dairymen.

According to a French publication there are 22,000,000 horses in Russia; 12,000,000 in the United States; 4,000,000 in Argentina; 3,500,000 in Austria Hungary and Ger-

many, 2,880,000 in France, 2,790,000 in the United Kingdom and 2,624,000 in Canada. From the values allowed it would seem that the horses of Russia are of a very inferior grade and those of Argentina are of a fair quality. England and France are given the honor of having the most valuable horses, with the United States and Canada coming next. The greatest diversity of value is said to exist in Spain, while the horses of Norway and Sweden correspond in worth to those of Uruguay.

Rape Growing

We have received several enquiries lately regarding rape growing. As the cultivation of this plant is year by year receiving more attention in Ontario we asked Mr. John I. Hobson, Guelph, to prepare an article for publication on the subject. Mr. Hobson writes us as follows:

"It is very noticeable that, with few exceptions, the most successful farmers in the country are men who follow stock-keeping largely in some of its forms. In fact, so noticeable is this, that we may well be led to the conclusion that on the ordinary soils of this province stock-keeping is the basis of good farming, and that a farmer's success will depend a good deal on the quantity of dairy produce or meat per acre his farm is made to produce. As a means in that direction the growing of rape and feeding it off on the land has been found by many of our farmers to be followed by highly satisfactory results. It has been grown extensively in the Guelph district for many years, and thousands of lambs fattened on it have annually been sent to the American markets, yet I have found, when travelling in other parts of the province, that it is quite exceptional to see it grown to any considerable extent. It is a little surprising that such should be the case, for there is no question that those farmers engaged in growing it have made a good deal of money for years past in sending their lambs in prime condition to the Buffalo market, and it has been found to be no small factor in keeping their farms in a good state of fertility.

"I would say to the farmer who has never grown a crop of rape that he would be acting wisely to go into it in a small way at first, and prove by his own practice and observation whether the conditions in which he is placed are suitable to its production, and to find out for himself many little things that can be learned best by experience.

"The system which is generally followed by those who have grown it successfully is to prepare the land just as is done for the turnip crop. Taking it for granted that one of the objects in growing it be a cleaning crop, then it follows that if the land is pretty well worked the fall before, a good many thistles and weeds will have been got rid of and so much less work will be required in the way of hand-hoeing the next season. The last plowing should be done deeply, or if the land is inclined to be stiff, plowing in what is termed ridge and furrow—that is putting it into drills—is an excellent plan. I have found in my own practice that it answers a good purpose, the winter's frost making it more friable when worked the following summer. An important matter is to have the land in fine tilth when sown.

As to the soil best suited for growing rape, a fair crop can be grown on almost every variety if properly prepared. I have some acres of sandy land, it is what may be called a poor leaching soil, some of the finest crops of rape ever grown on the farm were on these fields. It was sown thinly,

with about three-quarters of a pound of seed to the acre, and top-dressed when the plants were into broad leaf with two hundred pounds of gypsum to the acre. My general practice of late years has been to grow it on land at the end of the course and apply a small quantity of manure, about seven or eight loads to the acre.

The time of sowing may be any time from about the 20th of June to the middle of July. I prefer the last week of June if the land is in good condition and the weather favorable. The drills should be from twenty-seven to thirty inches apart, the latter width is preferable if the land is very rich and likely to produce a heavy growth.

A good deal has been said about whether rape should be sown on the flat or on raised drills. It appears to me that as a general plan it is so much the better to sow on raised drills that it is not worth discussing. Of course one can theorize and prove to his own satisfaction that the contrary is the right plan to follow, but the fact remains that the consensus of opinion of nearly every farmer that I have met who has grown it successfully is opposed to growing it on the flat. The only objection to a raised drill is that there is more danger of the sheep and lambs getting on their back and not being able to get up. For the first few years in my own experience a good many were lost in that way; but I soon found that close attention was necessary to keep down to a minimum the percentage of loss.

Coming to the question of sowing, if the seed is fresh and good, and the land well prepared, from one to one and a quarter pounds to the acre is ample. It is a great mistake to sow thick. To obtain a full and well grown crop it requires room for the plant to grow large and high. I mean by a good crop one that when a flock of lambs is turned in they will be about covered with the plants; and it is quite a mistake to think that the strong and thick stalks of the rape plant are not quite as nutritious as the leaves. At all events, if a chemical analysis were to show the contrary, practical results would then be at variance with science.

The after-working should consist of a free use of scuffler as long as there is room to work between the rows, and it is here where comes in one of the advantages of raised drills, the work of horse hoeing being so much more readily done. If the drills have been carefully made of uniform width, the scuffler can be so set as to hoe close up to the plants, and then the work of hand hoeing, if it is done (and it certainly should be if the best results are to be obtained), is a comparatively light affair, just cutting away any weeds or thistles that may be amongst the plants. By a free use of the scuffler not only will the land be left as clean as after



Cross-bred cow, "Nancy," champion of the milking trials at the show of the British Dairy Farmers' Association, London, England, 1898.

a first-class summer-fallow, but the weight of the crop will be much increased.

In regard to the value of rape as a late fall feed, there are no two opinions as to its being the best crop grown for fattening sheep and lambs, but there is some difference of opinion as to its value for feeding cattle; not but what it

is well understood that flesh can be laid on at less cost and more rapidly than by the use of any other feed that is fed off directly in the field, but the experience of many growers is that it is rather risky. Without advising as to its use for cattle, all I can say is this, that having grown it somewhat extensively for over twenty years I have found it a very cheap and satisfactory fall feed for cattle, and pigs do remarkably well upon it when they receive a small allowance of grain. During the many years we have grown it there has been the loss of only two calves, one of them clearly the result of mismanagement in turning on with an empty stomach. With regard to either cattle or sheep, great care should be exercised to see that before being allowed to feed on rape they have been well fed beforehand. My own practice is to have a grass field adjoining to which the stock can have free access at all times, and when once put on the rape leave them there until the weather gets cold and rough in the late fall, when it is necessary to house at nights. When taken off in this way it is very important to see that they are well fed in the morning. Much of the trouble and loss which does occasionally happen in feeding rape is mainly attributable to not exercising a little common sense in these matters of detail.

A well-grown crop of rape should carry from ten to twelve lambs to the acre for eight or ten weeks, or, say, from about the 20th September to the end of November. Some feeders consider it a good plan to feed a small quantity of grain when in the field. My own experience leads me to think that there is no profit or advantage in doing so unless or special reasons—such as being a little over-stocked, or when meat is high and oats and bran very cheap.

All good feeders know that the lambs should become accustomed to eat grain before being changed from the fields to the yards, and for the same reason it is always well to mix a little turnip seed when sowing. If attention is paid to these things very little shrinkage will occur when put on to changed feed.

Mr. Donaldson, of the county of Oxford, one of the very best farmers and stock managers in Ontario, always feeds oats to his lambs when on rape, commencing with a small quantity and increasing until they get one pint per day to each lamb. In that way he fattens from fifteen to eighteen lambs to the acre, with an average increase of weight of from twenty-five to thirty pounds per head in ten weeks. In this way he always turns off a splendid lot every year, bringing the very highest price going.

Mr. Laidlaw, another very extensive and intelligent feeder in South Wellington, has had single lambs increase forty and even as high as fifty pounds in seventy days when on rape.

One of my own flocks of purchased lambs was put on at an average of ninety eight pounds, was fed for sixty-three days, and weighed, when delivered in Guelph, 121 1/4 pounds. However, a fair average flock of 200 good lambs would gain from twenty to twenty-five pounds in seventy days.

Care should be exercised, before the nights get frosty, to have the lambs closely trimmed. They do not thrive so well when hanging with dirt; the buyers do not like it, and the farmer shows himself to be careless and slovenly.

In regard to the after use of the land, it is needless to say that, if the preparation for the crop and its after management has been what it should be, the land will be quite as clean as after a first class summer fallow, with the advantage of having received \$10 to \$20 an acre (in some cases considerably more) in the increased value of the stock from the market, which is usually, in this section, between the 5th and 15th of December. Besides this, the land has received all the benefit of the manure without even the expense of drawing and spreading; this is a good preparation for next year's crop.

RAPE IS SOMETIMES SOWN WITH SPRING CROPS.

Not having followed this practice myself, I enquired from others on whom I could place implicit confidence. The following is a reply received from Mr. John Jackson,

Abingdon, Ont., one of Canada's most successful sheep breeders. Under date of January 21st, 1899, Mr. Jackson writes: "In reply to yours regarding the growing of rape with spring grain, our practice is as follows: When the ground is prepared ready for the drill, we sow broadcast from one to two pounds of rape seed per acre. The drill covers it sufficiently. We have had good results from this practice. I do not know what we would have done in some of the recent dry seasons for fall feed for our sheep if we had not followed this practice. With us it has given good results when sown on sod prepared and sown with oats."

Dairy Instruction and Inspection

Everyone who supplies milk to a cheese factory or creamery should read the letter from "Cheese Maker" in another column. It is true, in many cases, that in caring for his cows and the milk the patron has not progressed any during the last fifteen or twenty years. Many of them do not seem to realize the necessity there is for supplying only a pure, wholesome quality of milk to our cheese factories and creameries. Where a maker could, twenty years ago, make an article of cheese from an inferior milk that would pass muster in Great Britain it is impossible for him to do so to-day. As we pointed out in last week's issue, our cheese trade has reached somewhat of a crisis, and a supreme effort must be put forth by everyone connected with the business to raise the standard of Canadian cheese a notch or two higher. To do this some method must be adopted for reaching the delinquent patron.

The scheme outlined by "Cheese-Maker" is very similar to the syndicate plan which is accomplishing so much for the Province of Quebec. If the patrons, factory owners, makers and dairy associations would co-operate, we believe a similar system could be inaugurated in Ontario, and which, in our opinion, would do more than anything we know of to put co-operative cheese and butter-making in this country on a good working basis. A competent inspector or instructor, appointed to look after from twelve to fifteen factories, to give instruction to the makers and look up delinquent patrons, would have a wholesome and permanent influence on the kind of milk supplied and the quality of cheese made in our factories. Nor do we think the patrons would be antagonistic to such a plan after it had been in operation a year or two. We certainly think our dairymen should aim at some such scheme of this kind. It seems to be about the only feasible plan for securing uniformity and permanency in the quality of our dairy products.

A Scotchman's View of the Smithfield Show

In our issue of December 27th last we gave a somewhat condensed report of the great Smithfield Show, held at London, England, on December 5th to 9th, 1898. Since then we have received an interesting letter from that well-known breeder of black cattle, Mr. James Biggar, Grange Farm, Dalbeattie, Scotland, dealing chiefly with the prize lists and management of the show, which, we think, even at this late date will be appreciated both by those of our readers who know the writer personally and by those interested in the management of similar shows in Canada. Mr. Biggar writes us as follows:

This annual Xmas Show of Fat Stock, held in the first week of December, is undoubtedly the finest in the world. Here all the leading breeds of cattle and sheep are represented by the finest specimens of their kind. The object of the club has been to encourage the production of the finest and most profitable qualities of meat, and liberal prizes are offered for each breed. The tendency has been towards the encouragement of early maturity, and non-competition is restricted to animals under 36 months old, except in the case of the Highland breed of cattle, which have a class for steers over 3 years of age.

As an example of the prizes offered by the club the following may be taken.

Devon breed of cattle.

Class	1st.	2nd.	3rd.	Total
1. Steers under 24 months.....	£25	£15	£10	} £210
2. " " 30 "	25	15	10	
3. " " 36 "	25	15	10	
4. Heifers " 36 "	20	10	5	
Silver cup for best of the Breed.....	25			



Aberdeen-Angus heifer, "Ju-Ju of Glamis," winner of the championship for the best beast at the Smithfield Show, 1898.

Hereford, Shorthorn, Polled Angus and Sussex	£210 each.
Cross bred Cattle, same as above.	£210
With an extra class for heifers under 24 months.	35
	£245

Galloway Cattle } Steer under 24 months	£20	10	5	} Total, £125 each.
Welsh " } Steer " 36 "	20	10	5	
Red Polled " } Heifer " 36 "	20	10	5	
Highland " } Breed cup	20			

Small Cattle	months	1st.	2nd.	3rd.	Cup
Steers under 24	£10	£5			} Cup £10.
" " 36	10	5			
Heifer " 36	10	5			

In addition to these prizes—

- The best steer in show wins a £ 50 cup.
- " " heifer " " " £ 50 " "
- " " beast " " " £100 " for champion.

Also Queen's Challenge Cup, £150, held for one year, but to be held permanently by the exhibitor who wins it twice in succession or threetimes at intervals.

For sheep. £810 is offered in prizes of £15 10 and £5.
£ 30 " " " " £10 5.
£225 " " cups " £15 each.

2 Champion Plates of £50 each.
And 1 Challenge Cup of £100 from Prince of Wales.

For pigs. £379 in prizes of £10 5 3.
2 Champion Plates and £50 Challenge Cup.

In Carcase Classes—

Best steer under 2 years.....	£15	10	5	} Champion Carcase Gold Medal.
" " 3 "	15	10	5	
" heifer under 3 "	15	10	5	
Best long woolled lamb.....	5	3	2	} Champion Carcase Gold Medal.
" sheepover 12 and under 24 mths.	5	3	2	
" short woolled lamb	5	3	2	

The live classes are judged by breeders, the carcase class by a breeder and a butcher, with a butcher as referee. For such prizes the competition is, as may be supposed, extremely keen. Animals of secondary quality are very rare, and nowhere is greater preference given to symmetry, early maturity, and quality.

In recent years, the championship of the show has been more frequently won by Polled Angus than by any other breed, the winner of it frequently being a cross bred, but in respect of average merit the cross bred have, as a class, been the highest in the show.

The show is liberally patronized by the leading butchers, who are not slow to pay a fair price for choice animals. As soon as a purchase is made the name of the buyer is exhibited over the animal, and is thus a prominent advertisement to the thousands of spectators who visit the show during the five days it is open.

As much as £150 has been paid for the champion animal, but as a rule the butchers give a preference for cattle that have the largest proportion of lean meat. In this respect the Highland, Galloway

and Welsh cattle are most popular and as a rule the whole of these breeds are disposed of early in the show.

The Devons, Angus and small breeds come next in favor and the heavier Shorthorns and cross breeds are most difficult to dispose of.

This preference of the butchers has been confirmed by the results of the carcass competition which has been in force for four years.

YOUNG STEERS.					
1895.		1896.		1897.	
	P.C.		P.C.		P.C.
1 Angus Shorthorn	63.9	1 Angus	67.1	1 Galloway Shorthorn	61.96
2 Sussex	63.8	2 Sussex	66.1	2 Galloway	65.19
3 Cross	63.8	3 Cross	61.3	3 Cross	61.44
4 Angus	61.6	4 Cross	64.5	4 Galloway	65.84
5 Shorthorn	66.4	5 Angus	66.5	5 Sussex	65.00
6 Galloway	63.7				

STEERS UNDER 3 YEARS.					
1 Highland	65.9	1 Welsh	61.9	1 Galloway	66.42
2 Galloway	64.2	2 Galloway	63.3	2 Kerry	62.05
3 Galloway	61.2	3 Galloway	61.6	3 Cross	61.91
4 Galloway	63.3	4 Galloway	65.2	4 Highland	62.00
5 Red Polled	67.9	5 Cross	65.3	5 Welsh	62.43

1898.					
Young Steers.	P.C.	Steers Under 3 Yrs.	P.C.	Heifers.	P.C.
*1 Galloway	61.77	1 Devon	65.21	1 Galloway	61.01
2 Shorthorn-Angus	65.46	2 Shorthorn-Highland	60.71	2 Shorthorn-Angus	60.85
3 Angus	65.47	3 Shorthorn-Kerry	60.59	3 Shorthorn-Galloway	63.57
4 Galloway Cross	63.	4 Welsh	65.40		
		5 Galloway	61.60		
		6 Angus	61.		

*Gold medal best carcass.
 †Reserve second best carcass.
 The per cent. are percentages of carcass weight to fasted live weight.

The whole management of the Smithfield Club is excellent and thorough. Experienced stewards take charge of each department, and Mr. Bowell, the secretary, is both accurate and most cautious. The rules as to age, breed, etc., are very strict, and protests or disputes are extremely rare. This being the centenary of the club, centenary medals are given to the exhibitor and breeder of each first-prize lot. The herdsman or shepherd gets £1 for each first prize and a framed diploma at every show of the club.

The Rearing and Management of Poultry on the Farm

By J. E. Meyer, Kossuth, Ont.

Continued From Last Issue.

Your poultry-house should be warmly built and supplied with plenty of windows to admit sunlight, which is very necessary. It need not be any more suitable to the needs of your fowls than your horse and cow stables are to the needs of your horses and cows. As you do know that it is a terrible waste of food, time and money to try to make beef and milk when your cattle are almost frozen, supplied with dirty water, covered with vermin, and irregularly fed, so you can easily understand that fowls treated in a like manner cannot be any more profitable. For illustration, we shall suppose that a farmer has ten hogs in a pen that he wishes to turn into pork. Does he keep them where they are almost frozen and go to them once a day and throw them a bushel of peas, perhaps into the filth, at the same time giving them a drink of water? He knows better than to do this, because these are pigs and pay to feed properly, but those hens that are only a nuisance anyway and never pay, when he goes to feed them in their filthy cold stable he will throw down a lot of wheat in the filth once a day and let them eat snow for water. No wonder these hens don't pay. Now, which hen will cost the most to winter, the one fed all the wheat she will eat and kept in a cold filthy place, or the one kept in a warm clean place, supplied with clean water, and fed somewhat as follows: At daylight, cut clover and crushed oats mixed, steamed, and fed in troughs, just enough for them to eat up greedily and leave them so that they want more. In an hour or so after put up the troughs and scatter a very little wheat over the pen, covering it deeply in the straw or sand. Do this three or four times during the day, so that they may be kept scratching continually from morning till night. At night, just before they go to roost, put all the wheat that they will eat into the troughs, and after they have gone to roost empty the troughs. Keep a turnip, cabbage or mangold before them all the time. There is no cheaper or better food for fowls than cut green

bone. If you have cut green bones and vegetables very little grain will be needed. Now, which hen costs the most to winter? I am going to let you answer. The first hen never laid an egg until April, when all the hens in the country were laying and they were cheap; the other laid all winter when they were dear. I know that the second hen cost more trouble and work than the first, but did you ever accomplish anything without trouble and work? I never did.

The breeding-pen that you mated early in February should be laying well by the beginning of March, so that by that time you will have eggs ready to set. If your fowls are a large variety all your chickens should be hatched during March and April, and if a small variety as late as the end of May will do.

Never set a hen in the poultry-house if you can avoid it. Put her where she will not be disturbed. Place food, water and a dust-bath near her. Always set several hens at the same time, and after they have set six or seven days test out infertile or clear eggs and put fresh eggs under as many of the hens as you can. The nest should be so solid that the eggs cannot sink down into it. Take a shallow box, fill it to within three or four inches of the top with earth, on which place hay-chaff. The earth should be smoothed nicely and slope slightly to the centre. Put tobacco in the nest—I use cigar stumps when I can get them. Dust the hen thoroughly with insect powder when you set her and again a few days before the chickens come out. Before taking the chickens from the nest dust them carefully. If you take these precautions your chickens are not likely to be troubled with lice. Lice cause more trouble and loss amongst chickens than anything else and you must keep them down if your chickens are going to thrive.

(To be Continued Next Issue.)

Agriculturist at the Central Experimental Farm

The position of agriculturist at the Central Experimental Farm, Ottawa, has been filled by the appointment of Mr.



J. H. Grisdale, a native of the Province of Quebec. He is an undergraduate of Toronto University of the third year standing. He subsequently had for two years charge of the Russell County High School, where he gave good satisfaction as a teacher. Upon leaving there he took a course at the Ontario Agricultural College, Guelph, where he was the gold medalist of his year. After this he

went to the Iowa State Agricultural College, where he has up to the present been pursuing post-graduate work, and recently received the degree of Bachelor of Agriculture.

Mr. Grisdale's name came into prominence last fall in the great live stock judging contest at the Trans Mississippi Exposition at Omaha, where he carried off first honors among contestants from the principal American and other agricultural colleges, winning a prize of \$125. He speaks and writes French fluently and is familiar with the systems of cultivation, customs, etc., of both English and French in Ontario and Quebec. Mr. Grisdale brings with him strong recommendations from men connected with the institutions at which he has received his training in agriculture. Among these may be mentioned Dr. Mills, and Professors Curtiss and Craig of the Iowa College.

Mr. Grisdale will have special charge of the experiments

in connection with live stock at the Central Farm and the farm management. The somewhat varied and wide experience which his agricultural training has given him should fit him to do very effective work at Ottawa and for the farmers of Canada. He certainly has big scope for his energies and abilities in the line of live stock and agriculture, and the farmers of the Dominion have a right to expect some good work at his hands. The position of agriculturist was held for several years by Prof. Robertson, who performed the duties connected with it conjointly with those of Dairy Commissioner till a couple of years ago, when he became Agricultural and Dairy Commissioner for the Dominion. During the interval since there has been no agriculturist at the Central Experimental Farm.

Report of the Superintendent of Farmers' Institutes

The report of Mr. F. W. Hodson, Superintendent of Farmers' Institutes, for the year 1897-98, has just been received. It is well worth careful perusal by everyone engaged or interested in practical farm work in Canada. It is mainly devoted to the addresses delivered during the season at the local Farmers' Institutes. The topics dealt with embrace cultivation, soil fertility, manures, drainage, beekeeping, poultry raising, etc. The papers selected also embrace the conclusions drawn from the every day experience of practical working farmers, dairymen and stock-raisers as the result of trained specialists in those departments of science which have a bearing upon agricultural and kindred pursuits. Some of the persons who have contributed are: C. A. Zavitz, John Fixter, Dr. W. Brodie, A. W. Peart, Lt. Col. O'Brien, Jos. E. Gould, D. M. McPherson, W. T. Macoun, Prof. I. P. Roberts, Prof. John A. Craig, Mrs. E. M. Jones, T. C. Rogers, Prof. H. H. Dean, G. E. Day, J. Edwin Orr and J. E. Meyer. A paper on birds in relation to agriculture is worthy of special mention. One of the valuable sections of the report is that devoted to experiments made in different European countries and at the Agricultural Experiment stations in the United States.

During the year which the report covers 3,270 addresses were delivered at the 658 meetings held. The total membership of the Institutes on July 31st, 1898, was 16,351, being a considerable increase over the previous year. An effort is being made to organize the women of the rural districts on the same principle. Such an institute was organized in Saltfleet township, Wentworth county, a couple of years ago, which holds fortnightly meetings during the season, and is doing a very effective and valuable work for the women of that district.

The San Jose Scale

At a special meeting of the Niagara Fruit Growers' Association, held at St. Catharines on January 27th, this subject was discussed in all its bearings. It was felt that in spite of the measures in force for preventing the spread of the pest it was not thoroughly eradicated. One speaker stated that the San Jose Scale had found its way into the country and had been spread by the nurserymen persisting in sending out stock which they knew to be infected. A fruit grower from Niagara Township stated that nine out of every ten fruit-growers in the township were opposed to the San Jose Scale Act as it is at present for several reasons: that the inspectors do not inspect fast enough to overtake the pest; that it was stated the pest infested forest trees; that it is said to be impossible to exterminate the pest, and that the scale is said not to be as fatal as represented. The spraying of trees with kerosene had been found to be ineffective in keeping down the pest.

Dr. Fletcher, of the Central Experimental Farm, Ottawa, delivered a stirring address on the question. He appealed to the fruit-growers not to relax their efforts or watchfulness, because owing to the excellent working of the San

Jose Scale Act the pest had been checked, and regretted that there was a disposition to minimize the danger. This scale was, he asserted, the most serious, injurious insect that has been studied by scientists and practical fruit-growers. There are only two methods of dealing with it: first, the total destruction, and second, the treatment of the infected trees. The method of fumigation with cyanide of potassium gas, which has been found comparatively effective on the Pacific coast, was not found to be nearly so effective when tried at Washington, and would not be effective here for many reasons. Spraying also was ineffective; there was no remedy that had been found effective in Canada except destruction of the trees. The work in Ontario has been very successful during the past year, and should be continued. Experiments had shown that the scale is spread by the wind carrying it from tree to tree, and eternal vigilance was therefore necessary. He read a couple of letters from Dr. T. O. Howard, one of the world's foremost entomologists, which confirmed his own views as to the destructive nature of the pest, and pointed out that there is no remedy so effective, especially with peaches, as the destruction of the trees.

A couple of resolutions were passed approving of the action of the Provincial and Dominion Governments in endeavoring to locate and destroy the pest, and recommend that more inspectors be appointed. It was suggested that an arbitrator be appointed in case an owner objects to having his orchard destroyed.

Wintering Stockers

It has been the habit with a great many of our farmers to sell off the young calves for veal instead of raising them. Especially is this so with many dairymen. Their main object in keeping cows is to get the milk, and they consider the raising of the calves till they are two or three years old an unprofitable business. This is not a wise conclusion. True, the steer calves raised on a dairy farm may not make the very best beef. If however, a good bull of some of the beef breeds is used, very good steers can be raised, even from a dairy herd, if they are given the proper care and attention.

The average farmer, if at all careful with his young cattle, can make more by raising his calves till they are one or two years old instead of selling them, providing the breeding is good and they receive the best of care. To attempt to raise in the way a great many farmers do, by letting the calves fish for themselves, is a poor practice. By raising the calves a great amount of rough feed can be consumed on the farm which will help to keep up the fertility. In a recent issue, the *Ohio Farmer* cites the case of a young German farmer in that state who lived on a rented farm of 65 acres. In the fall of 1897 he purchased nine spring calves at a fraction over \$11 a head. He fed them during the winter on clover hay in a shed at night and fodder in an open lot during the day and also a small grain ration, just enough to keep them growing nicely, every morning and evening. These calves were sold on Oct. 1st, 1898, at four cents per pound, and netted \$200 more than they cost the farmer. This was a fraction over \$22 per head, or nearly \$2 per head per month, both winter and summer. The pasture during the summer would not cost more than \$1 per month, so that this young feeder had \$16 per head for six months' winter feeding. On the 22nd of Nov. last these calves weighed 1,000 pounds each.

Scrub Stock

Scrub stock are not always due to ill-breeding. The best strain of cattle put into some people's hands would in a few years become exceedingly "scrubby" in character.

Why? Because these people do not understand how to feed cattle properly. It has been well said that "feed is half the breed." This is not merely an old saying but a sound truth. And to day the scrub steer found in the country

is due as much to bad feeding as to bad breeding. It must be remembered, however, that the better the breeding the better the stock providing good feeding and good care are forthcoming. And though a scrub steer by a system of good feeding may improve and become a passable animal it is only by good feeding and good breeding combined that the very highest type of animal can be produced and this is the kind that every farmer should aim to produce. There is no excuse in these days of improved methods for scrub stock of any kind whether bred or made so by carelessness.

A Fatal Horse Disease

A rather fatal horse disease exists in some parts of Illinois. The disease is a form of cerebro spinal meningitis and is caused largely by an error in diet, but, unfortunately, the error is not discovered till more or less loss has been sustained. Investigation into the outbreak has resulted, without exception, in the discovery that the horses afflicted had been fed unripe or unsound corn, a favorable condition for the production of fungi. The first indication of the disease is that the horse does not have good vision, perhaps only one eye being affected, more frequently both. Delirium soon after sets in and if not restrained the animal will go through fences or other obstacles, being apparently unconscious of its actions. In from five to twelve hours, sometimes longer, the horse loses power of locomotion, when death soon follows. The disease is so acute that treatment is of no avail.

Butter and Cheese-Makers Meet

The first annual convention of the Cheese and Butter-Makers' Association of Western Ontario took place at Listowel on Wednesday and Thursday of last week, and was indeed a successful gathering. About 400 makers attended to listen to the addresses and discussions on practical cheese and butter-making. The objects of the association, to which only cheese and butter-makers belong, are: To advance and protect the interests of dairying and of dairymen, especially those of makers; to assist the patrons in the production and care of milk; to protect the patrons from unskilled makers, and makers from losses over which they have no control; to establish a better system of selling dairy produce, and to secure better sanitary conditions in connection with cheese factories and creameries.

Mr. T. B. Millar, Kincardine, Ont., president of the association, in his annual address referred to the forming of the association in January of last year, and to the progress made since then. The organization was completed at a meeting held at Woodstock in February. The majority of the makers in the West have shown their approval of the association and its work by becoming members and taking part in it. One of the successful pieces of work accomplished was the getting out of an agreement for use between factorymen and makers. The makers should work together for their mutual benefit with an eye to improving the quality of the goods. In spite of the many drawbacks and discouragements of the past season, cheese and butter-makers have not much to fear for the future. We cannot raise the price of cheese and butter, but we can improve the quality and thus increase the demand. To make the finest butter and cheese we must have men and women who are desirous of attaining the highest standard, a first-class quality of milk and better buildings for making and curing the cheese. In closing he referred to the dairy exhibit, which is a new feature in connection with such meetings.

THE CARE OF MILK.

Mr. W. A. Bothwell, Hickson, Ont., read an excellent paper on this subject. After emphasizing the necessity of cleanliness he stated that immediately after milking the milk should be well stirred and aerated until the animal

heat had gone out of it. It should then be put in a sheltered, airy place, free from bad odors, to keep till taken to the factory. The milk should not be kept in the cellar, this often gives it a sour odor. It should not be kept in large quantities over night, and should not be put in cold water until all the animal heat was out, and not then unless in very hot weather, or when it is to be kept over Sunday. Not only do many kinds of food give objectionable flavors, but impure water is a common source of this evil. The fault for bad flavor lies, as a rule, with the patron who has control of the milk till it reaches the factory. He urged makers to refuse milk which was not in good condition.

In the discussion which followed Mr. A. T. Bell, Tavistock, urged the use of perforated tin vessels to strain the milk. The use of a cloth for this purpose often led to uncleanness. In regard to straining Mr. G. E. Goodhand, Milverton, stated that the best milk he got was not strained at night. It was hung up in pails on a slanting board on top of wooden posts, and was strained in the morning. President Millar favored straining under all circumstances. Some dirt was almost sure to get in during milking, and the sooner this was taken out the better. Mr. Jas. A. Gray, of Wallace, emphasized the great need of careful inspection of all dishes used in the handling of milk, and instanced a case where, from a small hole in the handle of a dipper in which milk had soured, that sent to the factory had become tainted.

Mr. Robt. Cleland, Listowel, a cheese manufacturer and farmer, contended that in every failure made in the production of cheese the fault lay with the patrons. The cheesemakers were fairly well posted, and if the patrons would only do their duty thoroughly there would be little danger of bad cheese. The people were not suffering so much from lack of knowledge as from not doing what they knew. Care should be taken in the feeding of the cow and with the milk after it has been taken from the cow. Milch cows should not be fed turnips or feeds that would taint the milk.

Mr. E. Agur, Brownsville, stated that the patron very often did not take care of his milk, because he did not know how. He gave a personal experience, in which he had shown a patron, who had always sent inferior milk, and since that time the milk had always been excellent.

In answer to a question as to the best way of teaching patrons, President Millar stated that the best way was for the maker to go and see the patrons himself and instruct them. Prof. Dean thought that the only way, as the maker could not spare the time, was to employ a man to go about and give the necessary instruction. This, he said, was to a certain extent being done in Eastern Ontario. Circulars and meetings did not reach the public they wanted to get at.

SUMMER BUTTER-MAKING.

This subject was taken up by Mr. Fred Dean, St. Mary's. There were no fixed rules in making good summer butter. Common sense had to guide the maker, as conditions were not by any means always the same. Cleanliness was the key note and it ought to be observed all the way through. Food that would not taint the milk and plenty of good pure water. He advised pasteurizing the milk. This was desirable not so much for the home market as for the British market, where an article with a flat flavour was wanted.

Prof. Dean in discussing the paper dwelt on the desirability of the makers knowing the right method of ripening milk. He who knew this understood the most difficult part of butter-making. Mr. R. M. Ballantyne stated that the English people did not demand a flat-flavored butter, but they wanted an equal-flavored butter rather than a bad flavored butter, and so that from pasteurized milk met with greatest favor.

At the Wednesday evening session, after the address of welcome by Mayor Hacking, and the reply by Vice-President Barr, interesting and practical addresses were delivered by T. J. Dillon, Charlottetown, P.E.I.; G. G. Publow, instructor in cheese-making at the Kingston Dairy School;

Mark Sprague, instructor in separators at the Provincial Dairy School, Guelph, and Prof. Dean. The last named speaker pointed out that there were four factors in modern dairying, and all of them would have to be kept growing or progress would cease. These factors were the produce of milk, the manufacturer of milk, the seller of milk products, and the consumer of milk products. New life would have to be infused into these factors if they were to make the progress of the past years.

CHEESE-MAKING

Before taking up this subject proper, Mr. E. Agur, Brownsville, read a paper on "Economy of Fuel." Steam boilers, etc., should be carefully looked after when in constant use. The fuel bills of factories in Ontario were 25 per cent. greater than they should be. Placing the number of factories in Ontario at 1,000, and calculating that each factory used 100 cords of wood per year as fuel, at one dollar per cord, it meant that \$25,000 a year went up in useless smoke. It was unwise to burn anything but dry wood, and it did not make much difference whether soft or hard wood were used. The fire should not be forced too much.

This was followed by Mr. G. G. Publow, Kingston, who gave a practical address on cheese making. It has been said that the limit of cheese-making had been reached. This meant that the cheese-makers must make their cheese so fine that when the consumer tastes it he will want more. The chief faults were bad flavor and acid-cut cheese, which was weak in body and with a bitter flavor, the result of the condition of the milk and curing. In curing cheese it was better to have two rooms and lower the temperature gradually. It was better to transfer a cheese at once from a temperature of 80 degrees to 70, and, then, after two or three days, to 60, than to make a change from 80 to 60 direct. What the trade demanded to-day was a cheese with a sweet, nutty flavor, and a silky texture. In the manufacture of such a cheese it was necessary to have a good factory to make it in, a good factory to cure it in, good milk to make it from, and an intelligent and skilful man to make it.

Mr. I. W. Steinhoff, Stratford, in discussing this paper, pointed out that there were four improvements that should be made during the coming season. The flavor of the cheese should be improved. Most of the bad flavor was carried to the factory, and we had to look to the farmers for this improvement. The cheese-maker should be better paid, so that he could afford to keep all the help he required. The trade was demanding better exteriors on cheese, and makers should do their best to meet this requirement. Then there should be better facilities for curing the cheese.

WINTER BUTTER MAKING

Mr. J. F. Millar, St. George, gave a thoroughly practical address on this subject. Cream should be ripened at a temperature of from 70 to 75 degrees or have the cream started to thicken in six hours from time it had separated. Quick ripening will improve the flavor of the butter. When cream is ripe it should be cooled to 60 degrees in about one hour's time, then gradually down to 50 or 52 degrees, and should remain at that temperature for three or four hours before churning in order to harden the globules of fat properly. Cream should be ripened ten or twelve hours before it is churned. The cream should be well stirred in the vat before being placed in the churn. The temperature for churning will depend on the richness of the cream; have cream rich enough to churn at 50 to 54° F; time to churn varying from fifty minutes to one hour. When the butter is about to break the churn should be stopped and the temperature taken. A loss of butter-fat is often due to cream being too warm at this stage and temperature not being lowered. Churn until granules are as large as wheat grains. The temperature of the water for washing should be about two degrees lower than the butter. When butter is properly washed it should be allowed to stand for thirty minutes at least before working.

The butter should be carefully worked, whether worked once or twice. A first-class package only should be used and everything kept scrupulously clean.

Mr. T. C. Rogers, Guelph, read a very instructive paper on "Pasteurizing," and Mr. Geo. McDonald, Bluevale, one on "The Handling of Grassy Curds."

The following are the officers for 1899: President, T. B. Millar, Kincardine. Vice-President, G. H. Barr, Sebringville. Directors, Geo. E. Goodhand, Milverton; John Brodie, Mapleton; E. Agur, Brownsville; T. E. Nimmo, Pine River; James Morrison, Stratford; T. O. Barry, Ingersoll; W. W. Brown, Attercliffe Station. Inspectors, T. B. Millar and James Morrison. Dairy Supt., W. W. Harris, Brussels. Sec. Treas., W. W. Brown, Attercliffe Station.

DAIRY EXHIBIT.

The following is the list of prize-winners:

Butter packages—1st, J. A. Long, 2nd, James Bristow; 3rd, T. B. Marshall.

Butter prias—1st, T. B. Marshall; 2nd, Thomas Malcolm; 3rd, G. A. Boyes.

White cheese—1st, Miss Morrison, 2nd, G. E. Goodhand; 3rd, Thomas Grieves.

Colored Cheese—1st, Newton Cosh, 2nd, J. S. Isard; 3rd, Wm Thompson.

The special prizes were won by Geo. Boyes, J. R. Long and G. E. Goodhand.

The Export Apple Trade

Woodall & Co.'s report of the apple market in Great Britain contains some facts of value to Canadian apple-growers. The report is dated Liverpool, December 31st. Up to that time this season there was a large increase in the imports. The report states that, up to Oct. 1st, the arrivals were early varieties, which were, for the most part, exceedingly poor quality and landed in bad condition. The quality was disappointing, but, where it was good, competition was keen. At the end of October the quality and condition of the fruit had not improved any, and the impression gained ground that, not only was the crop small, but of miserable quality, Canadian being particularly poor and unattractive. This state of affairs continued through the first week in November, but, in the second week, a change for the better was apparent, due to the fact that winter stock was arriving, which caused confidence and an immediate active demand. Towards the end of the month some really handsome fruit was received from Canada. During the first half of December arrivals were excellent in every respect and the demand active. During the third week the demand fell off, the quantity arriving being too large to support the existing high range of prices. The position became worse about Christmas and was the more aggravated because of the poor condition of the fruit, much of which showed signs of being frosted, especially some Canadians. At the end of the year there was a distinct improvement in price with the prospect that the new year would bring a high range of prices and moderate supplies.

One point to notice in this report is that early fruit, as a rule, gave very poor satisfaction. It is hard to understand how fruit, if properly looked after, could get frosted in transit. It might be possible that it was injured before being shipped.

Valuable Market Reports

Mr. W. McD. Sturgeon, Deerhurst, Ont., in sending in a new subscriber, says: "I would not be without FARMING myself, as the market reports alone are worth the price."

Useful and Timely Hints

Mr. Robert Hodgson, Mitchell, Ont., writes: "Enclosed please find one dollar for renewal of my subscription to FARMING, which I consider a valuable paper. It gives many useful and timely hints, which, if followed, will give profitable returns, as I know from experience."

CORRESPONDENCE

A Big Yield of Siberian Oats

To the Editor of FARMING:

In your paper of the 17th of this month I saw a new kind of black oats, called the Mammoth Cluster, noted. The party sowed 32 bushels and threshed 650. The Siberian oats will beat that and are easily obtained. I sowed 30 bushels and threshed 1,040 bushels with only one concave in the thresher. The reason I take them all out but one is that it does not break the straw up and it is easier to feed the straw into the cutting box, as we cut all straw into chaff as well as corn for stock. It is much better to handle straw when long, and if there is an odd oat left in the cattle get it.

A. RAWLINGS.

Forest, Lambton Co., Jan. 30th, 1899.

Experiments in Preserving Manure

To the Editor of FARMING:

May I correct an error in your report of my address at the recent convention at Guelph, and which appeared in your issue of the 24th inst.?

The manure used, both in the "protected" and "exposed" series was first prepared by thoroughly mixing equal weights of horse and cow manures; consequently, the manure rotted under both conditions was alike as to character and of the same composition at the beginning of the experiment. This precaution allowed us to make a strict comparison of the results of rotting under the two conditions—exposure and protection—which would not have been possible if one lot had been horse manure and the other cow manure, as stated in your report.

Yours faithfully,

FRANK T. SHUTT,
Chemist Expl. Farms.

Ottawa, January 25th, 1899.

The Kind of Cattle for Export

To the Editor of FARMING:

I noticed in your issue of January 17th an article headed "Export Cattle" and signed by James Bowman. Judging from Mr. Bowman's letter I gather he has some Polled Angus bulls for sale, and also that he would like the public to know that he has a prize-winning animal in his possession for once. Does Mr. B. think there is no other breed of cattle fit for the export trade except the ones he mentions?

After having disposed of a car load of cattle a few years ago in Toronto I met an old schoolmate of mine who was in the export business, and I inquired of him what breed of cattle was best for export trade. He replied, the Shorthorn, Devon and Hereford were all first-class cattle and fit for export. Another exporter from Montreal also informed me that five of the best cattle he had shipped in thirty years were bred by a Devon bull and grade Shorthorn cows. They weighed when three years old 1875 pounds each, and to his own personal knowledge had only been stabled six weeks before shipping.

Ask the North-west rancher what cattle he prefers and he will tell you to give him the Herefords every time. Ask the Texas ranchmen what is his choice and he will say the Devon, and nine-tenths of the Ontario farmers will breed nothing but the Shorthorn. The Devonshire farmer will tell you that you could not find a bullock in all Devonshire but a Devon, as they realize more money out of the same feed than any other breed. A farmer going to change from a dairying to a beefing breed asked a butcher, who lived in a neighboring town, what breed was most profitable. He replied that the Devons were the most profitable for the farmers as they were both good milking and good

for beef. Whenever he could buy a Devon he could always sell the fore and hindquarters for beefsteak. Every man has his favorites. Thanking you for your valuable space

I remain, etc.,
A SUBSCRIBER.

Milk and Factory Inspection

To the Editor of FARMING:

The discussions on the different addresses and papers read at the Western Dairymen's Association, held in Guelph, reveals the fact that Canadian cheese was not as fine in quality as it should have been during the past season. In looking for the cause we find the inspectors' reports stating that the quality of milk delivered at the majority of the cheese factories for 1898 was very much inferior in many respects to that of previous years, owing no doubt to the low prices which prevailed in the early part of the season. This is to be deplored from the fact that we need to have finer cheese now than we had years ago. The sooner some system of education and inspection amongst the patrons is adopted, the sooner will a better quality of milk be sent to the factories and our cheese take a foremost place in Great Britain, and we must have a more uniform quality if we are to hold our exporting trade with the Motherland to the extent we now do (60 per cent. of what is now imported by Great Britain).

In looking for a remedy I should suggest that an inspector be appointed for from six to eight factories who would devote his whole time to the work, dividing his time among the patrons and cheese-makers, using his own judgment where it would be most needed. It would be necessary for the different makers to follow his instructions very closely, having the cheese as uniform in size, color, style and make generally as possible.

The milking yards should come under his special supervision, as well as the instruction and education of the patrons. I firmly believe that three-fourths of all the trouble with the milk comes directly from dirty surroundings and improper care before it reaches the factory. Hog-pens for the sake of convenience are erected quite close to the milk stand, rendering aeration impossible in such an atmosphere. I do not wish to infer that all the patrons are alike in regard to carelessness; the majority doing their best. But there are some patrons in every factory who still cling to the prevailing *vel teat* mode of milking in spite of all that has been said or written against the filthy habit. These are the hardest to reach as they never attend an institute meeting or read a dairy paper. This system of inspection would be more lasting in effect than having one or two visits from an inspector during the month and not so expensive.

In looking at the money side of the question, if each factory would contribute from 50 to 75 cts. per ton, and each cheese-maker from \$10 to \$15, this would almost pay for the instructor's services, independent of the Association (which would gladly assist, I am sure), and the work made beneficial to all the factories interested.

CHEESE-MAKER.

NO FARMER CAN DO WITHOUT IT.

St. Thomas, Dec. 30th, 1898.

TO FARMING:

DEAR SIRS,—Please forward the FARMING, weekly agricultural paper, to William Matheson, Esq., Union P.O., Co. of Elgin, for which please find \$1. I have long been a subscriber to your valuable paper and trust to be able to send you new subscribers. No farmer, who expects to make a success in farming, can possibly be without FARMING in Ontario.

Yours truly,
J. P. MARTYN.

"FARMING" is among the very best of the agricultural papers that come to my desk."

W. M. BRADSHAW,
President of the Iowa State College of Agriculture
and the Mechanics Arts.

QUESTIONS AND ANSWERS.

THE KING DODDS' STUD BOOK.

A subscriber in Manitoba asks if there is such a book published in Toronto. The Dodds' Stud Book is published by Mr. E. King Dodds, publisher of the *Canadian Sportsman*, Toronto, and is a registry for trotting-bred horses. Two or three volumes have already been issued. The Dominion Stud Book published at Goderich, Ont., is the registry for Clydesdales. In all prize lists at the leading shows where certificate of registration is required the name of the Stud Book or record in which the animal is required to be registered is given. If no special stud book was mentioned in the prize list to which subscriber refers it might be possible for the winner to claim the prize because his horse was registered in the abovenamed Stud Book. The King Dodds' Stud Book, however, is not recognized by the Department of Agriculture here, and does not carry any weight with breeders in this province.

A PERMANENT PASTURE.

Mr. Robert Hodgson, Mitchell, Ont., asks for the best mixture of grass seeds for a permanent pasture, giving the quantity of each kind and how much to sow per acre :

Answered by Professor Day.

If land is well-drained, naturally or otherwise, I would suggest the following mixtures for permanent pastures ; Orchard grass, 5 lbs.; meadow fescue, 5 lb.; Timothy, 3 lb.; Alsike, 2 lb.; Alfalfa, 5 lb.; White Clover, 1 lb; and Red Clover, 3 lb. Total, 24 lbs. per acre.

G. E. Day,
Agriculturist, O.A.C.
Guelph

CRIPPLED PIGS

M. Wm. L. Hughes, Harper, Ont., writes : " I have a number of young pigs and in the lot there are four of them purebred Berkshires. Two of them are crippled like as if they had rheumatism, and cannot stand. They take a little feed yet. I hear of some others dying. I have been feeding them shorts, butter milk and slops. Their house is warm. Please let me know what is the trouble and what causes them to get like that and also what would cure them."

It is difficult to form any satisfactory conclusion as to the trouble from the above description. Professor Day, whom we consulted in regard to the matter, says. " The pen may be warm but damp, with insufficient ventilation. Stone or cement floors have proved very unsatisfactory with us and have given trouble similar to that described. The only remedy in such a case is to remove to a dry pen. Walls and floors of wood are safer for cold weather. Possibly the pigs have been overfed. The food should be restricted in quantity. Charcoal is a good thing for the pig's stomach. It is impossible, however, to answer satisfactorily without

"THE FAVORITE"



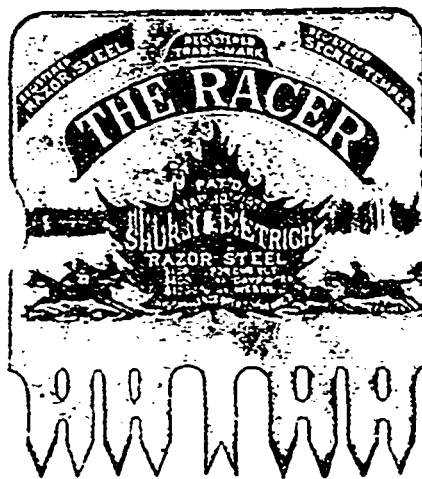
Patented, Roller Bearings, Steel Stand,
Combined Foot and Lever Drive,
The Easiest Driven, The Best Finished,
: : : The Most Durable.
BEFORE BUYING SEE IT.

DAVID MAXWELL & SONS

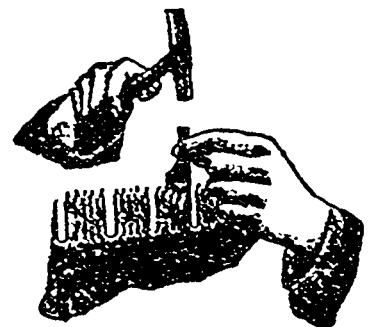
ST. MARYS, ONTARIO, CANADA.

THE RAZOR STEEL, SECRET TEMPER, CROSS-CUT SAW

WE take pleasure in offering to the public a Saw manufactured of the finest 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 Saws 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 sole 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 can not 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.

WHEN WRITING TO ADVERTISERS PLEASE MENTION FARMING

knowing all the details of surroundings, feeding and management."

Too high feeding is frequently the cause of such a condition as is here described. Pigs are liable to a kind of rheumatism if kept in a cold, damp place. They should have plenty of bedding and pure air. It is a good plan to change the food. Some roots such as raw turnips or green foods are good for young pigs. A little raw linseed oil given as a laxative in the food would be helpful where pigs are overfed. A little scant feeding for a few days might help matters.

GRASS MIXTURES.

The United States Department of Agriculture has issued a bulletin upon meadows and pastures in which it says the question of what grasses to use in a pasture or a hay mixture is hard to determine. There are so many valuable grasses and so many different kinds and conditions of soil that fixed formulas for the preparation of seed mixtures cannot be employed. In the case of a meadow the farmer must combine those grasses and clovers which blossom and mature at about the same time. If a large proportion of tufted or bunchy grasses is used, bottom grasses of more spreading habit must be intermingled so as to fill the spaces and make a compact, even growth of herbage. It is also desirable to use those kinds which make rapid growth after each cutting. If clover and grass seeds are sown together the hay product will have a higher feeding value than that of either alone. All kinds of farm stock enjoy a varied ration, and the hay will be relished more and prove more nutritious when the meadow consists of several sorts instead of only a single kind. The following mixtures of seeds are suggested for meadows:

No. 1. Tall oat grass, 70 pounds; red clover, 30 pounds. (Sow 35 to 40 pound per acre.)

No. 2. Redtop, 30 pounds, orchard grass, 40 pounds; meadow fescue, 20 pounds; red clover, 10 pounds. (Sow 40 to 45 pounds per acre.)

No. 3. Italian rye grass, 20 pounds; orchard grass, 25 pounds; red clover, 10 pounds; tall oat grass, 20 pounds; redtop, 25 pounds. (Sow 35 to 40 pounds per acre.)

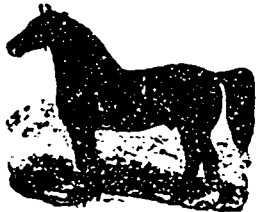
No. 4. Timothy, 40 pounds; redtop, 40 pounds; tall oat grass, 20 pounds. (Sow 40 pounds per acre.)

FEEDING PIGS.

The results of a feeding experiment with pigs have been recently given to the public by the Purdue university experiment station. Two lots of pigs as nearly equal as possible were chosen. Lot one was fed equal parts by weight of cornmeal and shorts, while lot two was fed cornmeal only. The feed was weighed out and mixed with warm water. The feeding period lasted for 70 days. The pigs in lot one made a total gain of 353½ lbs., or an average

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, Colic, 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.

MARSHFIELD, P.E.I.

The Farmers' Association of Marshfield would be pleased to get the address of any farmers in Western Canada having Russian and Fy e Wheat for sale, suitable for seed.

Address—
F. TURNER,
Marshfield, P. E. I.

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.

Dorset Horned Sheep Wanted

150 Ewes, age two to four years old, with Lamb. Advise promptly, with full information concerning same.

W. D. GRANT,
Newport, Herkimer Co., N. Y.

daily gain of 1.68 lbs. per pig; while those in lot two made a total gain of 326¾ lbs., or an average daily gain of 1.55 lbs. per pig. The pigs in lot two did not always eat with as good an appetite as those in lot one.

THE BAD EFFECT OF RUSTY MILK CANS.

A rather startling experience with rusty tinware comes from Denmark. One of the dairy councillors got a sample of milk from a creamery manager; it was not sour, though two or three days old, but had a half-rotten smell and a horrible tallowy taste. He went to the creamery and examined the milk from the patron in question. The can was clean, but very rusty inside and barely half full. He

A WONDERFUL CHURN.

I have been in the dairy business all my life, and have many times churned for an hour before butter would appear, so when I heard of a churn that would churn in a minute I concluded to try it. Every day for a week I used it, and not only could I churn in a minute, but I got more and better butter than with the common churn. This is very important information to butter makers. The churn works easily and will churn an ordinary churning in less than sixty seconds. I have sold two dozen of these churns in the past month. Every butter maker that has seen me churn in less than a minute bought one. You can obtain all desired information regarding the churn by addressing Household Mfg. Co., Second and Locust Sts., St. Louis, Mo., and they will give you prompt and courteous attention. A DAIRYMAN

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

SHIRE STALLION FOR SALE

Eight years old. Stands seventeen hands; 2000 lbs. Good condition. Sure gaiter. Perfectly sound in every respect. RIGHT EVERY WAY. Duroc Jerseys also for sale—three and five months. Brood Sows for sale.

JOHN SEMPLE
Box 73, Tottenham

DEAL DIRECT

IF YOU CAN USE ANY:

Grape Vines, Currant Bushes, Or namental Shrubs, Shade Trees, Norway Spruces or other Evergreens, or any Fruit Trees or Plants, write to

E. MORDEN, NIAGARA FALLS,
SOUTH.

for his Price List. Stock reliable and cheap and can be shipped to any point in Ontario in good order and season if order arrives early enough.

induced the manager to buy a new can and send it to the patron to use instead of the old one. The patron sent back the new can empty, but bought one himself, and sent half the milk in this and half in the old one. The milk was perfect in the new can, and as bad as before in the old rusty one.

The councillor purchased the old can, and carried on a number of experiments with milk from other farms and got the same result—a beastly smell and tallowy taste. Analysis showed that the milk contained considerable iron, and the trouble was worse when the can was half full than when full. Butter made from this milk was tallowy. The can was always cleaned in the usual manner and steamed before using, but the result was the same. A city milkman

in Copenhagen had similar trouble, and there can be no doubt that a great deal of milk is spoiled in a similar way. There are many hundreds of rusty milk cans in use in this country, and which may be to blame for the bad flavors found in a great deal of the milk delivered at our cheese factories and creameries.

ENGLISH STANDARD OF EXCELLENCE FOR TAMWORTHS.

The following is the standard of excellence for Tamworths adopted by the National Pig Breeders' Association of Great Britain and formulated with a view to the production of the highest quality of bacon:

Color—Golden red hair in a flesh-colored skin, free from black.

Head—Fairly long; snout moderately long and quite straight; face slightly dished, wide between ears.

Ears—Rather large, with fine fringe, carriage rigid and inclined slightly forward.

Neck—Fairly long and muscular, especially in boar.

Chest—Wide and deep.

Shoulders—Fine, slanting and well set.

Legs—Strong and shapely, with plenty of bone, and set well outside of body.

Pasterns—Strong and sloping.

Feet—Strong and fair size.

Back—Long and straight.

Loin—Strong and broad.

Tail—Set on high and well tassel.

Sides—Long and deep.

Ribs—Well sprung and extending well up the flank.

Belly—Deep, with straight underline.

Flank—Full, and well let down.

Quarters—Long, wide, and straight from tip to tail.

Hams—Broad and full, well let down to hocks.

Coat—Abundant, long, straight and fine.

Action—Firm and free—spirited.

Objections—Black hair, very light or ginger hair, curly coat, coarse mane, black spots on skin, slouch or drooping ears, short or turned up snout, heavy shoulders, blocky build, small ears, girth, elephantness, wrinkled skin, inbent knees, hollowness at back of shoulder.

A breeder says: The best age for breeding a sow is about the eighth month. If allowed to run on until a year old there is more trouble to get her in pig. Early breeding is practiced by dairymen, and later breeding by beef-growers. As we are aiming to produce both flesh and milk, we cannot safely go to either extreme. The sow, as the horse or cow, may fill the eye and yet on trial prove a great disappointment. The test at the pail is the best test of the milch cow, and the test in the breeding pen is the only infallible test of the brood sow.

Our Seed List

Will be mailed you this week. If you do not get one, drop us a card.

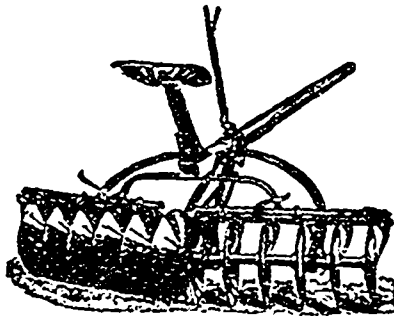
We are the leading farmer's co-operative store of Canada. No matter what you want, send direct to us. We pay the highest market prices for all farm produce.

THE PEOPLE'S WHOLESALE SUPPLY CO.

144-146 KING ST. EAST

TORONTO

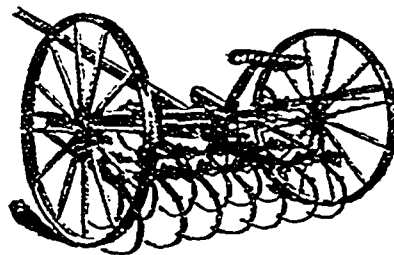
R. Y. MANNING, MANAGER.



NOXON BROS. BUFFALO PATENT ALL-STEEL DISC HARROW.

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.



NOXON BROS. NO. 12 SECTIONAL SPRING TOOTH CULTIVATOR.

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 teeth; cutting points can be furnished. Examine it and you will buy no other.

THE BEST DRILL MADE.

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.

NOXON BROS. MFG. CO., (Limited)

Ingersoll, Ont., Canada.

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

LOGIC IS LOGIC.

A Belding farmer drove to town with several bushels of potatoes in baskets, and sold them at one of the grocery stores. When asked why the potatoes at the top of the baskets were larger than those at the bottom, he informed the purchaser that "taters were growing so fast when he dug them that by the time he got the basket full the last ones had grown bigger than the first ones."—*Michigan Fruit Grower.*

MEASURE OF HAY IN A STACK.

The kind of hay has much to do with the weight in the stack. Timothy hay, being heavy, takes about 500 cubic feet for a ton, mixed hay about 600 feet, clover 700 to 750 feet, and red top hay as much as 800 feet. To get the cubic feet in a round stack take one third of the girth, which will give the diameter, square this, that is, multiply the figures by themselves, take three-quarters of the product and multiply this by the average height, all in feet. Then divide by the weight of a ton as given. This mode is for old hay of last summer.

ROOTS FOR BREEDING EWES.

In an exchange, Henry Arkell, one of Ontario's well-known sheep breeders, gives his experience in feeding roots to breeding ewes as follows: "My practice for nearly forty years with a flock of from 30 to over 100 of the following breeds, Cotswolds, Southdowns and Oxfords, has been to feed them from 5 to 8 lbs. of Swedish turnips daily, varying according to size and weight of sheep, in two feeds, pea straw first thing in the morning, and turnips, pulped, 9 o'clock a.m., and again at 4 o'clock p.m., and it has proved with me both a safe and beneficial practice, not having had in one instance in the period named one soft or watery bellied lamb; am feeding now 8 lbs. of turnips daily to my ewes, with pea straw, using no grain, but always make it a practice to feed my ewes a little grain (oats, with a few peas), from half to three-quarters pounds each of the mixture, with a little bran daily two weeks before lambing, reducing the amount of turnips about one-third when commencing to feed grain."

As soon as the chickens get old enough to give trouble by fighting among themselves it is a good plan to put an old male in the pen with them. He will break up the quarrels before any harm is done.

It is a good plan to have a coop about two feet square, made entirely of laths and fastened up high inside the large chicken coop. As soon as a setter is noticed do not let her stay on the nest an hour longer, but put her into the slatted coop at once to cool off. Supply her with food and drink. Confinement in any airy coop will soon cure a setter.

FREE  **WE GIVE** this fine WATCH, with a chain and charm, locked Lever Collar Buttons at 10c each, or a lady's watch and guard for selling 3 at 2. **No Money Required.** You run no risk. Write and we send the Buttons, post-paid, with our big Premium List. Sell the Buttons, post-paid, and we send watch, free of all charge. Unsold buttons returnable. Liberal commission if preferred. Be the first in your field. Send your name and address today. In writing, mention this paper.

FOR ONE
AY'S WORK

LEVER BUTTON CO., TORONTO, ONT.

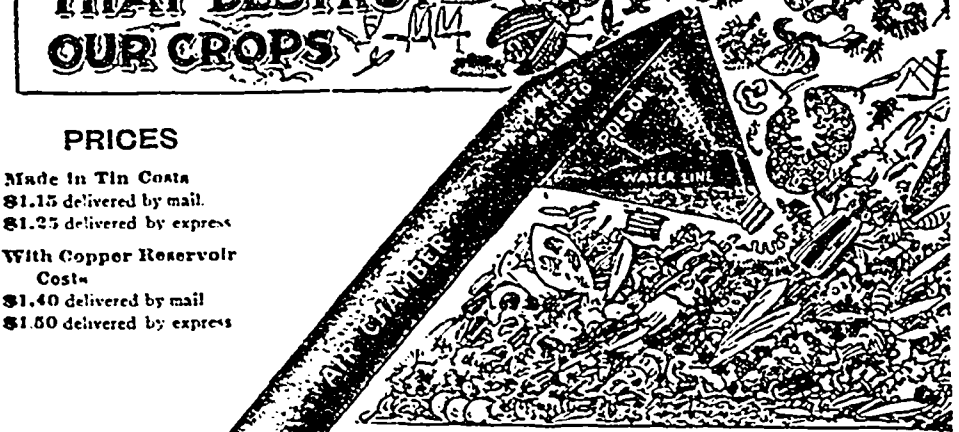
LITTLE DEMONS THAT DESTROY OUR CROPS



PRICES

Made in Tin Coats
\$1.15 delivered by mail.
\$1.25 delivered by express.

With Copper Reservoir
Costs
\$1.40 delivered by mail
\$1.50 delivered by express



Evans' Electric Sprayer AND Bug Exterminator (Patented)

is the Workman's Friend and the Insect's Enemy

It is invaluable for killing Bugs, Weevils, Fungus, etc., on your Currants, Gooseberries, and other small fruit. For saving your Cucumbers, Melon, Squash, and other vine crops. For insuring a bountiful crop and the choicest quality of Plums, Apples, Cherries, Peaches, etc. For protecting the beautiful Roses, Flowers, Shrubs, etc., growing on the lawn. For protecting the Potato Crop, and doubling the yield over what it would have been had the old methods been followed. For increasing the revenue from your cows by keeping the flies off. For increasing the egg production of your hens to the amount of 25 per cent. more by spraying themselves and houses so that no insects exist. For benefiting your herd of hogs by spraying them when needed, and which would otherwise be neglected. For spraying disinfectants about the premises to escape disease and save doctors' bills.

Considering what this machine will do, no price is too high for it. Remember, every Sprayer is guaranteed to do all we say, or money returned.

ROBERT EVANS & CO.

SEED MERCHANTS
HAMILTON, ONT.

Sole Proprietors for Canada. AGENTS WANTED in every city, town, and village. If you want to make from \$2 to \$5 per day procure an agency if possible for our Electric Sprayer.

BETTER THAN ALL OTHERS!

The Improved
DOUBLE LEVER and
ROLLER-BEARING

"Queen Churn"

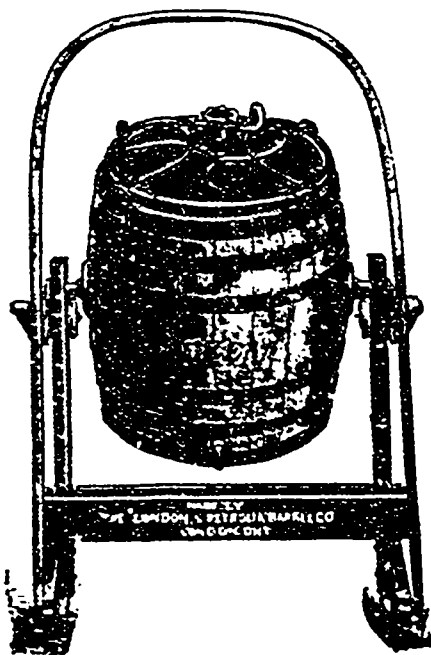
It does not require "crank" to work the Improved "QUEEN" CHURN. The easiest working Churn ever offered to the trade. A child can work it.

Patent applied for.

For particulars, address

**The LONDON and PETROLBA
BARREL COMPANY**

LONDON, - - - ONT.



A PORTABLE SWILL-BARREL.

Nothing is more useful on a farm than a portable swill-barrel. One can be made quite easily. Two old Cultivator wheels, with a pickle or coal-oil barrel and an arrangement to fasten the two together, will fill the bill. A good heavy band of iron, long enough to be bent at one end to form one axle and to reach around to the other side of the barrel and form an axle there, would do. It should be bent to fit the barrel closely below the bulge, and would be better, if long, to be bent so as to include the handle. The object in having the band which holds the barrel and the handles in the same piece is that the barrel can be easily emptied. We have seen contrivances of this kind made by setting a barrel in a wooden frame to which wheels were attached.

BOOKS AND BULLETINS RECEIVED.

The Journal of the Royal Agricultural Society of England; third series; Volume IX., Part IV. It contains reports of the meetings of the society and the various committees for the quarter ending December 31st. Among the special articles which it contains is one on "The Potato," one on "Quarter-Evil," one on "Kerry and Dexter" cattle, and one on the "W. burn Experimental Farm."

HINTS FOR STOCK-RAISERS.

Nowadays the fact that stock must be carefully sheltered is thoroughly appreciated by the man who makes a success of this business. Warm, dry buildings are a necessity, or the stock will suffer greatly from the damp and cold of our Canadian winters. Fodder is one main point and proper shelter is the other. The sheet steel pressed brick made by the Metallic Roofing Co., of Toronto, offers advantages in this connection that can hardly be equalled. It provides a most inexpensive covering for any sized building, and yet offers thorough protection, keeping out the cold and dampness, and at the same time affording a fire and lightning-proof safety that is highly appreciated. Were all farm buildings metallic we would not hear of the hundreds of losses to stock and property each season caused by lightning. This steel pressed brick affords absolute safety from any such damage, and is so easily applied and gives such a uniformly attractive appearance at small cost that it cannot be too highly commended to all practical farmers.

NOTES BY THE WAY.

During the past year important changes occurred in the personnel of the old firm of Noxon Bros., at Ingersoll, Ont. While the same name is retained there are now new men at the helm. Not new men in the sense of experience, but men with "new ideas" befitting the age of progress in which we live. Men with the necessary push and energy that is required for a great business. Since the following gentlemen have become identified with the Noxon Bros. Mfg. Co. the business has assumed new life and a new order of things prevails. Those who are now directing and guiding the firm's interests are as follows, viz.: W. Watterworth, president; R. H. Cotter, vice-president and general manager; C. W. Riley, treasurer; C. C. L. Wilson, secretary; Thomas Dougan, superintendent. All the above-named are well known and have been for many years identified with farming and agricultural interests; Mr. Cotter, the general manager, having been associated with the old firm for over a quarter of a century, as also the superintendent, Mr. Dougan. The former is the leading spirit in all the new firm's plans and arrangements for future business. Said Mr. Cotter to our representative: "We are not going to rest satisfied with doing trade in Canada only, but

FUR COATS

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.—Walloby 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.—Matissima 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**

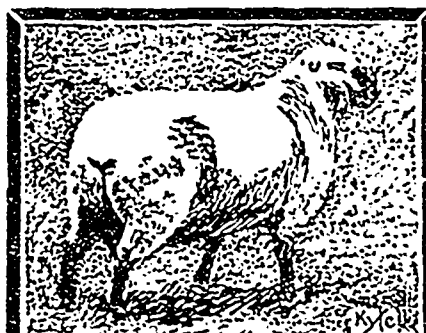
LOT 3.—The strongest coat ever made, Prairie Dog Fur, looks exactly like Coon, well made and lined, inside and outside pockets. We have only a few of these left and will sell at \$15. Don't think of buying a cloth coat when you can get one of these fur coats for \$15. You'll never regret it and we'll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



Persiatic 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.



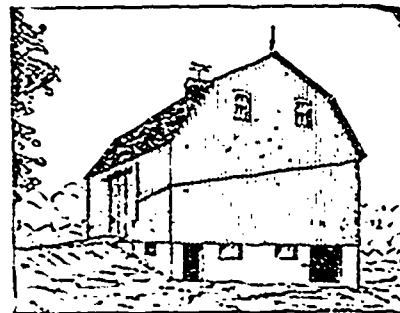
Trade Mark

Established 1861.

Work done with

Thorold Cement

Speaks for itself. 53 YEARS IN USE.



BARN OF WM. PATTON, SOUTH CAYUGA, 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 8 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.

Write for full particulars and Free Pamphlet to

Estate of Jno. Battle Thorold Ont.

AGENTS WANTED in unrepresented districts. Mention FARMING.

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.

as a matter of fact we are now pushing business in foreign countries also, and our implements are meeting with marked success in foreign lands. We are confident that with the capital, facilities for manufacture, and reputation of our goods, that no other concern on the continent can have brighter prospects of success both at home and abroad."

"Come with me," continued Mr. Cotter, "and I will give you some idea of the extent and capacities of our business," and, suiting action to the word, the writer followed, and was conducted through the immense works, covering over five acres of ground, the buildings so long, so broad and bewildering in extent as to excite wonder and surprise at their very vastness. It may be stated, in passing, that the works are the largest in the Dominion, with but one exception, and to attempt a complete description for readers of FARMING would be impossible here. The men constantly employed number about 300 and are increased to about 400 during busy seasons of the year. The general manager informed the writer that the firm are acquiring all the latest improvements and attachments in the different classes of implements; they manufacture, and the present season will see them with the most complete and up-to-date machinery in the Dominion. They are prepared to furnish to the farmers of Canada any style or design of implement desired, either American or Canadian patterns. "You can say," he added, "that we are making things hum, and there will not be a town, village or hamlet in the wide Dominion where we will not have an agent where our lines can not be secured." It will be seen from the above that the new firm mean business and are prepared to meet the very strongest opposition if necessary.

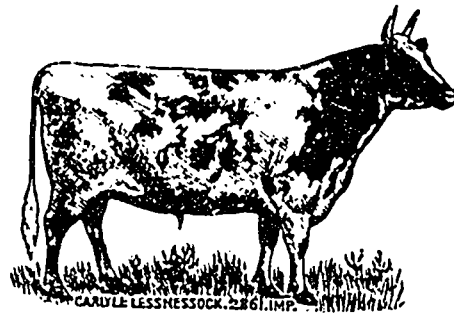
OUR SEED PREMIUMS.

Our usual seed premium announcement should have appeared in last week's issue, but it has been crowded out by the unusually large amount of space devoted to advertising. We have some attractive offers to make which will include a number of new and valuable varieties of grains, field and garden seeds, as well as the best of those offered last year. If nothing happens to prevent, the announcement will appear in next week's issue. Please keep this in mind, as our seed premium offers afford our friends and subscribers an opportunity of obtaining the latest and best varieties of seeds by a cheap and easy method, and at the same time enable them to confer a benefit upon those whom they induce to subscribe. Any farmer will be the better at the end of the year for having read and studied the pages of this paper. The weekly market reports and forecasts are alone worthy many times the subscription price. They are reliable and accurate, and keep the reader constantly supplied with complete information as to the prevailing prices in the principal markets at home and abroad.

Stock Notes

SHROPSHIRE SHEEP FOR CANADA—On Friday, January 6th at., Alfred Mansell & Co., the well known live stock exporters, Shrewsbury, shipped by the White Star Line from Liverpool a small, but very choice selection of eleven Shropshire ewe lambs, and one ram lamb for Hon. John Dryden, M.P.P., Minister of Agriculture for Ontario, Canada, owning for their sires such exceptionally good rams as Butter Blue, 9,377, bred by Mr. David Buttar, and purchased co-jointly by Mr. Bowen-Jones and Mrs. Barrs for 150 guineas; Adam Odstone, 8,347, bred at Odstone by the Royal Winner Odstone Commander; Star of Ensdon, No. 4, 9,698. On their dams' side this select shipment traced back to the following distinguished sheep: Bath Brick, 5,797, The Champion, 7,163, purchased for 160 guineas, Royal Jubilee, 3,702, Ringleader, 3,693, Attractor, 2,917, etc., etc.

AN AD IN FARMING PAYS.—The following letter, received last week from Messrs. Sills, Shaver & Son, of Winchester Springs, Ont., breeders of A.J.C.C. Jerseys and improved Yorkshire swine, is a complete answer



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
Line—G.T.R. **LYN, ONT.**

PUREBRED AYRSHIRE IMPORTED CATTLE

Largest and Most Expensive Importation 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

R. G. STEACY,
Importer and Breeder,
Box 720. **BROCKVILLE, Ont.**

FOR MONEY FOR AGENTS THE STAR RIVETER



For MENDING HARNESS, BELTING, etc. Indispensable to Saddlers, Livermen and Threshermen. **STAR RIVETER** complete, with 500: ular rivets, \$1.00. Best selling article ever introduced. Agents write for special prices and territory

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

FREIGHT PAID TO ANY ADDRESS. That's the way we send out our

CYPHERS INCUBATOR.

It is the best quality of all machines and has the name of none. Our Catalogue and Guide to Poultry Culture tells all about the uses of the machine, and how to raise feed and market poultry—about the money end of the business. This is the only book of the kind ever published. Write for it now. It is worth the money sent for it. **THE CYPHERS INCUBATOR CO., Box 60, Waverly, N.Y.**

Thoroughbred Poultry For Sale

Tri-o Dark Brahma Fowls for \$4.50.
Tri-o Dark Brahma Chicks for \$5.50.
A few Dark Brahma Hens at \$1.50 each.
Two Partridge Cochins Cockerels at \$2 each.
One White Cochins Cockerel at \$2.50.

White and Barred Rocks and White Wyandotte Cockerels for breeding purposes cheap. All from prize-winning stock. Write

A. J. GEORGE,
Clarence St., - London, Ont.

SOLD ON TRIAL!

Buy no incubator and pay for it before giving it a trial. Many people have lost faith in incubators because they bought one that was never intended to hatch. It is a simple matter to send for a trial. **The Von Gullin Incubators** are sold on trial subject to your approval. Simplest machine made. A child can operate it. The biggest catalogue and "poultry re-laters" book published, sent for 25c. Write for it now. **Von Gullin Incubator Co., 80 Adams St. Delaware City, Del.**

INCUBATORS Our Machines are the best manufactured in Canada, both hot water and hot air. Surest simplest, and best system of regulating. Every machine warranted. Prices \$10 up.

EGGS FOR HATCHING from Silver, Golden, Barred Plymouth Rocks, and Pekin Ducks only \$1.50 per setting. Stock unsurpassed.

J. E. MEYER, Box M, Kossuth, Ont

A FIRST-CLASS INCUBATOR FOR SALE.

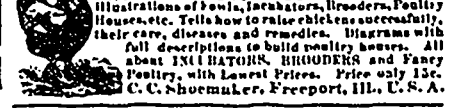
Address—**FARMING, TORONTO, ONT.**

BOYS FOR FARM HELP.

The managers of Dr. Barnardo's Home invite applications from farmers throughout the country for the boys they are sending out periodically from the English homes.

MR. ALFRED B. OWEN, Agent,
Dr. Barnardo's Home, 214 Farley Ave. Toronto, Ont.

SCHOEMAKER'S POULTRY BOOK on POULTRY and Almanac for 1899. 100 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 15-class hatchers made. **GEO. H. STAHL,**
114 to 122 S. 6th St., Quincy, Ill.

HATCHED

90 to 100 per cent.

of the **FERTILE EGGS** in the

TORONTO INCUBATOR

You can do as well. Write us for particulars. Address,

T. A. WILLITS, 514 Dundas St., Toronto

CHAMPION EVAPORATOR

For **MAPLE, SORGHUM, CIDER, and FRUIT JELLIES.**

Has a corrugated pan over firebox, doubling boiling capacity; small interchangeable syrup pans (connected by siphons), easily handled for cleaning and storing; and a perfect automatic regulator. The Champion is as great an improvement over the Cook pan as the latter was over the old iron kettle hung on a fence rail. **Catalogue Free.**

THE G. H. GRIMM MFG. CO.,
84 WELLINGTON ST., MONTREAL.

STRATFORD BROS.

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

A. ELLIOTT, Pond Mills, Ont.
Emden Geese, Pekin Ducks, Bronze, White Holland and Narraganset Turkeys, Collie Dogs and Oxford Sheep. All of the best strains.

to any doubts regarding the value of FARMING as a medium for advertising live stock: "Hursley Stock Farm, Winchester Springs, Ont., Jan. 30th, 1899. Ed. FARMING: Dear Sir,—I suppose my three months' trial ad has expired and my subscription for 1899 was due some time ago. I am inclosing \$1 for '99. Now my ad so far has given me satisfaction, having made a number of sales, and I have received a large number of enquiries from those who are intending purchasers. The last sale I made was a boar to Mr. Robert Tufts, of Tweed, who writes that the boar 'is a fine fellow and we are well satisfied with him.' Our motto is, 'To satisfy and please our customers with our stock as well as our prices.' I am going to continue my ad for the year and longer if nothing happens. Let me know from you at once what it will cost me for the year. Truly yours, Sills, Shaver & Son." This is one of scores of voluntary testimonials we have received to the efficacy of an ad in FARMING, and should convince those who hesitate to try it as a business-getter. Now is the time to get the benefit of the spring trade. Delay means loss to those who have stock for sale or desire to book orders for future delivery. Send at once for rates. You will be satisfied with them and with the results to be obtained from the advertising. The experience of others will be yours also.

Publishers' Desk.

The "Rapid-Easy" Grinder.—Messrs. J. Fleury's Sons, of Aurora, Ont., are advertising their celebrated grinders in this week's FARMING. If you contemplate the purchase of such a machine it will pay you to write them for information. They are also the holders of the gold medal for plows awarded at the World's Fair, Chicago, in 1892.

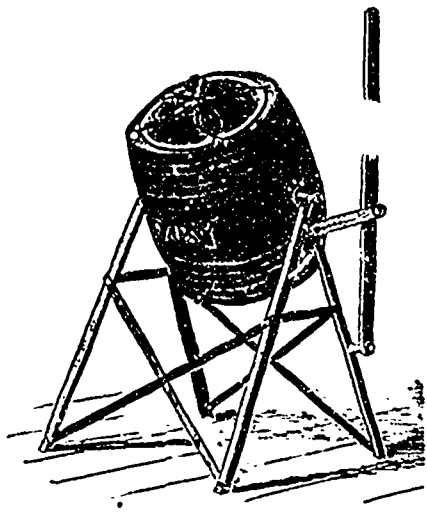
A Great Invention.—As a factor in economy it would be hard to devise anything equal to "Patchall," advertised by the Domestic Specialty Co., of Hamilton, Ont. It can be applied instantly by any one, and will hold longer and outwear the fabric to which it is applied, while for cheapness it beats the needle and thread hollow. Just think of it—eight patches two inches square for a cent! Read the advertisement.

The "Favorite" Churn.—Another first class churn is advertised in this issue, namely, "The Favorite," made by David Maxwell & Sons, of St. Mary's, Ont. The cut in their advertisement on page 429 gives a very clear and perfect idea of the principle on which it is operated: see it and write to the manufacturers for prices and full information.

Does All That Is Claimed.—Kingwood, Ont., Jan. 5th, 1899. The Pickthart Kennew Co., Limited, Stouffville, Ont. Gentlemen,—I have been using several sheep dips and animal washes, but was unable to get real satisfaction until I commenced to use your Persiate Sheep and Animal Dip. It destroys lice and vermin in cattle and acts as a tonic, also heals sores, etc., in cattle. Your Persiate Hen-House Spray does all you claimed for it, and disinfecting the hen houses destroys vermin and lice. Yours truly, WILLIAM CROSSAN.

Incubators.—The advertisement of Mr. G. S. Singer, of Cardington, Ohio, will be found on page 426. Mr. Singer makes the celebrated Olentangy incubator, and has been making it for many years. It has proven a great success and is so guaranteed. It is arranged to regulate itself automatically, and a satisfactory hatch is assured, if the eggs are fertile and the very simple directions are followed. The Olentangy is put on the market for the very best machine that can be made. To supply a demand Mr. Singer makes a less expensive incubator, which also does good work and is giving satisfaction. Write to him for his catalogue and prices on incubators and brooders. It will pay to do so.

A Bona-Fide Offer.—The offer of the T. A. Slocum Chemical Co., Limited, of 179 King St. west, Toronto, is one which every person who is afflicted or threatened with lung



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 MFG CO
(LIMITED)
LONDON, ONT.
Eastern Branch: 61 McGill St., MONTREAL.

LEADING COLLEGES OF CANADA

TORONTO

THE Best Job

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.

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.

STRATFORD.



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.
W. J. ELLIOTT, Principal.

YOU WANT THE BEST SEEDS
We will mail you for trial, post paid for only 10 CENTS one Pkt. each of our NEW Golden Dawn RADISH, NEW Sunrise LETTUCE, NEW Everbearing CUCUMBER, Early Tomato and 1 Pkt. Show PINKS, Golden CALLIOPHIS, PRIZE POPPIES, Giant Pansies, Petunias & Saffin Flowers. We send you the 10 Pkts. Best Seeds with our 1899 Seed Annual for 10 cts.
EAGLE SEED CO., Binghamton, N. Y.

HAMILTON

CANADA BUSINESS COLLEGE

HAMILTON

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 R. E. GALLAHER, Principal.

Patchall

WILL REPAIR

Rubber Goods	Cloth Goods
Rubber Coats	Binder Canvas
Rubber Boots	Grain Bags
Rubber Overshoes	Mall Bags
Half Sole Rubbers	Your Pants

PATCHALL will not do impossible things. It will not make a worn out garment new, nor mend one run over by a railway train, but it will mend all as stated above, and nothing less. Eight patches, 2 inches square, for 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 SPECIALTY CO.
Hamilton, Ont., Canada.

FARMERS WANTED

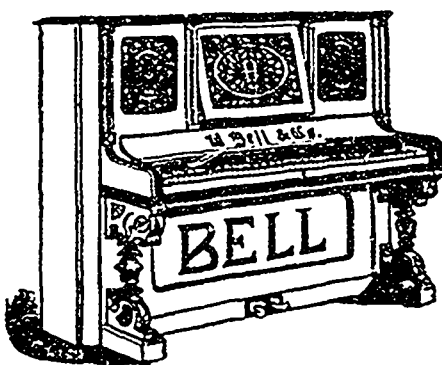
To take orders in their section for the famous land renewer,
Alberts' Thomas-Phosphate Powder (Reg.)
Purity and analysis guaranteed. Correspond at once, as fall dressing of the land is important.

WALLACE & FRASER

Canada Life Building, - TORONTO

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

trouble should avail himself of. The company show their confidence in the remedies they manufacture by giving three bottles of it entirely free to every one who will send his name and address on a post card with the statement that he saw their advertisement in FARMING. The company have just concluded a distribution of free samples to every householder in the city of Toronto and are in receipt of hundreds of letters thanking them for the benefits received from the use of the remedies. We have been doing business with the company for the past three years and have found them perfectly reliable. If you are interested read their advertisement and send at once for these samples.

Griffith's Menthol Liniment.—We have much pleasure in calling attention to the advertisement of the Griffiths & McPherson Co., 151 Church street, Toronto. In an interview with Mr. Griffith a few days ago, he said: "We have one of the best remedies for man or beast which has ever been introduced. A prominent veterinary surgeon told me that he treated a horse suffering so severely from inflammation that it could not bear the touch of a finger on its chest. One bottle of the Veterinary Menthol Liniment cured it completely. In all cases where inflammatory symptoms are present immediate relief will be experienced by its use, and in cases of cold, sore throat, croup in children, and in the thousand other ailments resulting from inflammation of the tissue, from whatever cause it may arise, it acts like magic." Full information will be cheerfully given to all who apply.

Do You Read Advertisements?—

The advantage of advertising as well as of reading advertisements was aptly illustrated in the case of a subscriber who had been puzzled for years to know how he could get the benefit of the city's demand for choice butter, eggs and poultry, of which he made a specialty. No feasible method presented itself to him, as he was too far from the city to make special trips there profitable until he happened to read the advertisement of the People's Wholesale Supply Co. in FARMING, and thought he would reply to it. The result is that he is now sending all his produce to that company, and receiving the prices for it which its quality merits, and if he desires to trade for goods he is enabled to get them at prices which cannot fail to give entire satisfaction. There are many people similarly situated who could adopt the same plan with advantage to themselves and at the same time encourage a business concern that is reaching out for popular favor by straightforward and honest methods.

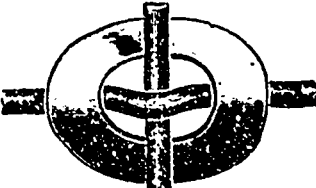
New Varieties of Seeds.—The majority of our readers are interested in everything new in the way of seeds which will be likely to increase the yield and add to the productivity of the farm and garden. The new catalogue issued by Messrs. John S. Pearce & Co., of London, contains much that is valuable in this direction, and is a decided acquisition to the seed literature of 1899. Amongst the novelties described in this catalogue are the following: "The Pearce Potato," grown from seed imported from Texas, for which is claimed many advantages in size, weight, form, flavor, and cooking qualities; "Pearce's Paramount Tomato," claimed to be the largest and finest variety known, and for suggesting the name which it has received Mrs. Henry Chatterton, of Hull, Ont., was awarded (greatly to her surprise and delight) the \$100 prize last year; "Pearce's Improved Half-Long Carrot," which took the lead in point of yield in the co-operative experiments in the Ontario Experimental Union in 1897; "New Zealand Oats," now introduced for the first time, and which, it is claimed, yielded 100 bushels to the acre last year; "Danish Island Oats," a very productive, plump, heavy grain with many fine qualities and adaptability to great diversities of soil and climate; "White Hullless Barley," for which there are claimed advantages in yield and feeding qualities. There are also a large number of entirely new varieties of sweet peas and other seeds, which it is unnecessary for us to enumerate here, as a copy of the catalogue may be obtained free on application to Messrs. John S. Pearce & Co., London, Ont., and most of our friends will find it to their advantage to write for it.



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.*

WHITELIGHT WICK CO.,
TORONTO, CAN.

The JONES LOCKED WIRE FENCE is the best fence in the market. Also makers of Metallic Roofing and Siding. Write for catalogue and circular.



The Locked Wire Fence Co., Limited,
London, Ont.

COLOR and flavor of fruits, size, quality and appearance of vegetables, weight and plumpness of grain, are all produced by Potash.

Potash,

properly combined with Phosphoric Acid and Nitrogen, and liberally applied, will improve every soil and increase yield and quality of any crop.

Write and get Free our pamphlets, which tell how to buy and use fertilizers with greatest economy and profit.

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

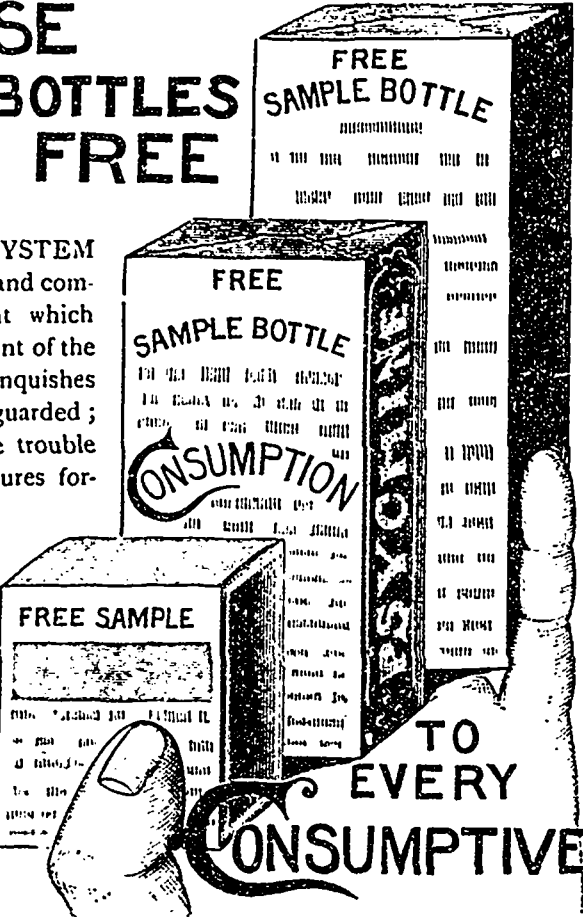
THESE 3 BOTTLES FREE

THE DR. SLOCUM SYSTEM is a comprehensive and complete system of treatment which attacks every vulnerable point of the disease and completely vanquishes it. It leaves no point unguarded; it leaves no phase of the trouble neglected, it cures and cures forever.

WEAK LUNGS, BRONCHITIS, CONSUMPTION,

and all other throat and lung diseases, by absolutely obliterating he cause.

CONSUMPTION, if Properly Treated, is Curable—Left to Itself it is Slow, Sure and Deadly.



FREE SAMPLE BOTTLE

FREE SAMPLE BOTTLE

CONSUMPTION

TO EVERY CONSUMPTIVE

There is no human ailment so destructive of life as Consumption. It is the weapon of the grim reaper, carrying off its victims at any time; and in no month or in no season can they feel sure of immunity. Modern medical science has made many discoveries along many different lines, but in no case is the human race under a greater debt of gratitude than to that distinguished and eminent chemist, Dr. T. A. Slocum, whose researches have resulted in a cure for consumption, bronchitis and all throat and lung troubles,—a cure that exterminates the cause, builds the body and kills the germ of disease.

To prove the efficacy of this cure, 3 bottles are offered free to any sufferer. All that is necessary is to put your name, postoffice and nearest express office on a postcard and mail it to The T. A. Slocum Chemical Co., Limited, 179 King street west, Toronto, Ont., stating you saw this free offer in FARMING, when the three bottles will be sent to you at once.

This test costs you nothing, and it is a duty you owe to yourself and your friends to try the Slocum Cure.

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 6,000 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.

ATTENDANCE AT MEETINGS.

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

Algoma, East.....	106
Bruce, Centre.....	138
Bruce, North.....	35
Grey, North.....	69
Haldimand.....	213
Middlesex, East.....	166
Norfolk, North.....	175
Ontario, North.....	41
Oxford, North.....	150
Peel.....	64
Perth, North.....	233
Perth, South.....	171
Peterboro', East.....	121
Peterboro', West.....	70
Prince Edward.....	78
Renfrew, North.....	38
Simcoe, East.....	382
Union.....	125
Waterloo, South.....	108

The following is a list of the members received since the last list published:

Algoma, East.....	51
Bruce, Centre.....	19
Bruce, North.....	2
Frontenac.....	3
Grenville, South.....	95
Haldimand.....	47
Halton.....	234
Leeds, North and Grenville, North.....	1
Middlesex, East.....	84
Norfolk, North.....	135
Ontario, North.....	76
Ontario, South.....	61
Oxford, North.....	21
Perth, North.....	84
Perth, South.....	115
Peterboro', West.....	25
Prince Edward.....	192
Renfrew, North.....	4
Simcoe, South.....	2
Union.....	46
Welland.....	6
Waterloo, South.....	57

There is no breakers ahead of the man who is already broke.

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

(Continued from last issue.)

When to apply lime.—The Rhode Island Station recommends that lime be applied by sowing after plowing and then thoroughly incorporated into the surface by means of a harrow. It is best not to lime just before growing a crop of corn, rye or millet, as lime when first applied is usually more or less caustic, and in this state is liable to injure the crops, especially when the soil conditions induce rapid nitrification of the soil nitrogen or the nitrogen applied in natural and artificial manures. If, however, the soil is very sour and nitrates are not employed, then the use of lime immediately before these crops may prove of great service. Under all circumstances lime should be harrowed in immediately or it is liable to cake with the soil, and then will not yield the best results. It has been found that for vegetables lime may be applied to great advantage in the spring.

Quantity of lime per acre.—The quantity of lime to be applied on light, dry, sandy soils is given $s \frac{1}{2}$ to $1 \frac{1}{2}$ tons per acre, and on heavier soils as 1 to 3 tons. One application during a rotation lasting from 5 to 7 years is considered sufficient. In 124 instances during an experiment lasting four years at the Rhode Island Station limed soil was more productive, and in 33 cases less productive, than unlimed soil.

CAN FARMERS MIX THEIR OWN FERTILIZERS ECONOMICALLY?

A number of experiment stations have for some time been studying this

question in conjunction with their official inspection of fertilizers, and have unanimously decided that, under certain conditions, it is quite practical and economical for farmers to buy the different fertilizing materials in the crude state and mix them on the farm.

When farmers combine and purchase their supplies in large quantities or cash and make their own mixtures, they secure their fertilizers at a greatly reduced cost. The New Jersey Station investigated this subject in 1895 and found that a number of farmers in that State purchased over 1,000 tons of fertilizers in the crude state which cost them on an average \$28.62 per ton. These ingredients at the valuation made at the Station were worth \$31.68 a ton, and would have cost if purchased mixed at the factory \$43.12 a ton. Here there was a saving of \$14,500 on the whole amount.

Such a saving as this is well worth looking after. It can only be secured by farmers buying in bulk for cash. The market prices of the fertilizing materials, bought in small quantities, are frequently so high as to render home mixing impracticable, but Institutes could buy by the carload and thus secure the full advantage of reduced prices for purchase in bulk.

How to mix fertilizers. Fertilizer mixtures, uniform in quality and equal in every respect to the best factory-made fertilizers, can be made on the farm without milling machinery. A tight barn floor, platform scales, screen, shovel and hoe are the only utensils needed. The materials having been weighed, screened, and lumps pulverized, the most bulky stock is spread in an oblong pile from six to twelve inches deep; upon its levelled top the next material is placed, and so on until all have been added like layers on a layer cake. Commencing at one end, the pile is shovelled over, the operator reaching clear to the bottom every time. The pile is then levelled up and the operation repeated three times. The mixture may then be screened again if desired.

In thus mixing his fertilizer the farmer knows definitely what he has purchased. Each ingredient can be tested by itself if desired, and inferior materials are not so likely to be palmed off on him. He can also vary the proportions of the ingredients to suit the requirements of varying soils.

SEEDING WITHOUT GRAIN.

Experiments conducted at the New Jersey Station as to the practicability of securing a good stand of grass with-

out a nurse crop of grain showed that, where the land was in good heart, or was fertilized at the time of seeding, a good catch of grass was secured without any trouble. The tests were made in old sod, after oats and potatoes, and after oats.

LOSS OF SOIL FERTILITY IN DRAINAGE WATER.

Under certain circumstances, depending upon the character of the soil, the treatment to which it is subjected and the fertilizers applied, the loss of soil fertility in drainage waters is considerable. Leachy soils part very quickly with the fertilizing materials applied to them unless covered with crops which utilize the fertilizers promptly.

Certain fertilizers have a tendency to set some of the soil constituents free, and thus throw them into the drainage water. As mentioned elsewhere, muriate of potash converts the insoluble lime compounds of the soil into a very soluble form, which readily passes into the drainage water. Gypsum and salt are believed to set free the potash and other fertilizing constituents of the soil, thus rendering them more available to plants, but, at the same time, more likely to be washed out and lost in the drainage water.

Numerous chemical examinations of drainage water, however, made at several points, would seem to show that under ordinary conditions the loss of lime, potash, or phosphoric acid in drainage waters is not very large.

As regards nitrogen the case is different. The soil appears to have very little affinity for the forms of this element so extensively used in fertilizers—nitrate of soda and sulphate of ammonia—and if they are not quickly taken up by the crop, they are likely to be lost in the drainage water.

Moreover, the insoluble nitrogen of the soil, or that applied in the form of fertilizers, which are largely insoluble when applied, is rapidly converted by the process of nitrification under favorable conditions into nitrates, which are readily available to plants, but which pass out into the drainage and are lost if not promptly taken up by the crop.

In an experiment to test this it was found that the loss of nitrogen in the drainage from a bare soil in the course of a year was over 160 pounds per acre, while the loss from a soil covered with a crop was but trifling, although fully as large amounts of nitrates were found in the latter case as in the former.

This shows the importance of keeping a leachy soil covered with a crop in order to prevent a loss of nitrogen. By adopting this practice the farmer will protect his soil from leaching and surface wasting, two factors which most seriously injure the fertility of soils.

The name is too often but a shadow larger than the man behind it.

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One package is worth dozen of so-called condition powders.
50 Cents a Package. Trial Size, 25 Cents.

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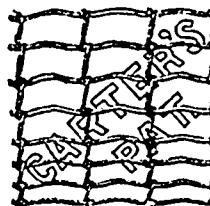
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to weave your own fence of Colled Hard Steel Spring Wire, 22 inches high, at 25 Cts. per Rod. 520 buys wire for 100 rod fence. Agents Wanted. Catalogue Free. OAKTEL Wire Fence Mach. Co. Box P Mt. Sterling, O.

S. CROUCH, Box 13 Ridgeway, Ont. General Agent for Canada.

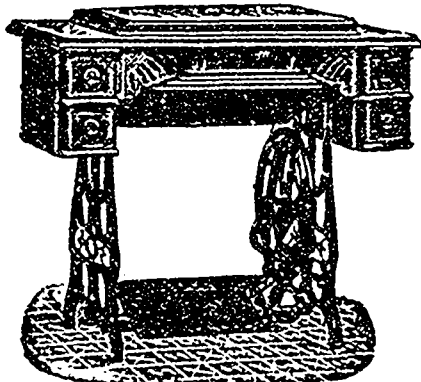
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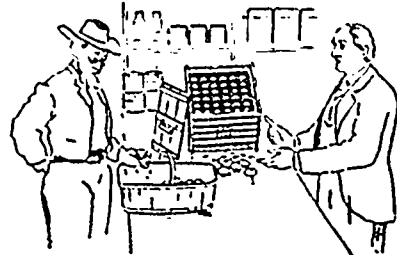
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for wire worm, joint worm, army worm and all insects that destroy crops. Salt is the best insecticide. It is also a fertilizer.

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CLINTON, ONT

MARKET REVIEW AND FORECAST.

Office of FARMING,
44 and 46 Richmond street west,
Toronto, Feb. 6, 1899.

The volume of business in all lines continues to improve, and the outlook for the spring trade is brighter than ever. There is an improved demand for dairy products, and hay is going forward to the English market in larger quantities though prices on this side are low. One of the features of the mercantile situation in the United States is the abundance of money.

Wheat.

The condition of the wheat market last week and this shows how little any advance in price is to be depended upon. In our last issue we reported a firmer feeling with an excited market, and an advance of about 4 cents in the Chicago and local markets. In this issue we have to report almost the very opposite conditions. The markets have about got back to where they were before the advance began. All this shows that the rise and the excitement in the market was altogether due to the speculative element which seems to be taking a hand in the game. The statistical position is about the same, and continues in favor of the consumer. The visible supply of wheat in the United States and Canada is now 28 583,000 bushels, as compared with 36,602,000 bushels a year ago, showing a decrease of only 8,000,000 bushels against a decrease of 15,000,000 bushels some time ago, so that the gap is gradually closing up. The total world's supply in sight is 55,703,000 bushels, as against 70,042,000 bushels a year ago. There is estimated to be fully 100,000,000 bushels yet in the United States to go forward. With this supply of wheat on hand and the prospects for the coming crop good there does not appear to be anything that will cause a great rise in price except it be a war, which, from all present indications, is a good way off.

As to prices they are from three to four cents lower than a week ago, and even at present prices it is claimed that they are from 6c. to 8c. above Liverpool values. The *Trade Bulletin's* cable of Feb. 3rd reads: "Dulness is the leading feature of the market this week, in contrast with the flurry cabled you a week ago, which was purely speculative or both sides of the Atlantic. The cargo business on the Baltic has completely flattened out and prices are 3d. to 6d. lower." The Montreal market has settled down to its normal position again after the flurry. Farmers are reported to be delivering a little more freely. The market here has got back to its old level, with quotations at 68 to 70c. for red and white west, and 69 to 70c. for goose, with No. 1 hard Manitoba at 81c. and No. 1 Northern at 79c. Toronto. On the local market red and white brings from 71 to 72c., spring sile 70½ to 73½c., and goose 69 to 70c. per bushel.

Oats and Barley.

The London oat market is reported dull owing to liberal receipts from Russia and elsewhere. The Montreal market rules steady but quiet at about 32½c. in store. The market here is steady at 29 to 29½c. west. On the local market oats are quoted at from 34½ to 35c.

A firmer feeling in malting barley is reported at Montreal, and 56 to 57c. are quoted for No. 1 in car lots. Quotations here are from 46 to 48c. west. On the local market barley brings from 49½ to 50c. per bushel.

Peas and Corn.

The London market for Canadian peas is firm with a good demand at last week's advance. The Montreal market keeps firm at 71 to 72c. in store, and sales have been made at Western Ontario points at 1 cent higher than a week ago. The market here is firm at 66c. north and west in car lots. On the local market peas are quoted at 61 to 64c. per bushel.

The Montreal corn market is quiet, with No. 2 American mixed quoted at 46 to 46½c. The market here is steadier at 36 to 36½c. for Canadian yellow west; 46 to 46½c. for No. 2

The same thing over and over again. Read what the AMERICAN has done this time.

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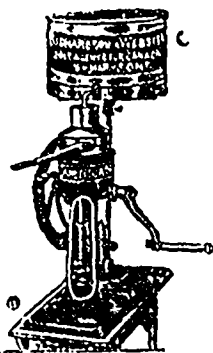
BLYTHESWOOD, ONT., JUNE 8TH, 1898.

MESSRS. RICHARDSON & WEBSTER,
St. Mary's, Ont.

DEAR SIRS,—Enclosed find settlement for the Separator and oil received from you on May 28th. I placed the Separator on trial with Mr. S. D. Wilkinson, Leamington, and after 4 days he bought it. He is perfectly satisfied. I have tested the skim milk several times for him and it has never shown more than a trace of butter fat. I consider it a perfect machine in every respect and would like to act as your agent in this part of the county. Mr. Wilkinson is one of the most prominent dairymen around here. He says he will save enough in butter to pay for the Separator in 4 months. Yours truly, (Signed) F. A. LEAK.

Write RICHARDSON & WEBSTER, St. Mary's, Ont., for Catalogue and Prices. It will pay you to have a Separator as well as others.

W. G. GLENN, Agent for Owen Sound and vicinity



RICHARDSON & WEBSTER,

ST. MARY'S, ONT.

old American yellow, and 43 to 44c. for new American Toronto.

Bran and Shorts.

Bran at Montreal is quoted at \$14.50 to \$15 in carlots, shorts at \$15 to \$16, and moullie at \$16 to \$18 as to grade. Toronto mills sell bran at \$14 and shorts at \$16 in carlots f.o.b. Toronto.

Clover and Timothy Seeds.

The Montreal market is steady with American Timothy quoted at \$1.25 to \$1.75 in store; red clover at \$4.25 to \$5.00; Alsike at \$4.00 to \$5.00, and flax seed at \$1.10 to \$1.20. On the local market here red clover is quoted at \$3.50 to \$3.90; white clover \$6.00 to \$9.00; Alsike from \$3.00 to \$4.20; Timothy at \$1.20 to \$1.35 and beans at 80 to 90c. per bushel.

Eggs and Poultry.

The London and Liverpool markets are steadier owing to light receipts. Montreal dealers have had to lower the price of new-laid eggs owing to the high prices checking consumption. They are quoted at 24 to 25c. The market here is steady at 20 to 22c. for new laid which are scarce and in good demand, and 16 to 18c. for held stock. On the local farmers' market new-laid are quoted at from 23 to 25c.

The demand at Montreal for dressed poultry has been somewhat quieter. Choice fresh turkeys are quoted at 10 to 10½c.; choice chickens, 8 to 9c.; ducks, 7 to 8½c., and choice geese at 6 to 6½c. per lb. The receipts here are small and the demand fair at 10 to 11c. per lb. for turkeys, fresh killed; 6 to 7c. per lb. for geese; 60 to 80c. per pair for ducks, and 30 to 70c. per pair for chickens. On the local market values are about 10 per cent. higher.

Potatoes.

There is a steadier feeling at Montreal owing to a falling off in supplies, and quotations are 55 to 57c. in car lots. In a jobbing way they bring about 65c. per bag. Cars on track are quoted here at 60 to 65c., and out of store at 70c. On the local market they bring from 65 to 75c.

Fruit.

Apples are looking a little better at Montreal and quotations are \$2.50 to \$4 per barrel. On the local market here apples are quoted at from \$1.50 to \$2.50 per barrel.

Hay and Straw.

There is a more extensive movement in the export hay trade induced largely by the lower freight rates at the seaboard, but whether it will advance prices on this side remains to be seen. The quotations at Montreal for baled hay are \$4.25 to \$4.50 for clover, No. 2 at \$4.75 to \$5.50, and No. 1 timothy at \$7 to \$7.50 in car lots on track. The market here is dull at \$7 to \$7.50 for cars on track. Baled straw is quoted at \$4.50 to \$5 in car lots. On the local market timothy is quoted at \$8 to \$9.50; clover at \$5.50 to \$7.50; strawsheaf at \$6 to \$7, and straw, loose, at \$4 to \$5 per ton.

Cheese.

The London market is reported firm under continued decreasing supplies which caused holders to be very reserved in their offerings. There has been more enquiry at Montreal from English buyers who have advanced their limits a little, but not sufficiently to induce holders to unload very freely. Quotations are 10 to 10½c. for finest westerns and 9 7/8 to 10c. for finest easterns, with higher prices looked for. The exports from Montreal since May 1st, 1898, are 2,095,425 boxes, as compared with 2,354,285 boxes for the same period a year ago, showing a decrease of 258,860 boxes. The shipments from New York for the same period show a decrease of 295,683 boxes, making the total shrinkage from both places as compared with a year ago 554,546 boxes.

Butter.

The *Trade Bulletin* London cable of Feb. 2nd reads: "Under a good consumptive demand the market continues firm with a good enquiry at advance cabled by me last week. Finest Canadian creamery, 96s. to 98s. Fancy parcels, 100s." The Montreal market is firm, and choice, well-known brands of winter creamery have no difficulty in getting 20c. Supplies are not accumulating and are not likely to so long as the cold weather continues. Quotations are 19½ to 20c. for choice creamery; 18½ to 19½c. for good to fine, and Western dairy, 14 to 15c. Choice selected packages bring from 1 to 1½c. more. A new feature in the situation is the large exports of butter from New York, which last week were double as much as during any previous week of the season, which indicates that there is a good demand on the other side. The shipments of butter from Montreal and New York from May 1st to date only show a decrease of 97 packages as compared with the same period a year ago, which shows that much larger supplies are going forward from both places. A week ago the decrease was 11,531 packages.

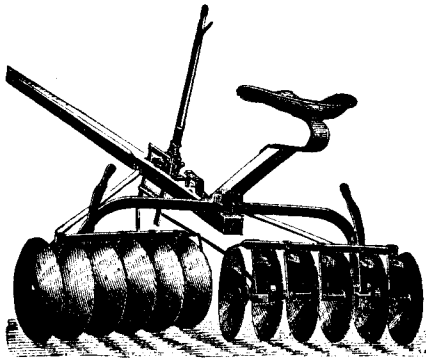
The market for creamery is steady here at 20 to 22c. for prints, and 19 to 20c. for boxes. There is a fair demand for dairy butter, and the market is steady at 14 to 15c. for large rolls, and 13 to 15c. for choice tubs. On the local market lb. prints are quoted at 16 to 20c., and large rolls at 13 to 14c. per lb.

Cattle.

The cattle situation on the whole is favorable. The American markets have been fairly strong during the week with a good demand for prime fat steers, which seem to be scarce. Trade generally was good on this market with the largest run of stock of the season on Friday; the demand being for best grades of fat cattle and yearling lambs, stockers and feeders.

Export cattle.—Prices for these are fairly steady and firm at \$4.50 to \$4.75 per cwt. for choice loads of heavy cattle; light exporters bring from \$4.30 to \$4.50 per cwt. Choice export bulls bring from \$3.60 to \$4, and light to medium ones from \$3.25 to \$3.50 per cwt.

Butchers' Cattle.—Choice picked lots of these equal in quality to the best exporters, but weighing only from 1,000 to 1,150 lbs. each,



Which is the Best Disk?

Danl. McKenzie, Geo. Stanlish, Wm. Ellis, P. H. McEwen, John Martin, Richard Fleming, James Cooper, John Farrell, Chas. Buzer, Byron Martin, Chas. King, A. Hooper, A. Fleming, and B. DeMill, of Dawn Township, Lambton County, tested **Four Disk Harrows** side by side on clay stubble. They declare the **Bissell-PreScott is the best Harrow.**

Wm. Rayner, Jr., Wm. Petricrew, Philip O'Connor, Wm. Rayner, Sr., Jas. T. Jarvis, Martin O'Connor, Wm. Cowan, Robt. Newal, P. Rayner, Thos. McHugh, and Saml. Heatherington, of Boyne, Halton County, tested **Three different Disk Harrows** in the same field on unploughed stubble. These men cannot say too much for the **Bissell-PreScott Harrow. It did the work. The others failed.**

For Prices, etc., address **T. E. BISSELL, Fergus, Ont.**

bring from \$4.10 to \$4.30 per cwt. Other grades bring all the way from \$2.75 to \$3.90 per cwt., as to quality.

Stockers and Feeders.—Trade in stockers and feeders was brisk here on Friday, stockers selling from \$3.25 to \$3.40 for inferior to medium, and \$3.60 to \$3.70 for choice lots. Some stock heifers weighing about 500 lb. brought from \$2.60 to \$2.85 per cwt. Choice heavy feeders, weighing from 1,000 to 1,150 lb. each, are in good demand, selling from \$3.75 to \$4 for choice bred steers.

Calves.—There have been large offerings of these at Buffalo of late, where the demand is good. Prices are a little higher on this market, the general run being from \$4 to \$8 each, or \$5.50 per cwt. live weight.

Milk Cows.—Springers and milkers of medium quality bring from \$28 to \$42 each. A few good cows are wanted.

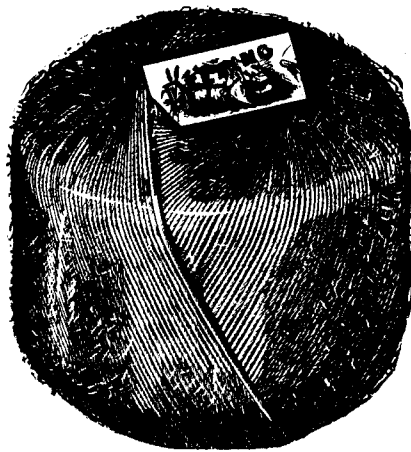
Sheep and Lambs.

Both the American and Canadian markets have been fairly active during the week with a better demand for lambs. There were about 700 sheep and lambs on this market on Friday. Ewes sold from \$3 to \$3.25 and bucks from \$2.50 to \$2.75 per cwt. Yearling lambs were firmer, selling from \$4.25 to \$4.50 per cwt., the latter price being paid for lambs weighing 100 lbs. and over for export purposes.

Hogs.

The market remains about the same as last week. Deliveries are light, there being only 1,000 on Friday's market. Prices are \$4.25 to \$4.37½ per cwt. for choice select, bacon hogs, weighing from 160 lbs. to 200 lbs.; light bring from \$4 to \$4.20, and thick-fats about \$3.75 per cwt. There is a little steadier feeling at Montreal, where prices are \$4.30 to \$4.35 for light bacon hogs. The Montreal market for dressed hogs has taken quite a drop, and shippers during the week lost money. Owing to liberal receipts, the London market for bacon is weaker, and holders have had to drop 2s. in order to make sales. Canadian lean sides are quoted at 35s. to 36s., and fat and stout at 30s. to 32s.

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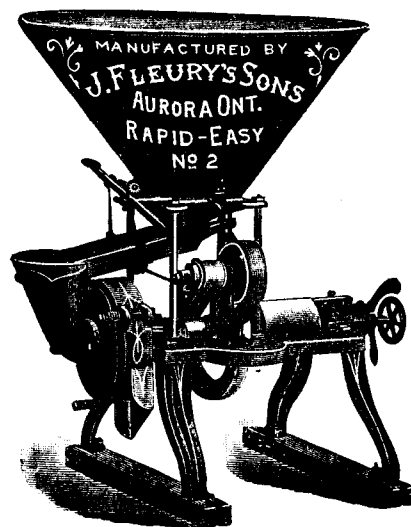
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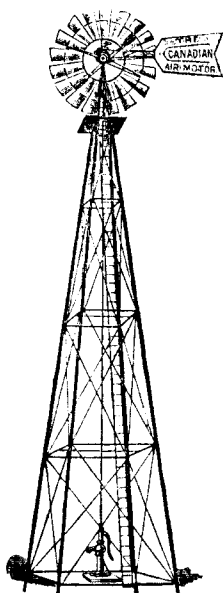


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Mr. John Bellamy:
Winfield, Ont., January, 1899.
"The Grinder I bought from your agent, Mr. John McKay, of Moorefield, is a 'dandy.' I must say that it is the **best** Grinder that I have ever seen. I can grind from 25 to 30 bags of mixed grain every hour in the day and do it right and with 50 lbs. of steam on my engine."

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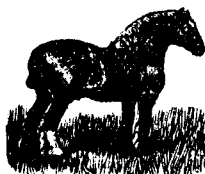
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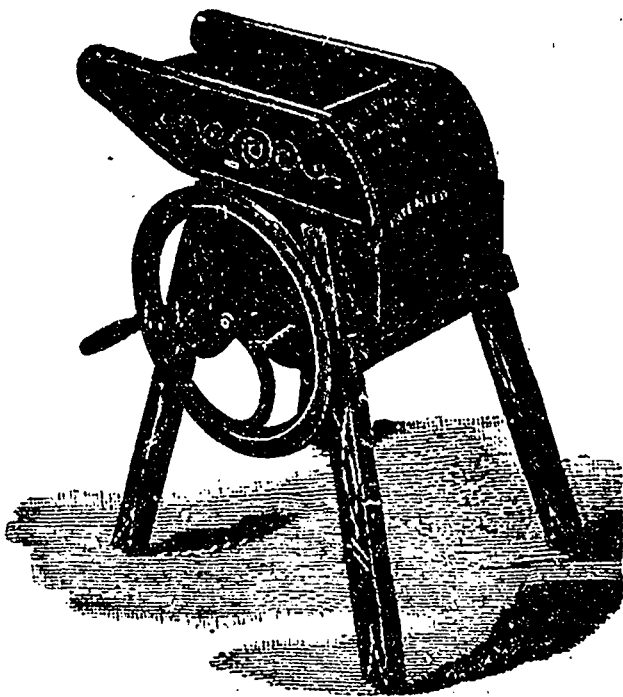
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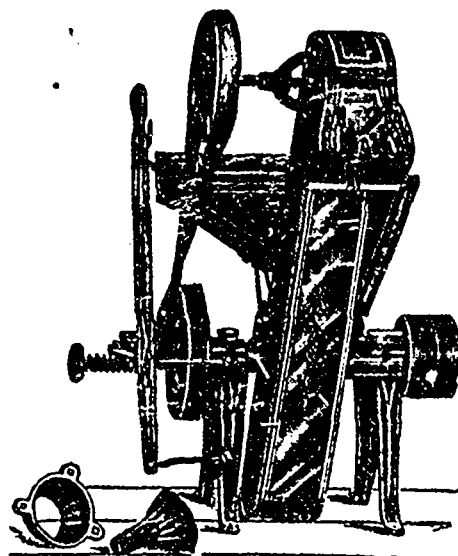


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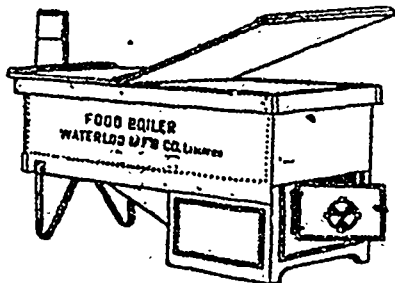
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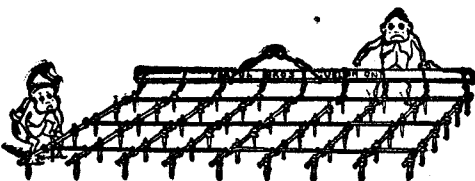
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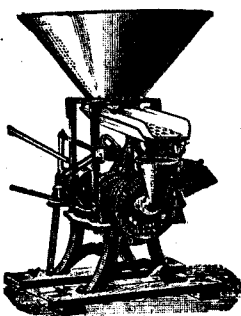
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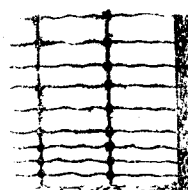
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